## = Hurricane Danielle (2004) =

Hurricane Danielle was the first of several Cape Verde @-@ type hurricane to form during the 2004 Atlantic hurricane season . Danielle was the fourth named storm and third hurricane of the season . Danielle formed on August 13 , 2004 in the far eastern Atlantic Ocean and remained over the central Atlantic , peaking as a strong Category 2 hurricane on August 16 before weakening over cooler waters ; becoming a remnant low on August 21 and dissipating on August 24 . Danielle never approached land , although it briefly threatened the Azores as it made the northerly turn . As a result , there was no impact caused by the storm .

## = = Meteorological history = =

Hurricane Danielle began as a vigorous tropical wave over Africa . As the wave emerged into the Atlantic , it quickly became more organized due to favorable conditions , including low wind shear . The circulation consolidated and spawned Tropical Depression Four on the morning of August 13 south @-@ southeast of the Cape Verde islands . The system was over somewhat cooler water at first with sea surface temperatures around 79  $^{\circ}$  F ( 26  $^{\circ}$  C ) ; however , the low shear environment allowed the depression to continue to organize . Late that evening , the system strengthened into Tropical Storm Danielle .

As Danielle tracked westward into the open Atlantic early on August 14 , the storm encountered warmer water southwest of Cape Verde and began to gradually intensify , becoming a moderate tropical storm with 50 mph (  $85\ km\ /\ h$  ) winds that morning . At that point , a bout of rapid intensification began to take place , and the storm was upgraded to Hurricane Danielle that evening as an eye began to form . Over a 24 ? hour period ending in the morning of August 15 , the pressure fell from 1004 to 978 mbar and the winds increased to 90 mph (  $145\ km\ /\ h$  ) , making it a high @-@ end Category 1 hurricane on the Saffir @-@ Simpson hurricane scale .

Danielle levelled off somewhat in intensity after that round of rapid intensification , only gradually strengthening afterward due to structural changes in the storm related to the small wind field relative to the size of the eye . Nonetheless , Danielle became a Category 2 hurricane on the afternoon of August 15 as it approached the subtropical ridge which blocked the continued westward movement . Beginning late on August 15 , at about 35 ° W , Danielle began to recurve to the northwest and eventually north while continuing to gradually strengthen . Early on August 16 , the recurvature became more pronounced , and Danielle turned abruptly northward in the central Atlantic Ocean as an upper @-@ level trough opened up a large break in the ridge . That movement took it along the eastern side of the subtropical ridge , preventing Danielle from moving any farther west and becoming any threat to North America or the Caribbean . While moving northwest , Danielle strengthened a bit more , reaching its peak intensity of 110 mph ( 175 km / h ) , just under Category 3 intensity , on the afternoon of August 16 .

The northward movement also sent Danielle into somewhat increased shear , which allowed it to begin to weaken . However , the weakening was gradual at first as the waters remained fairly warm . The abrupt northerly turn meant that , for a while on August 17 , the Azores were threatened by Danielle in the long @-@ range forecast , as a weakened tropical storm or extratropical cyclone . Danielle weakened to a Category 1 hurricane on the evening of August 17 as shear continued to increase . Danielle began to turn to the northeast early on August 18 , and at that point , the weakening trend accelerated . Some of the deep convection was being removed from the system due to wind shear , and that morning , Danielle weakened to a tropical storm . The rapid weakening trend continued that afternoon , and Danielle weakened to a low @-@ end tropical storm with 45 mph ( 75 km / h ) winds late that evening . However , the intensity levelled off early on August 19 and Danielle remained a tropical storm for the next couple days over moderately warm water of around 78 ° F ( just under 26 ° C ) while south @-@ southwest of the Azores .

Intermittent deep convection continued to fire up , keeping the storm afloat for the next day and turning it away from the Azores . Danielle also changed direction and meandered slightly to the northwest , away from the Azores , due to very weak steering currents . After holding on as a

minimal tropical storm , Danielle finally lost its deep convection due to high upper @-@ level vertical shear and was downgraded to a tropical depression on the afternoon of August 20 . The depression turned once again to the north , and continued to lose organization over cooler water . It degenerated into a remnant low on the afternoon of August 21 as the convection was completely sheared away from the center of Danielle . The remnant low remained in the open ocean , remaining devoid of any deep convection , until August 24 when it dissipated west @-@ southwest of the Azores .

= = Impact , naming , and records = =

Hurricane Danielle did not have any impact on land and no damage or fatalities were reported. No ships were reported to have come into contact with Danielle. When Danielle became a tropical storm at 24 @.@ 8 ° W, it was the farthest east that a storm had received a name since Hurricane Alberto in the 2000 Atlantic hurricane season.