

= Hurricane Gert (1999) =

Hurricane Gert was the fourth of five major hurricanes in the moderately active 1999 Atlantic hurricane season . A Cape Verde @-@ type hurricane , Gert formed on September 11 off the coast of Africa before heading west @-@ northwest . It reached a peak wind speed of 150 mph (240 km / h) by September 15 over the open central Atlantic east @-@ northeast of the Leeward Islands . It gradually curved to the northwest and later to the north , due to a weakness in the subtropical ridge created by Hurricane Floyd . Hurricane Gert passed east of Bermuda on September 21 and began a steady weakening trend at that time . It turned to the northeast , and on September 23 , Gert transitioned into an extratropical cyclone to the southeast of Atlantic Canada before being absorbed by a larger storm .

For several days , Gert threatened to strike Bermuda , prompting the evacuation of tourists . Although Gert 's center did not make landfall , it passed a short distance east of the island , producing hurricane force winds that left 11 @,@ 000 people without power . High waves swept two people out to sea at Acadia National Park in Maine . Later , strong waves struck Newfoundland and left heavy marine damage .

= Meteorological history =

A tropical wave moved off the coast of Africa on September 10 , with evidence of a low @-@ level circulation and convective banding . It moved west @-@ northwestward , located south of a subtropical ridge . Based on satellite imagery , it is estimated the system organized into Tropical Depression Nine by 1200 UTC on September 11 to the south of the Cape Verde islands . Upon its formation , the center was poorly defined , with restricted easterly outflow due to easterly wind shear . After about 24 hours of remaining somewhat disorganized , the convection became more concentrated on September 12 as banding features and outflow improved . Consequently , the National Hurricane Center (NHC) upgraded the depression to Tropical Storm Gert , the seventh named storm of the season .

After becoming a tropical storm , Gert quickly intensified due to the presence of an anticyclone aloft , as well as warm water temperatures exceeding 84 ° F (29 ° C) . Following the development of a warm spot near the center , Gert intensified into a hurricane on September 13 . It strengthened further , developing an eye that briefly dissipated before reforming . Early on September 15 , Gert attained major hurricane strength , or a Category 3 on the Saffir @-@ Simpson scale . Still moving west @-@ northwestward , Gert continued its steady intensification trend , developing well @-@ defined outflow throughout the circulation that was described as " outstanding " . After reaching Category 4 status on September 15 , Gert strengthened further to peak winds of 130 mph (210 km / h) early on September 16 , as estimated on satellite imagery through the Dvorak technique . Satellite intensity estimates reached as high as 160 mph (260 km / h) , or a Category 5 hurricane . At the time , the hurricane was located about 720 mi (1160 km) east @-@ northeast of Guadeloupe in the Lesser Antilles . Around the time of peak intensity , Gert maintained a round central dense overcast . Hurricane Hunters investigated the hurricane on September 16 and indicated a slight weakening trend due to an eyewall replacement cycle . Gradually Gert turned toward the northwest due to a weakness in the subtropical ridge , created by Hurricane Floyd to the west . As it did so , the hurricane re @-@ intensified briefly before resuming a weakening trend , due to increased wind shear and an upper @-@ level trough to its west restricting outflow .

After weakening to winds of 120 mph (190 km / h) , Gert again re @-@ strengthened to Category 4 status on September 19 , as the eye became well @-@ organized within its surrounding convection following an eyewall replacement cycle . By September 20 , while the hurricane was approaching Bermuda , the appearance became more ragged due to the intrusion of unfavorable dry air . Early on September 21 Gert weakened to Category 2 intensity , around the same time it turned northward . Later that day it passed about 135 mi (217 km) east of Bermuda , producing hurricane force winds on the island . Steady weakening continued as Gert accelerated northeastward under the influence of an approaching trough . The convection decreased around the

center due to cooler water temperatures , and on September 23 Gert weakened to tropical storm status as it approached Newfoundland . After nearly all of the convection had dissipated , the system no longer met the characteristics of a tropical cyclone . As a result , it was declared extratropical at 1200 UTC on September 23 about 55 mi (90 km) southeast of Cape Race , Newfoundland . About six hours later , the remnants of Gert were absorbed by a larger extratropical storm . Gert was the fourth of five Category 4 hurricanes to form during the 1999 season , the highest number of such storms on record . Later , the 2005 season tied the record .

= = Preparations and impact = =

= = = Bermuda = = =

As Gert was several days away from Bermuda , the NHC advised residents there to monitor the progress of the storm , Due to uncertainties in the future forecast , as well as the size and strength of Gert , a tropical storm warning and hurricane watch was issued for the island on September 19 , about two days prior to its closest approach . As Gert moved closer to the island , the watch and warning were replaced by a hurricane warning on September 20 , which was maintained until the following day after Gert moved further away . Before Gert passed by the island , officials closed two schools and converted them to emergency shelters . Police workers advised 700 families to leave their houses . Cruise lines diverted ships away , while hundreds of tourists took flights to leave the island .

While passing east of Bermuda , Gert produced 10 @-@ minute sustained winds of 45 mph (72 km / h) at Bermuda International Airport . Elsewhere on the island , wind gusts peaked at 87 mph (140 km / h) along the coast , while 1 @-@ minute sustained winds reached 80 mph (130 km / h) along the harbor . Rainfall on the island was light , totaling only 0 @.@ 53 in (13 mm) . Rough surf battered the island , resulting in extensive beach erosion . The well @-@ known Natural Arches were damaged , and part of a house collapsed into the sea . Severe damage was reported along the southern shore of the island . Approximately 11 @,@ 000 residents suffered temporary power outages . Several roads were flooded , and the intense winds downed trees . However , the storm 's worst effects remained offshore .

= = = United States and Canada = = =

On September 20 , Hurricane Gert was attributed to generating a rogue wave that swept two people out to sea at Acadia National Park along the coast of Maine . The crew of a lobster boat later found their bodies . Although the storm never approached the United States , seas in the area generally ran 3 to 5 ft (0 @.@ 91 to 1 @.@ 52 m) above normal .

Late in its duration , Gert passed just southeast of Newfoundland before becoming extratropical , producing wave heights of 77 @.@ 4 ft (23 @.@ 6 m) offshore and 30 ft (9 m) onshore . In St. Bride 's along the Avalon Peninsula , a large wave severely damaged a wharf , destroying five boats and damaging 45 others . Along the wharf , a wave swept three people into the ocean , hospitalizing one of them . The wharf required \$ 2 million (1999 CAD , \$ 1 @.@ 9 million 1999 USD) in repairs , forcing its closure . Further west , high waves damaged a fish plant in Lord 's Cove . Gale force winds extended across southeastern Newfoundland , and in the Grand Banks a station reported winds of 74 mph (120 km / h) . Onshore , the winds downed trees and caused power outages , primarily in the St. John 's area . In addition , the adverse conditions from Gert prompted the cancellation of flights to and from St. John 's International Airport .