

= Tropical Storm Erin (2007) =

Tropical Storm Erin was the second largest tropical cyclone to make landfall in the United States in the 2007 Atlantic hurricane season . The fifth named storm of the season , it formed in the Gulf of Mexico on August 14 from a persistent area of convection . It attained tropical storm status the next day , and on August 16 Erin made landfall near Lamar , Texas , and persisted over land across Texas before moving northward into Oklahoma . Due to the brown ocean effect Erin intensified after landfall . The storm resulted in at least 16 fatalities and worsened an already @-@ severe flooding issue in Texas .

= = Meteorological history = =

On August 1 , an area of convection developed just south of Jamaica in association with a trough of low pressure . The system tracked west @-@ northwestward , and by August 10 consisted of a broad surface trough with minimal shower activity . Convection increased on August 11 , and by August 12 the interaction between a tropical wave and an upper @-@ level low in the area resulted in a large area of disorganized thunderstorms extending from the western Caribbean Sea into the central Bahamas . Upper @-@ level winds gradually became more beneficial for development , and on August 13 a broad low pressure area formed about 90 miles (145 km) north @-@ northeast of Cancún , Quintana Roo . Late on August 14 , a Hurricane Hunters flight into the system reported a small circulation center , but at the time was not well @-@ defined enough to result in the initiation of tropical cyclone advisories . However , deep convection was maintained near the increasingly organizing center , and at 0300 UTC on August 15 the National Hurricane Center classified it as Tropical Depression Five about 425 miles (685 km) southeast of Brownsville , Texas .

In the overnight hours after formation , the storm was disorganized with a ragged and ill @-@ defined center of circulation . Located to the south of a mid to upper @-@ level ridge over the southern United States , the system tracked to the west @-@ northwest through an environment conducive for further strengthening ; an upper @-@ level anticyclone developed over the central Gulf of Mexico , and sea surface temperatures along its track were warm . The cloud pattern became better organized , maintaining a large area of convection with curved rainbands and well @-@ established outflow . Based on reports from Hurricane Hunters , the National Hurricane Center upgraded the depression to Tropical Storm Erin at 1530 UTC on August 15 about 250 miles (400 km) east of Brownsville , Texas . As it continued northwestward , Erin remained disorganized and failed to strengthen beyond minimal tropical storm status . At 1200 UTC on August 16 the cyclone made landfall near Lamar , Texas as it weakened to tropical depression status . Three hours later , the National Hurricane Center ceased issuing advisories on Erin as warning responsibility was transferred to the Hydrometeorological Prediction Center .

Drifting northwestward through Texas , Tropical Depression Erin maintained an area of convection near the center , with its widespread but scattered rainbands dropping moderate to heavy precipitation . By August 17 , the winds decreased to 20 mph (30 km / h) , with higher gusts . The system turned to the north @-@ northeast on August 18 , while heavy bands of thunderstorms continued to rotate around the center of Erin . Early on August 19 after entering Oklahoma , the remnants of Erin suddenly re @-@ intensified to maximum sustained winds of 60 mph (95 km / h) a short distance west of Oklahoma City . The Norman , Oklahoma National Weather Service remarked the intensification " [resulted] in what amounts to an inland tropical storm ; " at 0930 UTC the system presented an eye @-@ like feature and a spiral rainband , and produced wind gusts of over 80 mph (130 km / h) . However , a few hours later , the depression began weakening again , and late on August 19 Erin weakened significantly as the circulation dissipated over northeastern Oklahoma . Despite displaying tropical characteristics , the National Hurricane Center determined the system was not a tropical cyclone over Oklahoma , and classified it as a " low " . The low continued into southeastern Kansas before dissipating , feeding moisture northward toward a frontal system extending from the Midwestern United States through the Mid @-@ Atlantic States . Its remnant mid @-@ level circulation then moved eastward across Missouri , Kentucky , and Virginia

before losing identity as it moved out into the Atlantic Ocean .

= = Preparations = =

Immediately upon becoming a tropical cyclone , the National Hurricane Center issued a tropical storm watch from Freeport , Texas to the United States / Mexico border ; at the same time , the government of Mexico issued a tropical storm watch southward to Rio San Fernando . Shortly before attaining tropical storm status , the watch in Texas was upgraded to a tropical storm warning . Late on August 15 , the warning was extended to San Luis Pass , while the watch in Mexico was discontinued . As Erin made landfall , the warning was canceled , and several flood watches and warnings were issued for counties across southeastern Texas . Upon moving into Oklahoma , flood and flash flood warnings were issued for several counties .

Governor Rick Perry activated the National Guard and mobilized emergency personnel to the region expected to be affected by the storm . Erin was expected to bring flooding to the region , which had already been declared a disaster area on August 7 , 2007 due to widespread flooding on the Nueces River basin ; this area remained flooded as of August 15 , 2007 . On August 15 , oil futures rose to \$ 74 @. @ 01 (USD) , due to fears of Erin disrupting oil supplies produced on Texan coasts , combined with low oil inventories . As a result of the threat from the storm , Shell Oil Company evacuated 188 workers on oil platforms in the northwestern Gulf of Mexico .

= = Impact = =

= = = Texas = = =

By midday on August 15 , rainbands with gusty winds began affecting the Texas coastline . As it moved ashore , the storm produced heavy rainfall near and to the or northeast of its path , reaching 11 @. @ 02 inches (280 mm) at a station in Lockwood . The storm caused several bayous in the Houston area to reach or exceed flood levels . Across southeastern Texas , the cyclone spawned several funnel clouds , and near IAH an EF0 tornado was reported . Wind gusts from Erin were minor across the state , peaking at 35 mph (55 km / h) at Palacios with an unofficial report of 39 mph (63 km / h) at Jamaica Beach . Upon moving ashore , the storm produced a minor storm surge peaking at 3 @. @ 22 feet (0 @. @ 98 m) at Pleasure Pier , which caused minor beach erosion .

In Clear Lake City , heavy rainfall collapsed a portion of a grocery store roof , killing two workers . The precipitation caused moderate flooding across eastern portions of Harris County ; over 400 homes and 40 businesses were flooded . Flooding across the Greater Houston area briefly halted the METRORail and closed several state roads . One person drowned after driving into a retention pond . Several people required rescue assistance , and in Comal County a car accident caused three fatalities . The passage of the storm temporarily left about 20 @, @ 000 electrical customers without power , though most outages were quickly restored . In San Antonio , one body was recovered from a creek and another died after driving into a flooded road and was swept into a drainage ditch in which four others survived . In Sisterdale , two people were killed when they were swept away stalled over Sister Creek . In Taylor County , near Abilene , flooding killed one person and forced the evacuation of about 2 @, @ 000 people . Damage in Texas totaled over \$ 45 million (2007 USD) .

= = = Oklahoma = = =

After its unexpected redevelopment over Oklahoma , widespread damage was also reported there . Several communities in central Oklahoma were flooded due to the heavy rainfall . Watonga , Kingfisher and Geary were the hardest @- @ hit communities , where many houses and buildings were inundated . The weather forced the cancellation of the Hydro Fair as the carnival rides were

not safe in heavy rain and high wind . Winds in Watonga gusted as high as 82 mph (131 km / h) , which damaged numerous trees and power lines and heavily damaged mobile homes . The entire community lost power , as did about 15 @, @ 000 customers in total in the Oklahoma City metropolitan area . A section of Interstate 40 was also closed for a while .

One person drowned in a cellar in Fort Cobb , and another drowned in Kingfisher . Another storm @-@ related death took place in Seminole . Three others were found dead after a weather @-@ related automobile accident also near Carnegie . Another automobile accident fatality took place in Okmulgee County but it is unclear if the event was storm @-@ related . Damage amounted to over \$ 2 million (2007 USD) .

= = = Missouri = = =

Although its surface circulation had dissipated , its circulation aloft remained intact and led to a burst of rainfall early on August 20 . The 11 @. @ 94 inches / 303 @. @ 3 mm that fell at Miller became the wettest Missouri rainfall total associated with a tropical cyclone , or its remains , since at least 1972 . One person died in Sleeper when he drove into flood waters which had swept away a bridge he was attempting to navigate onto . Nine water rescues occurred along the I @-@ 44 corridor , mostly caused by Erin 's rainfall . Damage totaled about \$ 19 @. @ 8 million (2007 USD) in the state , primarily in Polk County .