

= Tropical Storm Carlos ( 2003 ) =

Tropical Storm Carlos was the first of five tropical cyclones to make landfall during the 2003 Pacific hurricane season . It formed on June 26 from a tropical wave to the south of Mexico . It quickly strengthened as it approached the coast , and early on June 27 Carlos moved ashore in Oaxaca with winds of 65 mph ( 100 km / h ) . The storm rapidly deteriorated to a remnant low , which persisted until dissipating on June 29 . Carlos brought heavy rainfall to portions of southern Mexico , peaking at 337 mm ( 13 @. @ 3 in ) in two locations in Guerrero . Throughout its path , the storm damaged about 30 @, @ 000 houses , with a monetary damage total of 86 @. @ 7 million pesos ( 2003 MXN , \$ 8 million 2003 USD ) . At least nine people were killed throughout the country , seven due to mudslides and two from river flooding ; there was also a report of two missing fishermen .

= = Meteorological history = =

The origins of Carlos were from a tropical wave that exited the west coast of Africa on June 14 . The wave moved westward across the Atlantic Ocean and Caribbean Sea , with little evidence of its existence on satellite imagery . By June 20 it crossed Central America into the eastern Pacific Ocean , later spawning an area of convection , or thunderstorms , south of the Gulf of Tehuantepec . The National Hurricane Center ( NHC ) first mentioned the system in its tropical weather outlook on June 24 , by which time a low pressure center developed . Gradually , the system continued to develop due to light wind shear , with rainbands and convection located near the broad center . By early on June 26 , the disturbance had organized enough for the NHC to initiate advisories on Tropical Depression Three @- @ E , about 130 miles ( 210 km ) south @- @ southwest of Puerto Escondido , Oaxaca .

Upon first being classified as a tropical cyclone , the depression had a slightly elongated circulation . An anticyclone to its north was forecast to track westward , which would allow the depression to track west @- @ northwestward and remain offshore ; however , the NHC noted uncertainty in its motion . The cloud pattern gradually organized , with warm water temperatures and lessening wind shear . At 1200 UTC on June 26 , it is estimated the depression attained tropical storm status ; upon doing so , the NHC named the storm Carlos . As it reached tropical storm intensity , Carlos began an erratic northward track toward the Mexican coast , under the influence of a trough . It quickly strengthened , developing a well @- @ defined eye feature in the center of the convection . Based on the eye , it is estimated Carlos made landfall early on June 27 with peak winds of 65 mph ( 100 km / h ) , about 60 miles ( 95 km ) west of Puerto Escondido , Oaxaca , or about 150 miles ( 245 km / h ) east @- @ southeast of Acapulco , Guerrero .

As Carlos moved inland , it turned to the northwest in response to the anticyclone over Mexico , and it quickly weakened to tropical depression status . By 12 hours after landfall , there was little evidence of a circulation on satellite imagery . Late on June 27 , Carlos degenerated into a non @- @ convective remnant low pressure area near Acapulco . The circulation turned to the southwest and emerged into the Pacific Ocean ; by 0000 UTC on June 29 , the system dissipated completely .

= = Preparations and impact = =

When the cyclone first formed , the Government of Mexico issued a tropical storm warning from Acapulco , Guerrero to Punta San Telmo , Michoacán , although initially it was forecast to remain offshore . After Carlos attained tropical storm status and when it was correctly anticipated to make landfall , the warning area was adjusted from Salina Cruz , Oaxaca to Zihuatanejo , Guerrero . Although the storm moved ashore in Oaxaca , its rainbands also affected the Mexican states of Chiapas , Tabasco , Veracruz , Puebla , and Guerrero . On the day when Carlos made landfall , it dropped heavy rainfall , with 24 ? hour statewide maxima of 254 mm ( 10 in ) in Río Verde , Oaxaca , and 112 mm ( 4 @. @ 42 in ) in Petatlán , Guerrero . Throughout the country , rainfall peaked at 337 mm ( 13 @. @ 3 in ) in both Marquelia and Azoyú in Guerrero .

Tropical Storm Carlos affected 79 municipalities in Oaxaca with flooding or rainfall , and much of

the region was declared a disaster area ; as a result , disaster funds were opened . Across the region , the combination of rainfall and strong winds downed power lines , disrupted phone service , and flooded two major highways ; additionally , the storm left widespread damage to other roads and airstrips . In northwestern Oaxaca , seven people were killed when the heavy rainfall triggered a mudslide . Mudslides were reported elsewhere in the state , and about 30 @,@ 000 homes were damaged . In one town , the flooding forced 150 families to evacuate to shelters . In Guerrero , a flooded river killed two people . Four fishermen were reported missing , possibly swept out to sea due to the storm ; the Mexican army searched offshore for several days , rescuing two of the four fishermen by four days after the storm . Overall , the storm affected about 148 @,@ 000 people , and monetary damage totaled 86 @.@ 7 million pesos ( 2003 MXN , \$ 8 million 2003 USD ) .