

= 1909 Monterrey hurricane =

The 1909 Monterrey hurricane was one of the deadliest Atlantic tropical cyclones on record , killing an estimated 4 @, @ 000 people throughout Mexico . Originating from a tropical storm east of the Leeward Islands on August 20 , the storm tracked west @-@ northwest , entering the Caribbean Sea as a minimal hurricane the next day . After striking Hispaniola on August 23 , the hurricane made another landfall in eastern Cuba before reentering the Caribbean . Once back over open water , the storm intensified into a Category 3 hurricane and moved across the northern tip of the Yucatán Peninsula . By August 26 , the storm had emerged into the Gulf of Mexico as a weakened , but regrouping system . It attained its peak winds of 120 mph (185 km / h) that evening . Maintaining this intensity , the system made landfall in the Mexican state of Tamaulipas late on August 27 and rapidly dissipated the following afternoon .

Throughout its existence , the hurricane remained relatively close to land , so consequently its effects were felt in many areas . Much of the northern Caribbean received moderate to heavy rainfall along with gusty winds during its passage ; although only Haiti reported damage from it . Its effects were far more severe in Mexico where an estimated 4 @, @ 000 people were killed by record @-@ breaking floods triggered by the hurricane . The city of Monterrey received the worst damage : more than half of the structures in the city were flooded , hundreds were destroyed , and 20 @, @ 000 people were left homeless . Damage from the storm in the country was estimated to have exceeded \$ 50 million (1909 USD ; \$ 1 @. @ 32 billion 2016 USD) .

= = Meteorological history = =

The origins of the hurricane are uncertain due to a lack of ship reports in the western Atlantic Ocean . According to the Atlantic hurricane database , it was first identifiable as a tropical storm on August 20 to the east of the Leeward Islands . Tracking to the west @-@ northwest , the storm quickly attained winds of 80 mph (130 km / h) , equivalent to Category 1 status on the modern @-@ day Saffir ? Simpson Hurricane Scale . By the evening of August 21 , the storm entered the Caribbean Sea as it brushed the northern coast of Guadeloupe ; intensification of the hurricane over the northeastern Caribbean was slow . Early on August 23 , it made its first landfall with winds of 90 mph (150 km / h) in San Cristóbal Province , Dominican Republic , just southwest of the country 's capital city of Santo Domingo .

The hurricane weakened slightly over the mountainous terrain of Hispaniola , although it is believed to have maintained winds of at least 75 mph (120 km / h) based on damage reports in Haiti . Later on August 23 , the storm " jumped " northward before making another landfall in the Cuban province of Guantánamo . Continuing towards the west @-@ northwest , the hurricane regained strength as it moved over the northern Caribbean . During the afternoon of August 24 , the system attained winds of 100 mph (155 km / h) , corresponding to a Category 2 hurricane . Early the following morning , it further intensified to a Category 3 major hurricane , defined as having winds in excess of 111 mph (178 km / h) , before making landfall in the Yucatán Peninsula near the city of Cancún . The hurricane emerged into the Gulf of Mexico within 12 hours and quickly re @-@ intensified to attain its peak winds of 120 mph (185 km / h) on August 26 . It soon slowed and turned due west , maintaining its intensity . Late on August 27 , the storm made its final landfall in the Mexican state of Tamaulipas . Rapid weakening took place as it drifted onshore , and it dissipated the following afternoon .

= = Impact = =

Prior to the hurricane 's devastating impacts in Mexico , it brought heavy rains and high winds to several of the northern Caribbean Islands . The first to be affected by the storm were the Leeward Islands ; however , no known damage resulted from its passage . Moderate rain and gusty winds were reported in Puerto Rico as well as the Dominican Republic and Jamaica . Despite being slightly weaker once over Haiti , severe damage was reported in many towns , with homes

destroyed and many homeless . Much of Cuba was also impacted by the storm , with winds up to 60 mph (95 km / h) being recorded as far north as Havana . During the hurricane 's second landfall in Mexico , it brought increased swells and gusty winds , recorded up to 68 mph (109 km / h) to parts of southern Texas . Low @-@ lying areas north of Corpus Christi were inundated by 1 to 3 ft (0 @.@ 30 to 0 @.@ 91 m) of water and several piers were damaged . Overall damage in the state was minimal from the storm and no lives were lost .

Although a borderline Category 2 ? 3 hurricane when it made landfall in the Yucatán Peninsula , little is known about the storm 's impact in the region . One ship situated about 25 mi (40 km) offshore recorded winds up to 100 mph (155 km / h) during its passage . However , following the hurricane 's second landfall , the resulting damage was catastrophic . During the overnight hours between August 27 and 28 , cities along the coastline of Tamaulipas likely sustained severe damage from the hurricane 's storm surge and high winds . Two villages along the coast were completely destroyed by the storm and communication with much of the region was crippled and not expected to be restored for more than a week . Nine bridges and roughly 50 mi (80 km) of railroad tracks were destroyed in the state .

The worst of the damage took place further inland , within the state of Nuevo León . There , torrential rainfall triggered a flood even exceeding 100 @-@ year flood values . According to meteorologists in Mexico , the storm dropped 17 @.@ 5 in (440 mm) of rain over a 40 ? hour span . Further rains fell for the following 32 hours , worsening the situation . According to Mexican officials , overnight on August 27 , the reservoir dam near Nuevo León 's capital city , Monterrey , burst , flooding more than half of the buildings in the city , as well as all of the nearby town of San Luisto . Steel works and smelters situated along the Santa Catarina River were destroyed after the river rose well over its banks . Hundreds of homes were destroyed throughout the city , leaving an estimated 20 @,@ 000 people homeless . According to the American Society of Civil Engineers , an enormous 235 @,@ 000 ft3 (6 @,@ 650 m3) of water was being moved per second during the height of the flood .

At the height of the floods , residents were forced to seek refuge on the roofs of two @-@ story buildings ; however , the Santa Catarina River was flowing at a very fast pace of 20 mph (32 km / h) . The force of the current led to most homes being taken off their foundations and sent downstream , resulting in the deaths of anyone inside . In one incident , 90 people died after seeking refuge in a school after their homes collapsed . However , not long after entering the building , flood waters inundated the structure and caused it to collapse . By the morning , survivors reported that the state of the city was " indescribable " . Damage from the hurricane was estimated to have been at least \$ 50 million (1909 USD ; \$ 1 @.@ 32 billion 2016 USD) . Of this , roughly \$ 20 million was attributed to railroad losses . Throughout Mexico , reports indicated that about 4 @,@ 000 people were killed as a result of the storm , making it one of the deadliest Atlantic hurricanes on record . Some estimates place the death toll as high as 5 @,@ 000 and others as low as 3 @,@ 000 . Of these fatalities , 800 are believed to have been in the south side of Monterrey where four blocks of the city were completely destroyed .

= = Aftermath = =

Immediately following the catastrophic flooding in Monterrey , an appeal was made to the United States and other nations for aid . Many residents and visitors in the city did all they could to help rescue those trapped in the flood waters and take care of the homeless . According to the New York Times , one person rescued 30 people stranded in flood waters . Numerous rescue operations were undertaken during the flood , saving many lives . However , survivors faced another issue after losing their homes : lack of food . Food was unavailable to most residents in the wake of the storm until August 31 when the first relief supplies arrived . Even then , most only received a small amount of bread and beans . Once the flood along the Santa Catarina River receded , searches were conducted to attempt to locate the bodies of victims . However , reports indicated that the river bed was similar to quicksand and most bodies on it were likely underground .

Days after the storm , fears of food shortages began to arise as railways , in which food would

normally be able to be delivered , were washed out . To deal with the large amount of bodies in the wake of the disaster , Mexican officials decided to cremate and mass bury victims . By mid @-@ September , between 1 @,@ 600 and 1 @,@ 800 people were hired to repair and rebuild the devastated railways in Nuevo León . In 2009 , the third edition of the book El Río Fiera Bramaba : 1909 by Oswaldo Sánchez , re @-@ accounting reports form people who experienced the flood , was planned . According to the director of publications at the Universidad Autónoma de Nuevo León , the book was considered one of historical quality . In memory of those who perished during the flood , the book was released to the public on August 27 , 2009 , the 100 year anniversary of the disaster .