= Hurricane Julia (2010) =

Hurricane Julia was the easternmost Category 4 hurricane recorded in the Atlantic basin since reliable satellite observations became available . The twelfth tropical cyclone , fifth hurricane and fourth major hurricane of the 2010 Atlantic hurricane season , Julia rapidly developed on September 12 from a tropical wave near Cape Verde . Passing near the islands , the system quickly organized into Tropical Storm Julia the next day . On September 14 , Julia attained hurricane status and subsequently entered a trend of rapid intensification ; the storm strengthened from a minimal hurricane to a low @-@ end Category 4 in only 24 hours . After peaking in intensity , further development was impeded as interaction with nearby Hurricane Igor began to occur ; the storm was downgraded to a tropical storm by September 18 . It subsequently moved into a region of unfavorable conditions , heading toward lower sea surface temperatures . Correspondingly , Julia entered an extratropical transition on September 20 , and advisories on the storm were discontinued by that time .

As Julia never posed any significant threat to land , damage related to the storm was minimal . Trace amounts of rain reportedly fell across the Cape Verde islands , causing locally light flooding and minor inconveniences . Gusts battering the territory peaked at 30 mph (48 km / h) , resulting in some wind damage to crops . In addition , these winds produced rough sea conditions , and high waves posed few threats along coastlines .

= = Meteorological history = =

The origins of Julia trace back to a vigorous tropical wave , or an equatorward low @-@ pressure area , which emerged into the Atlantic along the western coast of Africa on September 11 . At the time , the system maintained deep convection and strong easterly winds , prompting the National Hurricane Center (NHC) to commence tracking the system as an area of interest . As the wave moved generally westward at 10 to 15 mph (16 to 24 km / h) , a quick increase in organization as well as a significant drop in surface pressure became notable . The system continued to organize , and several hours later , the NHC noted only a slight increase would suffice for the development of a tropical cyclone . By September 12 , a tropical depression developed , and the NHC initiated advisories at 1500 UTC that day . At the time , the cyclone was situated 250 mi (400 km) southeast of the southernmost islands of Cape Verde .

For several hours , steady strengthening continued as the depression maintained a westward track . Operationally , it was upgraded to Tropical Storm Julia early on September 13 , though post @-@ analysis confirmed the storm had reached winds of 40 mph (65 km / h) twelve hours after formation . For several hours , no significant change occurred in its intensity or organization as Julia passed near Cape Verde , though the storm gradually retraced to the west @-@ northwest along the southern periphery of a deep @-@ layer ridge . Slow intensification resumed as the storm bypassed the Cape Verde islands ; by early September 14 , it displayed a ragged , banded eye @-@ like feature in satellite imagery . Due to locally high sea surface temperatures of about 28 ° C (82 ° F) , a period of rapid intensification subsequently commenced ; within hours , Julia attained Category 1 hurricane status . Though located over an area with relatively low oceanic heat content , Julia continued to intensify rapidly under low vertical wind shear and over favorable sea surface temperatures ; as such , the hurricane was upgraded to Category 2 status on September 15 . In less than two hours , the hurricane deepened to reach Category 3 intensity , becoming the fourth major hurricane of the season . The rapid intensification trend continued , and Julia eventually strengthened into a Category 4 hurricane six hours later . Based on satellite estimates , its winds peaked at 140 mph (220 km / h) and a minimum barometric pressure of 948 mbar (hPa ; 27 @.@ 99 inHg) , though operationally estimated at 135 mph (215 km / h) and 950 mbar (hPa ; 28 @.@ 05 inHg) , respectively .

Upon peaking in intensity , Julia accelerated slightly as it re @-@ curved toward the northwest along a mid to upper @-@ level low to its southwest . In addition , this system generated unfavorable southerly flow aloft , inducing a slight weakening of the storm . By early September 16 ,

Julia 's eye became indistinguishable on satellite images , and the storm further dropped to below major hurricane status . Upon doing so , Julia became embedded within a south @-@ southeasterly steering current along deep @-@ layer ridging in its vicinity , resulting in a more westward track . Though still a hurricane , the relatively small tropical system moved to the east of the much larger Hurricane Igor . Concurrently , Igor 's outflow began impinging on Julia 's circulation , and due to colder sea surface temperatures , the storm weakened below hurricane intensity late on September 17 . Henceforth , Julia re @-@ accelerated as it further curved northward around the contiguous ridge , nearly merging with Igor as a result . Progressively tracking to the north over the next hours , Julia subsequently executed a turn to the northeast , then to the east . Proceeding eastward , the low @-@ level center of the storm became partially exposed on September 18 ; however , for several hours thereafter , convection gradually redeveloped over its center . Despite the deep convection , vertical wind shear again increased over the system , causing the storm to enter an extratropical transition . It is estimated Julia degenerated into a post @-@ tropical low by 1800 UTC on September 20 , while located about 1095 mi (1750 km) west of the Azores . The resultant storm meandered around over the Atlantic for several days , continuing generally eastward before executing an elongated loop to the south . Following this erratic track , the remnants of Hurricane Julia proceeded northwestward and came within 350 mi (563 km) of Bermuda , where they were once again briefly monitored by the NHC . However , chance of redevelopment dwindled , as conditions were not conducive for tropical formation ; convection nearly diminished entirely , and the NHC discontinued monitoring the system on September 28 .

= = Preparations and impact = =

Immediately upon developing into a tropical depression , Julia posed a threat to Cape Verde . At the time , at least 3 to 5 in (76 to 127 mm) of precipitation was expected , with locally accumulations of up to 8 in (203 mm) . In response , the Government of Cape Verde issued a tropical storm warning for the southern portion of the archipelago , which included Maio , Sao Tiago , Fogo , and Brava . The tropical storm warning remained in effect after Julia intensified into a tropical storm ; it was finally discontinued early on September 14 .

Since Julia stayed at sea and never directly struck land as a significant cyclone , there were no reports of major damage or casualties . Across southern Cape Verde , intermittent rains and some gusty winds were reported when the storm neared the islands . Winds reached between 24 and 30 mph (38 and 48 km / h) ; the only known report of rainfall accumulations was in Sal , where no more than 0 @.@ 39 in (9 @.@ 9 mm) of precipitation was recorded . During the passage of the storm , authorities canceled several local and international flights across Cape Verde . In Sao Tiago , floods triggered several landslides , resulting in the isolation of the community of Covão Grande from roadways . Several communities also reported wind damage to maiz crops . In addition , rough seas with waves of 9 @.@ 8 to 14 @.@ 8 ft (3 @.@ 0 to 4 @.@ 5 m) resulted in minor disruptions along coastlines .