

= Hurricane Isidore =

Hurricane Isidore was the ninth named storm and the second hurricane in the 2002 Atlantic hurricane season . Isidore was the fifth of eight named storms to occur in September . The tropical cyclone peaked as a Category 3 hurricane , causing damage as well as four fatalities in Jamaica , Cuba , Mexico , and the United States . Isidore is noted for threatening to strike the northern Gulf Coast as a Category 4 hurricane , but instead striking as a moderate tropical storm due to a track change that brought the storm over the Yucatán Peninsula for over a day , which significantly weakened the cyclone . Its primary impact was the heavy rainfall which fell across southeast Mexico and from the central United States Gulf coast into the Ohio Valley .

= = Meteorological history = =

On September 9 , a tropical wave moved off the coast of Africa . Despite moving through a dry environment , its convection became organized as an anticyclone developed over the wave . On September 14 , convection was well @-@ organized enough around a small closed wind circulation to classify the system as Tropical Depression Ten near Trinidad and Tobago . Land interaction from Venezuela later weakened the depression back to a tropical wave . The wave continued west @-@ northwestward through the Caribbean , and redeveloped into a tropical depression on September 17 while 140 miles ( 230 km ) south of Jamaica .

Embedded within a weak steering current , it drifted to the northwest , and strengthened into Tropical Storm Isidore on September 18 near Jamaica . After grazing the island , it quickly intensified to a hurricane late on September 19 while south of Cuba . Isidore 's maximum sustained winds reached 100 miles per hour ( 160 km / h ) near the Isle of Youth , and weakened slightly to an 85 miles per hour ( 137 km / h ) hurricane as it made landfall on Cabo Frances late on September 20 . The hurricane crossed the island , then slowed as it moved westward across the Gulf of Mexico . Favorable conditions aloft with warm water temperatures allowed Isidore to quickly intensify to a peak of 125 miles per hour ( 201 km / h ) winds on September 21 .

Despite Dvorak satellite estimates of 145 miles per hour ( 233 km / h ) , reconnaissance aircraft indicated Isidore remained a 125 miles per hour ( 201 km / h ) Category 3 hurricane , with pressures dropping to 934 mbar ( 27 @.@ 6 inHg ) , typical of a Category 4 hurricane . It is the lowest minimum pressure ever observed for an Atlantic hurricane which did not exceed Category 3 intensity . With nearly ideal conditions for development , Isidore was forecast to reach winds of 150 miles per hour ( 240 km / h ) over the northern Gulf of Mexico . High pressures to its north forced it southward , and Isidore made landfall at Telchac Puerto in Yucatán as a major hurricane on September 22 . It weakened rapidly as it nearly stalled over Yucatán , and was only a minimal tropical storm after being inland for 30 hours .

The inner core of convection collapsed while over southeast Mexico , and upon moving northward and reaching the Gulf of Mexico again , it was a large but weak tropical storm . Conditions favored significant strengthening , but Isidore did not redevelop central convection until reaching the northern Gulf of Mexico . The strengthening system hit Grand Isle , Louisiana on September 26 as a 65 miles per hour ( 105 km / h ) tropical storm , but weakened quickly into a tropical depression after moving inland . The system raced to the northeast , and became an extratropical cyclone on September 27 before becoming absorbed in a frontal zone over Pennsylvania that night .

= = Preparations = =

Before Isidore became a hurricane , there were fears that the storm would end up being a significant threat . The upper level environment ahead of the storm was very favorable , and the oceanic heat content was very high . Just ten months after the destructive Hurricane Michelle , Hurricane Isidore threatened to cause similar effects in Cuba . In preparation for the storm , about 292 @, @ 000 people and thousands of farm animals were evacuated in the Pinar del Río province . Hurricane Warnings were posted about 48 hours before landfall , leaving ample time to prepare for

the storm .

Once in the Gulf of Mexico , Hurricane Isidore became a major Category 3 storm with winds of 125 miles per hour ( 201 km / h ) . The forecasts then predicted Isidore to move westward in the Gulf of Mexico for a few days , before turning northward towards the Gulf Coast as what was predicted by then to be a strong Category 4 hurricane . Initially expected to remain north of the peninsula , hurricane warnings were issued just over a day prior to landfall , with no watch preceding Isidore 's passage . More than 70 @, @ 000 people were evacuated , and ports on the Gulf coast of Yucatán were closed . Mexican authorities declared a state of emergency prior to the arrival of the storm . Due to Isidore 's unexpected southward turn into the Yucatán Peninsula , Isidore weakened significantly to a tropical storm which limited potential damage along the United States Gulf Coast . In preparation for the hurricane , the Red Cross mobilized its members across Texas , Alabama , Louisiana , Mississippi , and Florida days before Isidore 's expected landfall . Volunteers were sent in the days prior to ensure families had a family disaster plan and a disaster supplies kit in their household . Hurricane watches raised for the United States Gulf coast between Cameron , Louisiana and Pascagoula , Mississippi late on the morning of September 24 were discontinued early on the morning of September 25 , when the storm was no longer expected to restrengthen into a hurricane .

= = Impact = =

= = = Caribbean islands = = =

In the Windward Islands , Isidore was a weak tropical depression that caused no reported damage or casualties . The Cayman Islands reported tropical storm force winds , and likely experienced flooding to some degree , but Isidore caused no reported damage or casualties . Isidore brought heavy rains to Jamaica , totalling 27 @. @ 2 inches ( 690 mm ) at Cotton Tree Gully .

= = = Cuba = = =

Hurricane Isidore brought torrential rainfall , with many areas reporting over 1 foot ( 300 mm ) of rain . The maximum reported was 21 @. @ 7 inches ( 550 mm ) at Isabel Rubio in western Cuba . The rainfall , combined with a 12 feet ( 3 @. @ 7 m ) storm surge , destroyed 77 houses , caused power outages , uprooted trees and blew off roofs . Over 130 tobacco drying houses were affected to some degree , damaging valuable tobacco stock . A total of 24 @, @ 000 metric tons of citrus and 132 metric tons of coffee were lost from the storm . Thousands of livestock perished . No deaths were reported .

= = = Southeast Mexico = = =

Hurricane Isidore was one of only four storms to hit the north side of the Yucatán since records have been kept . It was the first tropical cyclone to hit the area since Tropical Depression Greta in 1970 , the first tropical storm since 1935 , the first hurricane since 1888 , and only major hurricane to ever hit the area .

The storm shut down oil production of the Mexican state @-@ run oil company , PEMEX . Drilling operations , as well as exports from Mexico , stopped for one week which cost the oil company US \$ 108 @. @ 7 million . The Gulf Coast island of Isla Arena was nearly covered by Isidore 's storm surge . Its residents evacuated prior to the storm 's passage .

Hurricane Isidore hit near Mérida , Yucatán , as a 125 miles per hour ( 201 km / h ) hurricane , and remained over the area for around 36 hours . Over 30 inches ( 760 mm ) of rainfall fell , with the maximum recorded near Campeche . The storm surge reached as high as 6 metres ( 20 ft ) over southern portions of Yucatán state . Nearly one @-@ third of all fishing vessels were damaged by Isidore . Nearly 36 @, @ 500 houses were destroyed in Yucatán from the intense winds , 83 @, @

000 homes damaged , and 500 @, @ 000 were left homeless . Downed trees and power lines were common over much of the northern Yucatán Peninsula , and 75 % of barns and warehouses were either severely damage or destroyed . Damage to crops and livestock was extreme ; 2 @, @ 000 square kilometres of maize and 400 square kilometres of fruit trees were damaged across the country . A total of 70 % of the poultry production and livestock were lost during the storm in Yucatán . Damage to Mexico 's power grid reached US \$ 19 @. @ 76 million . Over one @- @ fourth of the roads across the peninsula were moderately or severely damaged , which resulted in losses of US \$ 9 @. @ 88 million to rural areas . Farming in Campeche experienced significant damage , with 30 @, @ 000 cattle and 100 @, @ 000 acres ( 400 km <sup>2</sup> ) of agricultural land lost .

Throughout the Yucatán Peninsula , there were 17 deaths were attributed to Hurricane Isidore , two of which were indirectly related to the storm . Damage in the country totaled \$ 950 million ( 2002 USD ) .

= = = Central America = = =

Isidore caused heavy rains in Guatemala due to upslope flow from the Pacific Ocean , which led to landslides and flooding across southern and western portions of the country . The rains led to the drowning of two people when they tried to cross a rain @- @ swollen river . Three hundred and fifty households reported losses .

= = = Eastern United States = = =

In the open Gulf of Mexico , Hurricane Isidore and later Hurricane Lili contributed to the shutdown of offshore oil and gas platforms . The effects of back @- @ to @- @ back storms resulted in the loss of production of 14 @. @ 4 million barrels ( 2 @, @ 290 @, @ 000 m<sup>3</sup> ) of oil and 88 @. @ 9 billion cubic feet ( 2 @. @ 52 × 10<sup>9</sup> m<sup>3</sup> ) of natural gas . A storm surge of 8 @. @ 3 feet ( 2 @. @ 5 m ) was measured at Rigoletes , Louisiana and at Gulfport Harbor , Mississippi . Hurricane Isidore brought widespread heavy rainfall from the central Gulf coast into the Ohio Valley , with a maximum of 15 @. @ 97 inches ( 406 mm ) at Metairie , Louisiana . The flooding was responsible for moderate crop damage , with a total of \$ 330 million in damage ( 2002 USD , 360 million 2006 USD ) . Isidore claimed five lives ; four direct and one indirect . The indirect death was from a man that went into cardiac arrest in Mississippi , whereas the other four were drowning deaths .

= = = Retirement = = =

The name Isidore was retired in the spring of 2003 and will never be used for an Atlantic hurricane again . It was replaced with Ike in the 2008 season . That name itself was retired and replaced with Isaias after Hurricane Ike caused immense destruction in the United States and Cuba .