Hurricane Daniel (2006)

Hurricane Daniel was the second strongest hurricane of the 2006 Pacific hurricane season . The fourth named storm of the season , Daniel originated on July 16 from a tropical wave off the coast of Mexico . It tracked westward , intensifying steadily to reach peak winds of 150 mph (240 km / h) on July 22 . At the time , the characteristics of the cyclone resembled those of an annular hurricane . Daniel gradually weakened as it entered an area of cooler water temperatures and increased wind shear , and after crossing into the Central Pacific Ocean , it quickly degenerated into a remnant low pressure area on July 26 .

Initial predictions suggested that the cyclone would pass through the Hawaiian Islands as a tropical storm ; however , Daniel 's remnants dissipated southeast of Hawaii . The storm brought light to moderate precipitation to the islands of Hawaii and Maui , causing minor flooding , although no major damage or fatalities were reported .

Meteorological history

Hurricane Daniel began as a tropical wave that moved off the west coast of Africa on July 2 . The wave moved across the Atlantic Ocean and Caribbean Sea with little associated convection , and on July 12 , it crossed Central America into the eastern Pacific Ocean . Convection increased on July 13 , and two days later the system began to exhibit signs of tropical development to the south of Mexico . It tracked westward at about 15 mph (25 km / h) , and on July 16 , the disturbance became better organized . With convective rainbands near an associated low @-@ level circulation , it is estimated the tropical wave spawned a tropical depression late on July 16 . At the time , it was located about 525 miles (845 km) south @-@ southwest of Manzanillo , Colima .

Classified as Tropical Depression Five @-@ E , the system tracked westward under the steering currents of a mid @-@ level ridge . In the hours after formation , the depression lacked a concentration of deep convection near the center . Conditions favored development , including warm sea surface temperatures , very low amounts of wind shear , and an established anticyclone over the cyclone . Convection became more centralized , coinciding with the improvement of upper @-@ level outflow . Based on Dvorak classifications , it is estimated that the cyclone intensified into Tropical Storm Daniel at 1200 UTC on July 17 . Daniel quickly became better organized , exhibiting increased thunderstorm activity and banding features . A central dense overcast developed , and a well @-@ defined rainband wrapped around the center of circulation . Based on the formation of an eye feature , the National Hurricane Center upgraded Daniel to hurricane status late on July 18 while it was located about 885 miles (1420 km) south @-@ southwest of Cabo San Lucas .

On July 19 , the eye of Daniel became apparent on satellite imagery , which organized into a pinhole eye . It underwent an eyewall replacement cycle as it turned to the west @-@ northwest , temporarily halting its intensification trend , before quickly strengthening and attaining major hurricane status on July 20 . Later that day , Hurricane Daniel organized into a very symmetric cyclone with a distinct eye about 30 miles (50 km) in diameter . Upon attaining Category 4 status on the Saffir @-@ Simpson Hurricane Scale , the cyclone resembled the appearance of an annular hurricane ; an annular hurricane is one with a large and symmetric eye , surrounded by a thick ring of intense convection , and usually is able to maintain its intensity and structure for several days . On July 21 the hurricane underwent another eyewall replacement cycle . After completing the cycle , Daniel attained its peak winds of 150 mph (240 km / h) early on July 22 . It maintained peak winds for about 18 hours , and Daniel began a weakening trend as it crossed into an area of progressively cooler water temperatures . The eye became more distinct on July 23 , before the cloud tops again warmed as the winds decreased .

The hurricane crossed into the area of forecast responsibility of the Central Pacific Hurricane Center on July 24 , and upon doing so , its eye disappeared from satellite imagery . Daniel was forecast to track through the Hawaiian Islands as a tropical storm as water temperatures near the islands were warmer , and wind shear was expected to be minimal . However , it decelerated as the ridge to its north weakened , and due to the combination of cool waters and increasing easterly

shear , Daniel weakened to a tropical storm on July 25 . Later that day , no active convection remained near the exposed circulation center , and early on July 26 it weakened to tropical depression status . Thunderstorm activity failed to redevelop , and Daniel degenerated into a remnant low pressure area by 0000 UTC on July 27 . The remnant low continued west @-@ northwestward , dissipating just south @-@ east of the Big Island of Hawaii on July 28 .

= = Preparations and impact = =

When Hurricane Daniel was forecast to pass through the Hawaiian islands as a tropical storm , state and Hawaii County officials recommended residents prepare hurricane kits . They also suggested purchasing non @-@ perishable foods and batteries . Initially , the storm was several days away from potentially affecting the state , and as a result few residents rushed to prepare . The Honolulu National Weather Service issued a high surf advisory for east facing beaches in Hawaii , and warned beachgoers to remain out of the water . The National Weather Service issued a flash flood watch and wind advisory in association with the remnants of Daniel .
The remnants produced 2 ? 5 inches (50 ? 125 mm) of rainfall throughout windward areas of the Big Island of Hawaii and Maui on July 28 and 29 . West Wailuaiki on Maui recorded 3 @.@ 87 inches (98 @.@ 3 mm) in one day , which was the highest daily rainfall total from the hurricane . The storm also dropped precipitation on the East Maui watershed . The rainfall ? particularly in Kailua @-@ Kona on the Big Island ? caused ponding on roadways , as well as flooding of small streams . However , no injuries or serious damage were reported . A station in Ka Lae briefly reported sustained winds of about 35 mph (55 km / h) with gusts to 45 mph (75 km / h) .
During the 61st Interdepartmental Hurricane Conference , the Hawaii State Civil Defense requested the retirement of the name Daniel , citing that it became one of the several storms memorable for threat or damage . However , the World Meteorological Organization did not approve the request .