

= Hurricane Danielle (2010) =

Hurricane Danielle was the first of four Category 4 hurricanes during the 2010 Atlantic hurricane season . The sixth tropical depression , fourth named storm , second hurricane , and first major hurricane of the season , Danielle developed as a typical Cape Verde @-@ type hurricane from a tropical wave on August 21 . Quickly intensifying , the new tropical depression became a tropical storm eighteen hours after formation on August 22 , and it reached category 2 on August 24 . Also on August 24 , Hurricane Danielle weakened back to a category 1 hurricane , but it returned to category 2 strength on August 25 . Further intensification occurred and Danielle became a Category 4 hurricane with peak winds of 135 miles per hour (217 km / h) on August 27 . It then weakened , and finally dissipated on August 30 . The hurricane was the first in a rapid succession of eleven named storms , which ended in late September .

= = Meteorological history = =

On August 20 , a tropical wave that had formed two days earlier off Africa 's western coast interacted with a large tropical disturbance in the Intertropical Convergence Zone . This disorganized disturbance covered an area from the southwest of Senegal to the south of the Cape Verde Islands while slowly moving west . The National Hurricane Center (NHC) began monitoring the system , initially giving this area of disturbed weather a 20 % chance of development . As it moved through favorable conditions , the system became more organized and began circulating at a low level . On August 20 , 8 : 00 am EDT , the National Hurricane Center gave the disturbance a 40 % chance of becoming a tropical cyclone during the following 48 hours . The NHC stated that a broad area of low pressure had formed , and conditions were favorable for further development . The system continued to organize , and the chance was raised to the " high " category on August 21 at 2 : 00 pm EDT , indicating at least 60 % probability of development into a tropical cyclone within the following 48 hours . The tropical disturbance became banded and the convection became even more organized .

Late that afternoon , the system was designated as Tropical Depression Six . As the depression tracked slowly westward , it quickly intensified . The following day , it was upgraded to Tropical Storm Danielle , the fourth tropical storm of the season . Slow intensification ensued as Danielle headed generally westward and eventually became the second hurricane of the season on August 23 , with hurricane @-@ force winds extending outward for a 10 @-@ mile (16 km) radius . Hurricane Danielle reached an initial peak intensity on August 24 at category 2 with a maximum wind speed of 100 mph (160 km / h ; 87 kn) and hurricane @-@ force winds extending out for 30 miles (48 km) , However , later that day , Danielle began to rapidly weaken as it encountered an area of high wind shear and dry air . Danielle weakened to a category 1 hurricane with 75 mph (121 km / h ; 65 kn) winds late on August 24 . Danielle quickly re @-@ intensified early on the night of August 24 ? 25 , and it had hurricane @-@ force winds in a 30 miles (48 km) radius from the center . Further intensification was gradual , and Danielle again reached category 2 strength late on August 25 , and an eye was present on satellite images . It had hurricane @-@ force winds extending outwards 40 miles (64 km) from the center . After a few days of gradual strengthening , Danielle began to rapidly intensify on August 27 , and became the first major hurricane of the season with winds of 120 mph (190 km / h ; 100 kn) . Hurricane @-@ force winds extended out for 50 miles (80 km) , and tropical storm @-@ force winds extended out for 205 miles (330 km) . Continuing the rapid intensification , Hurricane Danielle briefly became a category 4 hurricane on August 27 , when it was situated 545 miles (877 km) southeast of Bermuda , attaining its peak intensity with winds of 135 mph (217 km / h ; 117 kn) and a minimum barometric pressure of 94 @. @ 2 kPa (27 @. @ 82 inHg) . The hurricane @-@ force winds were in a radius of 60 miles (97 km) , and the tropical storm @-@ force winds extended out for 205 miles (330 km) from the center .

However , on August 28 , Danielle encountered a large middle @-@ level to upper @-@ level weather trough moving off the coast of the eastern United States into the Atlantic Ocean . This

pushed Danielle north @-@ northeast . The inner of Danielle 's two eye walls eroded as the hurricane weakened . During this time , Hurricane Danielle 's outflow exposed the core of the more southerly Hurricane Earl . However , Hurricane Earl (then a tropical storm) retained strong circulation , and the center eventually moved back into the convection flow . The outflow from Danielle kept Earl a tropical storm before Danielle accelerated north and northeastward . As Danielle moved into a region with cooler sea surface temperatures and higher wind shear , it began to weaken at a steady pace and slowly began its extratropical transition . Danielle weakened to a category 1 hurricane on August 29 , and became a tropical storm on the afternoon of August 30 . Accelerating northeastward , Danielle completed the extratropical transition later that day . During the next few days , the extratropical remnants of Hurricane Danielle moved across the northern Atlantic Ocean , and were forecast to move into the area of Greenland and Iceland over the next five days . However , on September 3 , Danielle 's remnants dissipated after 72 hours in the cold waters of the northern Atlantic Ocean .

= = Preparations and impact = =

On August 27 , a tropical storm watch was issued on Bermuda before being canceled during the afternoon of August 28 because Danielle turned sharply east . However , it still triggered an advisory concerning high surf and large waves on Bermuda .

Hurricane Danielle and Hurricane Earl caused strong ocean swells and rip currents on the coasts of New Jersey , Delaware , and Maryland. which swept people out to sea . In Florida , around 250 people from Ocean City were swept out to sea , and at least one person was drowned by the riptides . At least 70 more people had to be rescued off the remaining coast of eastern central Florida . On August 31 , despite being more than 475 miles (764 km) from Newfoundland , Tropical Storm Danielle still caused 10 feet (3 @. @ 0 m) waves on its shores .

Researchers exploring the sunken remnants of the RMS Titanic were forced to leave the area when Danielle approached on August 29 .