

= Tropical Storm Nicholas (2003) =

Tropical Storm Nicholas was a long-lived tropical storm in October and November of the 2003 Atlantic hurricane season . Forming from a tropical wave on October 13 in the central tropical Atlantic Ocean , Nicholas slowly developed due to moderate levels of wind shear throughout its lifetime . Deep convection slowly organized , and Nicholas attained a peak intensity of 70 mph (110 km / h) on October 17 . After moving west-northwestward for much of its lifetime , it turned northward and weakened due to increasing shear . The storm again turned to the west and briefly restrengthened , but after turning again to the north Nicholas transitioned to an extratropical cyclone on October 24 . As an extratropical storm , Nicholas executed a large loop to the west , and after moving erratically for a week and organizing into a tropical low , it was absorbed by a non-tropical low . The low continued westward , crossed Florida , and ultimately dissipated over the Gulf Coast of the United States on November 5 .

Nicholas had no impact as a tropical cyclone , and impact from the low that absorbed the storm was limited to rainfall , gusty winds , and rough surf . Nicholas extended the above average levels of tropical cyclone activity throughout the 2003 season , and was one of fourteen seasons to reach fourteen storms . The low that absorbed the storm nearly developed into a tropical cyclone , which would have been called Odette . However , moderate wind shear prevented further development .

= Meteorological history =

The origin of Tropical Storm Nicholas can be traced to a tropical wave that moved off the coast of Africa on October 9 . It moved westward , and developed a broad area of low pressure along the wave on October 10 . Convection organized around the low early on October 12 while located 800 miles (1300 km) southwest of the Cape Verde islands . As upper level winds became more favorable , the system became better organized , though the circulation center initially remained located to the west of the area of heavy showers . The surface circulation of the large circulation envelope moved towards a position near the western edge of the deepest convection , and it is estimated the system developed into Tropical Depression Nineteen late on October 13 while located 1,030 miles (1,660 km) west-northwest of the Cape Verde islands .

Located within an area of moderate southwesterly wind shear , the depression was slow to organize ; early on October 14 , a clear center was not depicted on Infrared satellite imagery . The depression moved to the west-northwest and gradually strengthened into Tropical Storm Nicholas late on October 14 while located 1,200 miles (1,930 km) east of the Windward Islands . On October 15 , deep convection became much better organized , though the center of Nicholas remained displaced from the deepest of the shower activity . Despite the shear , the storm continued to strengthen as it moved to the west-northwest , a motion caused by a mid-level ridge to its north . On October 16 , Nicholas transitioned from a sheared , unorganized system to a more organized system , as a result of banding features and improvement in its convective pattern due to lesser amounts of vertical shear and a healthier anticyclone over the storm . Nicholas continued to strengthen , and attained a peak intensity of 70 mph (110 km / h) on October 17 while located 875 miles (1,410 km) east of the Leeward Islands . Dvorak estimates suggested Nicholas potentially attained hurricane status , though microwave images of the storm showed a sheared system without any evidence of an eye feature .

Shortly after peaking in strength , Nicholas weakened due to increasing southwesterly wind shear , and the center of circulation briefly became exposed from the deep convection . In response to a break in the subtropical ridge , the storm turned to the north on October 18 . Nicholas turned more to the west on October 20 , and later on the winds in the storm decreased to minimal storm strength . Convection diminished greatly , though Nicholas unexpectedly re-strengthened as deep convection re-fired . After reaching winds of 50 mph (85 km / h) , the storm again weakened due to increasing shear , and after turning to the northwest Nicholas degenerated into a tropical depression on October 23 . Nicholas tracked northward in response to a break in the subtropical ridge , and on October 24 , after degenerating to a remnant low pressure area , Nicholas lost what tropical

characteristics it retained and transitioned into an extratropical cyclone . The remnant storm executed a large anticyclonic loop , resulting in a westward motion and a brief re @-@ intensification into an extratropical storm on October 29 . The storm continued to the west along a warm front associated with a non @-@ tropical low to its southwest , and executed a second anticyclonic loop to the south . On October 30 , convection increased over the low @-@ level circulation of what was left to Nicholas , and the National Hurricane Center indicated a potential for tropical or subtropical development as it moved towards warmer waters . The system executed a small cyclonic loop , and on October 31 the system organized into a tropical low . It turned westward towards a non @-@ tropical low , and on November 1 the remnants of Nicholas was absorbed by the low .

On November 1 , convection increased in the complex system that absorbed the remnants of Nicholas , and the National Hurricane Center indicated the system could develop into a tropical or subtropical cyclone at any time . The low continued quickly westward , generating only sporadic convection , and crossed Florida on November 3 . After entering the Gulf of Mexico , it turned to the west @-@ northwest , and without organizing it made landfall in southeast Louisiana on November 4 . It continued inland , and quickly weakened over Louisiana and Mississippi on November 5 .

= = Impact , records , and naming = =

The non @-@ tropical low that absorbed Nicholas dropped locally heavy rainfall across the Bahamas and southern Florida , as well as in portions of the northern Gulf Coast . Gusty winds from the low produced heavy surf and rip currents along the east and west coast of Florida , and a wind gust of 35 mph (55 km / h) was recorded in Cape Canaveral as a rainband from the system moved ashore . The low also resulted in two to four foot (0 @.@ 6 to 1 @.@ 2 m) swells along the East Coast of the United States . Overall , no damage or deaths were associated with Nicholas or the low that absorbed it .

Operationally , the National Hurricane Center determined if the non @-@ tropical low that absorbed Nicholas developed into a tropical or subtropical storm , it would be named Odette . In post @-@ season analysis , the center considered classifying the system as an unnumbered tropical depression , though lack of sufficient characteristics of a tropical depression prevented the classification . If Nicholas had attained hurricane status , it would have been one of eight tropical cyclones to reach hurricane status in October in the deep tropical Atlantic since 1900 .