

= Hurricane Nate (2011) =

Hurricane Nate caused minor damage in southeastern Mexico in mid @-@ September 2011 . The sixteenth named storm and fourth hurricane of the 2011 Atlantic hurricane season , Nate originated from a frontal trough in the Bay of Campeche on September 7 . Within a weak steering environment , the storm meandered southwestward while gradually gaining strength . Though classified as a tropical storm operationally , data during a post @-@ season review indicated that Nate briefly attained Category 1 hurricane status on the Saffir ? Simpson hurricane wind scale on September 8 . As a result of its slow motion , the storm caused significant upwelling , leading to a marked decrease in convection , and weakening accordingly . On September 11 , Nate moved ashore Mexico as a tropical storm , producing several inches of rainfall and damaging several hundred structures . Ten oil rig workers went missing ; seven were rescued , but one died of an unknown cause , and three other bodies were later recovered . In Veracruz , a boy was killed after being struck by lightning .

= = Meteorological history = =

On September 5 , a frontal trough , the same responsible for the extratropical transition of Tropical Storm Lee , passed through the western Gulf of Mexico before stalling in the central Gulf of Mexico and Bay of Campeche . At the tail @-@ end of the trough , increased shower and thunderstorm activity associated with a developing low @-@ pressure area prompted the National Hurricane Center (NHC) to begin monitoring the disturbance for tropical cyclone formation the next day . The low separated from the front early on September 7 , but convection was too disorganized for classification at the time . By 1800 UTC , however , a curved band developed in the western semicircle of the circulation . In accordance with satellite imagery , surface observations from land and oil rigs , and data from a reconnaissance aircraft , the disturbance was upgraded to Tropical Storm Nate , positioned roughly 160 mi (260 km) north of Villahermosa , Mexico .

Within a weak steering environment between a mid @-@ level ridge over northern Mexico and a mid @-@ level ridge over the northern Caribbean Sea , Nate drifted slowly southwestward initially . Though an abundance of dry air was expected to limit a rapid rate of intensification , warm sea surface temperatures and light to moderate wind shear allowed for gradual strengthening . Operationally , the system attained its peak intensity with maximum sustained winds of 70 mph (110 km / h) and a minimum barometric pressure of 994 mb (29 @.@ 35 inHg) on September 8 . However , as part of its post @-@ season routine , the NHC received data from an offshore oil rig in the southeastern quadrant of the system that yielded maximum sustained surface winds of 77 mph (124 km / h) ; as a result , Nate was re @-@ designated as a Category 1 hurricane on the Saffir ? Simpson hurricane wind scale while centered approximately 80 mi (130 km) north @-@ northwest of Ciudad del Carmen , Mexico . Following peak intensity , the storm 's broad wind field and slow forward motion led to significant ocean upwelling . With cooler sea surface temperatures and low ocean heat content , the coverage of deep convection decreased and Nate weakened to a tropical storm at 0600 UTC on September 9 .

While accelerating west @-@ northwest and eventually westward in response to an eastward shift in the ridge over Mexico , Nate moved away from cooler ocean temperatures , briefly allowing it to gain strength on September 10 . By the next day , however , increasingly dry , low- to mid @-@ level air wrapped into the circulation , causing associated convection to collapse . At 1600 UTC on September 11 , the system made landfall near Barra de Tecolutla , Mexico , with winds of 45 mph (75 km / h) . The rugged terrain of Mexico caused Nate to rapidly weaken once inland , and the cyclone degenerated into a remnant low by 0000 UTC on September 12 , about 20 mi (30 km) west of Poza Rica , Mexico . The circulation dissipated six hours later , at 1200 UTC on September 12 .

= = Preparations and impact = =

Following Nate 's declaration as a tropical cyclone , the Government of Mexico issued a tropical

storm warning stretching from Chilitepec to Celestún , noting that tropical storm conditions were likely within 12 hours . Early on September 8 , a tropical storm watch was issued from Celestún to Progreso . A day later , a tropical storm watches were issued from La Cruz to Tampico and Veracruz to Punta El Lagarto . A hurricane watch was issued from Tampico to Veracruz , and three hours later , all tropical storm warnings were discontinued . On September 10 , the tropical storm watch stretching from Veracruz to Punta El Lagarto was discontinued , and a tropical storm warning was issued from Tampico to Punta El Lagarto . By 1500 UTC , all tropical storm watches were discontinued , and at 2100 UTC , the tropical storm warning area was modified to Tampico to Tuxpan . At this time , the hurricane watch area was modified to Tampico to Tuxpan , and a hurricane warning was issued from Tampico to Veracruz . The following day , this hurricane warning was changed to a tropical storm warning following Nate 's weakening trend . All hurricane watches were discontinued , and during the afternoon hours , all tropical storm warnings were discontinued .

On September 7 , the Dos Bocas and Cayo Arcas ports , Mexico 's two main crude oil export ports , closed in preparation for the storm . Ten contractors for Geokinetics were forced to abandon their lifeboat after evacuating the Trinity II rig . Seven of the ten men were rescued ; however , one later died , and the bodies of the three other men were recovered . The body of the tenth man , who had remained listed as " missing " for several days , was recovered by the Mexican Navy on September 14 . Throughout Veracruz , 839 homes were damaged by the storm . In the southern sections of the state , Nate produced several inches of rainfall . A child was killed in Pánuco after a tree was struck by lightning and fell on his home .