

= Tropical Storm Olaf (1997) =

Tropical Storm Olaf was an erratic and long @-@ lived tropical cyclone that brought heavy rainfall to regions of Mexico , which would be devastated by Hurricane Pauline a week later . The sixteenth named storm of the 1997 season , Olaf formed on September 26 off the southern coast of Mexico . It moved northward and quickly intensified , reaching peak winds of 70 mph (120 km / h) before weakening and hitting Oaxaca as a tropical depression . In Mexico , El Salvador , and Guatemala , the system brought heavy rainfall , which killed 18 people and caused flooding and damage . It was originally thought that Olaf dissipated over Mexico , although its remnants continued westward for a week . It interacted with Hurricane Pauline , which caused Olaf to turn to the southeast and later to the north to strike Mexico again , finally dissipating on October 12 .

= = Meteorological history = =

The origins of Olaf were from a tropical wave first noted over Central America on September 22 . It moved slowly through the eastern Pacific Ocean , and gradually developed an area of convection . Concurrently , an upper @-@ level low @-@ pressure area moved from the Gulf of Mexico across Mexico into the Pacific , which produced wind shear across the region ; wind shear is the difference in wind speed and direction in the atmosphere , and is usually harmful to tropical cyclogenesis . The disturbance associated with the tropical wave persisted and developed outflow . This caused the upper @-@ level low to move away from the system . On September 26 , it was sufficiently organized to be classified Tropical Depression Seventeen @-@ E , while located about 345 miles (560 km) south of the Gulf of Tehuantepec .

A few hours after developing , the depression attained tropical storm status , or winds of at least 40 mph (65 km / h) . Upon doing so , the National Hurricane Center (NHC) gave it the name " Olaf " . The upper @-@ level low , which was moving away from the region , caused the storm to move northward toward the Mexican coast . Olaf quickly intensified , as evidenced by reports from a nearby ship , and the winds reached 70 mph (115 km / h) by late on September 27 ; the NHC anticipated further intensification to hurricane status , or winds of at least 75 mph (120 km / h) . Instead , interaction with the rough terrain of Mexico caused weakening . Olaf made landfall on Salina Cruz , Oaxaca early on September 29 as a 35 mph (55 km / h) tropical depression . Within a few hours , the circulation was not evident on satellite imagery , and the NHC discontinued advisories .

Despite being considered dissipated , a re @-@ analysis of satellite imagery indicated the circulation of Olaf persisted as turned to the west toward open waters . Early on September 30 , the system reached the Pacific , and it continued westward for about a week , during which it retained some convective activity . On October 5 , Olaf turned toward the east , as it interacted with the large circulation of developing Hurricane Pauline . Later that day , the NHC resumed issuing advisories , while it was located about 560 miles (900 km) southwest of the southern tip of the Baja California Peninsula . The system turned to the southeast , and , failing to organize , the NHC discontinued advisories on October 8 . Three days later , after the remnants of Olaf turned toward the north , the NHC again resumed advisories , when it was just 70 miles (115 km) south @-@ southwest of Tecomán , Colima . Late on October 12 , the circulation of Olaf made its final landfall near Manzanillo , Colima , and it quickly dissipated . An associated area of thunderstorms moved over open waters again , but failed to redevelop .

= = Impact and preparations = =

Prior to moving ashore , a tropical storm warning was issued from Punta Maldonado , Guerrero to Tapachula , Chiapas and the Port of Chiapas , near the Mexico ? Guatemala border . When Olaf was strengthening faster than anticipated , the advisory was upgraded to a hurricane warning , although it was downgraded to a tropical storm after the intensification did not occur . Upon making its first landfall , Tropical Depression Olaf produced gusty winds and heavy rains along the

southeastern coast of Mexico . The peak 24 ? hour rainfall total was 6 @.@ 71 inches (17 @.@ 1 cm) in Juchitán de Zaragoza in Oaxaca ; the highest rainfall total throughout Olaf 's duration was 27 @.@ 73 inches (70 @.@ 4 cm) at a station called Soyalapa / Comaltepec in Oaxaca . Heavy rainfall was also reported in Guatemala and El Salvador .

Across the affected region , the heavy rainfall caused flooding , which resulted in 18 deaths . In Mexico , the flooding damaged 50 @,@ 000 acres (200 km²) of coffee , corn , and other crops ; in Chiapas , the coffee crop damage represented a severe cut into the yearly total . The precipitation flooded many buildings across the region , including 30 houses in the Chiapas capital of Tuxtla Gutiérrez , when a river exceeded its banks . In mountainous regions , mudslides left dozens of small villages isolated from the outside world . Along the coast , high waves of up to 16 feet (5 m) forced the closure of all ports in three Mexican states , which affected thousands of fishermen . Further west , three fishing vessels were reported missing near Acapulco , prompting rescue parties . The storm also forced the closure of several airports . In its final landfall , there was no damage reported ; precipitation in that region peaked at 2 @.@ 96 inches (7 @.@ 5 cm) in Coquimatlán , Colima .

Following the storm , the Mexican government sent food , water , and housing supplies to affected families in Oaxaca . Less than a week after Olaf moved through southern Mexico , Hurricane Pauline struck the same region with much stronger winds . Pauline caused heavier rainfall and more damage , killing at least 250 people . Some regions received 10 days of heavy rainfall .