

= Hurricane Ida (2009) =

Hurricane Ida was the strongest landfalling tropical cyclone during the 2009 Atlantic hurricane season , crossing the coastline of Nicaragua with winds of 80 mph (130 km / h) . The remnants of the storm became a powerful nor 'easter that caused widespread damage along coastal areas of the Mid @-@ Atlantic States . Hurricane Ida formed on November 4 in the southwestern Caribbean Sea , and within 24 hours struck the Nicaragua coast with winds of 80 mph (130 km / h) . It weakened significantly over land , although it restrengthened in the Yucatan Channel to peak winds of 105 mph (165 km / h) . Hurricane Ida weakened and became an extratropical cyclone in the northern Gulf of Mexico before spreading across the southeastern United States . The remnants of Ida contributed to the formation of a nor 'easter that significantly affected the eastern coast of the United States .

Numerous watches and warnings were issued during the hurricane 's existence . Areas from Panama to Maine were affected by either the storm or the nor 'easter low . In Nicaragua , nearly 3 @,@ 000 people evacuated coastal areas ahead of the storm . More extensive evacuations in Mexico relocated over 100 @,@ 000 residents and tourists . In the United States , several counties in Louisiana , Alabama and Florida declared a state of emergency because of fear of significant damage from the storm . Officials issued voluntary evacuations and most schools and non @-@ emergency offices in the region closed .

In Central America , Ida brought heavy rainfall to parts of Costa Rica , Nicaragua and Honduras . Several people were reported missing in Nicaragua , however post @-@ storm reports denied these claims . Thousands of buildings collapsed or sustained damage and roughly 40 @,@ 000 people were left homeless . Damages from Ida in Nicaragua amounted to at least 46 million córdoba (\$ 2 @.@ 12 million US \$) . Aside from heavy rainfall in Mexico and Cuba , little impact from Ida was reported in either country . In the United States , the remnants caused substantial damage , mainly in the Mid @-@ Atlantic States . One person was killed by Ida after drowning in rough seas , while six others lost their lives in various incidents related to the nor 'easter . Widespread heavy rainfall led to numerous reports of flash flooding in areas from Mississippi to Maine . Overall , the two systems caused nearly \$ 300 million in damage throughout the country .

= = Meteorological history = =

Hurricane Ida originated from a weak tropical wave that reached the western Caribbean Sea on November 1 , 2009 . By November 2 , the system spawned an area of low pressure north of Panama which moved very little over the following days . The low became increasingly organized within a favorable environment that allowed deep convection to develop . By November 4 , the low had become sufficiently organized for the National Hurricane Center (NHC) to classify it as Tropical Depression Eleven . At this time , the depression was situated just southwest of San Andrés Island . Convective banding features became increasingly defined throughout the day and six hours after becoming a depression , the system intensified into Tropical Storm Ida .

Light wind shear allowed Ida to quickly intensify as it slowly tracked towards the Nicaraguan coastline . Late on November 4 , microwave satellite imagery depicted an eye @-@ like featured forming within the storm . The storm tracked west @-@ northwestward in response to a weak ridge over the north @-@ central Caribbean Sea and a weak trough over the southwestern Gulf of Mexico ; these features were also responsible for Ida 's slow forward motion . Early on November 5 , the storm intensified into a Category 1 hurricane on the Saffir ? Simpson Hurricane Scale as it passed near the Corn Islands . At approximately 1117 UTC , the center of Ida made landfall near Rio Grande , Nicaragua , with winds of 80 mph (130 km / h) . After the hurricane moved inland , the high mountains of Nicaragua caused the convection associated with the hurricane to diminish , resulting in rapid weakening . Roughly 18 hours after landfall , Ida weakened to a tropical depression as it turned northward over Honduras .

Late on November 6 , Ida re @-@ emerged over water , entering the northwestern Caribbean Sea . Upon moving back over water , the storm quickly began to redevelop , with convection increasing around the center of circulation . Early on November 7 , Ida restrengthened into a tropical storm as it

tracked just west of due north . Very warm sea surface temperatures ahead of the system would have allowed for substantial intensification ; however , wind shear over the area quickly increased , resulting in modest strengthening . Later that day , the storm turned northwestward in response to a strong trough over Mexico and a mid @-@ level ridge extending from the Southeast United States to Hispaniola . As Ida neared the Yucatan Channel , an eye redeveloped and the storm quickly intensified into a hurricane . By the morning of November 8 , the storm had attained Category 2 status with winds of 100 mph (155 km / h) .

Late on November 8 , Ida attained its peak intensity with winds of 105 mph (160 km / h) and a barometric pressure of 975 mbar (hPa ; 28 @.@ 79 inHg) . Shortly thereafter , increasing wind shear and forward speed caused the storm to rapidly weaken to a tropical storm . Only a small area of convection remained near the center by the morning of November 9 . Despite the strong shear , the storm quickly re @-@ organized , attaining hurricane status for a third time during the afternoon . Based on readings from a nearby oil platform and reconnaissance data , it was determined that Ida attained its secondary peak intensity near the southeast coast of Louisiana with winds of 85 mph (140 km / h) . However , this intensification was short @-@ lived as a combination of increasing wind shear and decreasing sea @-@ surface temperatures induced weakening to a tropical storm within three hours .

By the morning of November 10 , all of Ida 's convection appeared displaced to the northeast and the forward motion of the storm slowed substantially . Additionally , the storm had begun to undergo an extratropical transition near the United States Gulf Coast . Shortly before making landfall near Dauphin Island , Alabama , the storm completed its extratropical transition . Ida crossed Mobile Bay shortly thereafter and maximum winds decreased below gale @-@ force . After slowly tracking eastward for several hours , the surface circulation of Ida dissipated over the Florida Panhandle . However , energy from the storm led to the formation of a new low off the coast of North Carolina . This new low quickly intensified and became a powerful nor 'easter that caused substantial damage throughout the Mid @-@ Atlantic States . By November 12 , the system attained a minimum pressure of 992 mbar (hPa ; 29 @.@ 29 inHg) along with winds of 65 mph (100 km / h) . The extratropical low weakened the following day and moved out to sea after stalling along the North Carolina Coastline . The remnants of the cyclone persisted through November 17 , by which time it had moved over Atlantic Canada .

= = Preparations = =

= = = Central America = = =

Shortly after being designated as Tropical Storm Ida on November 4 , the government of Nicaragua issued a tropical storm warning for the entire coastline of Nicaragua , and the government of Columbia also issued a warning for the nearby islands of San Andrés and Providencia . Later that day , a hurricane watch was declared for areas between Bluefields and the Nicaragua ? Honduras border . As Ida moved closer to land , the tropical storm warning for San Andrés and Providencia was discontinued . Several hours later , the tropical storm warning and hurricane watch were modified to cover areas south of the Nicaragua ? Honduras border to Puerto Cabezas and a hurricane warning was issued for areas south of Puerto Cabezas to Bluefields . After Ida made landfall in Nicaragua , all hurricane advisories were discontinued and replaced by a tropical storm warning . Shortly thereafter , a tropical storm watch was declared for areas along the Honduran coastline between Limón and the Nicaragua ? Honduras border . However , all watches and warnings were discontinued once Ida weakened to a tropical depression on November 6 .

Throughout Nicaragua , officials evacuated roughly 3 @,@ 000 people from areas prone to flash floods and landslides , as rainfall in excess of 20 in (510 mm) was expected to fall . About 1 @,@ 100 of the evacuees were from Corn Island and Little Corn Island where their homes were not expected to hold up to hurricane @-@ force winds . In Bluefields , roughly 1 @,@ 100 people were evacuated to shelters . Authorities began stockpiling supplies such as food , blankets and water that

could supply 20 @, @ 000 people after the storm . Upon the formation of Ida , officials in Costa Rica placed most northern regions under a yellow alert . Personnel from the Costa Rican Red Cross were also placed on standby . In El Salvador , officials raised the disaster alert level to green , the lowest stage of alert , on November 5 . As Ida neared the coastline of Nicaragua , officials in Honduras warned residents of the likelihood of heavy rainfall from the storm . In response to this , the country 's disaster alert level was raised to yellow .

= = = Northern Caribbean = = =

On November 7 , Tropical Depression Ida re @-@ entered the Caribbean Sea and restrengthened into a tropical storm , prompting the NHC to issue a tropical storm watch for areas between San Felipe , Yucatán and Punta Allen in Mexico as well as in Pinar del Río Province , Cuba . Several hours later , the watches were upgraded to warnings and a new tropical storm warning was declared for Grand Cayman . A tropical storm watch was also issued for Isla de la Juventud and a hurricane watch for areas between Tulum and Cabo Catoche , Mexico . Early on November 8 , the tropical storm warning and hurricane watch for Mexico were modified to include areas from Punta Allen to Playa del Carmen and Tulum to Playa del Carmen respectively . A hurricane warning was also declared for areas between Playa del Carmen and Cabo Catoche . Later that day , the tropical storm warning for Grand Cayman was discontinued as Ida moved away from the island . Early on November 9 , all watches and warnings for Cuba and Mexico were discontinued as Ida moved into the Gulf of Mexico and towards the United States .

In Mexico , officials declared a yellow alert , moderate hazard , as Hurricane Ida neared the Yucatan Peninsula on November 9 . Roughly 36 @, @ 000 tourists and 1 @, @ 500 residents were evacuated from coastal areas of Quintana Roo . The Mexican Navy was placed on standby to assist in relief efforts once the storm had passed . Later that day , the alert was raised to red , the highest level , as hurricane @-@ force winds and heavy rains threatened the region . A total of 95 shelters were opened in the state to house the evacuees .

= = = United States = = =

As Hurricane Ida moved over the Yucatan Channel on November 8 , the NHC issued a hurricane watch for areas between Grand Isle , Louisiana and Mexico Beach , Florida . As the storm moved closer to the states , a tropical storm warning was declared for areas between Grand Isle and Pascagoula , Mississippi , as well as areas between Indian Pass , Florida , and the mouth of the Aucilla River . The hurricane watch was also modified to encompass a smaller area , between Grand Isle and Pascagoula . A hurricane warning was also issued from Pascagoula to Indian Pass . During the afternoon of November 9 , all hurricane watches and warnings were discontinued and the tropical storm warning was modified to include areas between Grand Isle and the mouth of the Aucilla River . As Ida became extratropical , the NHC discontinued all watches and warnings on the storm on November 10 .

Due to the threat of large swells , several oil rigs along the Texas coastline were evacuated as a precautionary measure . Workers from the Chevron Corporation and the Anadarko Petroleum Corporation were evacuated from offshore platforms while those working for ConocoPhillips and ExxonMobil remained on site . The Louisiana Offshore Oil Port was also shut down on November 9 as a result of Ida 's passage . As a result of the decreased oil production , the price of oil rose more than \$ 1 to \$ 78 per barrel . Among the rigs that were damaged was the Transocean Marianas which was drilling the Macondo well . That vessel would be replaced on the Macondo Well by the Deepwater Horizon , which caused the Deepwater Horizon oil spill in 2010 .

On November 8 , Lafourche Parish , Louisiana president , Charlotte Randolph , declared a state of emergency for the parish as the storm approached the United States Gulf Coast . Although no evacuations were issued , all schools and government offices were closed through November 10 . Voluntary evacuations were issued for residents in Plaquemines Parish along coastal areas . The Belle Chasse Auditorium was converted into a shelter to house evacuees for the duration of the

storm . Grand Isle mayor David Carmadelle issued voluntary evacuation orders for residents in recreational vehicles and trailers on the island . Nearly 1 @, @ 400 families still living in temporary FEMA homes in Louisiana , in the wake of Hurricanes Katrina and Rita , were urged to stay at home .

In Baldwin County , Alabama , a local state of emergency was declared on November 9 as Ida neared landfall . Voluntary evacuations were declared for residents living along coastal areas or in mobile homes . All government offices were closed until November 10 due to the storm . The Baldwin County Coliseum was converted into a shelter to house possible evacuees during the storm as well . In Mississippi , officials advised residents to remain vigilant and discussed possible evacuations . Residents living near Pensacola Beach , Florida , and nearby Perdido Key were urged to evacuate . On November 8 , emergency officials declared a state of emergency in Escambia County . The following day , Walton County was also placed under a state of emergency ahead of Hurricane Ida 's arrival . Voluntary evacuations were issued for residents in low @-@ lying areas and all non @-@ emergency offices were closed until November 10 . The Freeport High School gymnasium was converted into a shelter to house evacuees .

= = Impact and aftermath = =

= = = Nicaragua = = =

Throughout Nicaragua , rainfall produced by the storm was significantly less than anticipated according to satellite derived estimates . Initial fears were that more than 15 in (380 mm) of rain would fall ; however , most areas received less than 5 in (130 mm) , especially further inland . A maximum of 9 @. @ 1 in (230 mm) fell in Puerto Cabezas while areas further inland received less than 8 in (200 mm) . The most severe damage took place in Karawala and Corn Island , near where the storm made landfall . There , roughly 80 percent of the structures were destroyed and over 2 @, @ 000 ha (4 @, @ 900 acres) of crops were lost . On Corn Island , 40 homes , 3 schools and a church were destroyed and the electrical and water grids were severely disrupted . Roughly 6 @, @ 000 people from the municipalities of Sandy Bay , Karawala , Kukra Hilla , Laguna de Perlas , El Tortuguero and the mouth of the Rio Grande were evacuated to 54 shelters during the storm . Officials stated that 42 people along the Miskito Coast were unaccounted for as they refused to evacuate before the storm . The day after Ida passed through , officials began to assess the full extent of the hurricane 's damage . An estimated 40 @, @ 000 people were left homeless throughout the country and one person was listed as missing . Mayors of severely affected towns reported that there were numerous injuries , missing persons and extensive property damage . In Nicaragua , there were no confirmed fatalities as a result of Ida .

Damage from Ida in Nicaragua was estimated to be at least 46 million Nicaraguan córdoba (\$ 2 @. @ 12 million USD) . A total of 1 @, @ 334 people were injured by the storm throughout the country . Final damage assessments from the Nicaraguan Government for mainland Nicaragua were completed on November 12 . A government report said that 283 homes were destroyed and 1 @, @ 899 others damaged ; 1 @, @ 184 latrines were destroyed and 444 were damaged , and 476 wells were destroyed and 1 @, @ 139 were damaged .

Shortly after the storm moved inland , 700 civil defense personnel were deployed to the affected region ; however , due to damaged roads and poor travel conditions , they struggled to reach isolated regions . The Nicaraguan army supplied relief crews with four helicopters and two AN @-@ 2 aircraft for damage surveillance and search @-@ and @-@ rescue missions in the wake of Ida . The government of Nicaragua allocated roughly \$ 4 @. @ 4 million in relief funds for those affected by the storm . Several agencies from the United Nations provided residents affected by the storm with relief supplies and donated disaster funds to the country . The United Nations Population Fund provided \$ 49 @, @ 000 in funds ; the World Food Programme deployed several rescue vehicles and logistics teams ; UNICEF also provided logistics assistance in the country . OCHA provided \$ 2 million in relief funds ; the Government of Sweden provided 400 @, @ 000 Swedish kronor (\$ 55

@, @ 946 USD) for sanitation and health supplies ; the Netherlands Red Cross also donated 20 @, @ 000 euros (\$ 27 @, @ 226 USD) for non @-@ food items .

= = = Elsewhere in Central America = = =

In Costa Rica , the outer bands of Ida brought torrential rainfall , triggering isolated landslides . One of these landslides damaged three homes , leading to officials evacuating five families . Homes near Los Diques de Cartago were flooded and the sewage system was damaged , resulting in overflow . In Veraguas Province , Panama , severe flooding displaced more 400 people after 84 homes were inundated up to their roofs . A flooding disaster that killed 124 people in El Salvador was initially attributed to Hurricane Ida , although the National Hurricane Center quickly affirmed that the event resulted from a separate tropical low @-@ pressure system in the Pacific . After weakening to a tropical storm , Ida moved over Honduras , where widespread heavy rains fell . A maximum rainfall of 7 @. @ 1 in (180 mm) was recorded in Puerto Lempira . These rains caused some rivers in the country to swell , but none overflowed its banks . In northern areas of Honduras , minor flooding and fallen trees were reported .

= = = Northern Caribbean = = =

In Cuba , the outer bands of Ida produced widespread heavy rainfall across western areas of the country . A maximum rainfall amount of 12 @. @ 5 in (320 mm) fell in Manuel Lazo , while nearby areas received between 7 and 9 in (180 and 230 mm) . Strong winds , gusting up to 87 mph (140 km / h) in localized areas , accompanied the storm during its passage . Several rivers were swollen due to the rains , including the Cuyaguaje River , which overflowed its banks and flooded nearby areas . In the Yucatan Peninsula , significantly less rain fell due to the asymmetrical structure of Ida even though the peninsula was relatively close to the storm . Isla Holbox , recorded substantial flooding , with roughly 70 percent of the island underwater . However , only minor damage was reported . Little to no beach erosion was sustained in coastal cities such as Cancun ; however , over 50 @, @ 000 tourists were evacuated from Chetumal , Quintana Roo , during the storm . The outer bands of Hurricane Ida also affected Grand Cayman . Moderate rainfall and gusty winds were reported across the island , and waves along the beach were estimated at 6 ft (1 @. @ 8 m) .

= = = United States = = =

Ahead of Ida 's arrival in the United States , a tight pressure gradient between the hurricane and a high pressure system over the southeastern states resulted in strong winds across southern Florida . These winds , reaching 45 mph (75 km / h) in gusts , caused moderate damage in parts of the state . Roughly 3 @, @ 000 people were left without power in Miami @-@ Dade , Broward and Palm Beach counties . Several trees were reported to have been downed and some uprooted . One car was struck by a broken tree limb during the event . Additionally , moderate beach erosion was reported in counties along the Gulf Coast . Rainfall from the system impacted Florida for two days , resulting in accumulations between 3 and 5 in (76 and 127 mm) in parts of the panhandle . A maximum rainfall of 5 @. @ 41 in (137 mm) fell in Pensacola . Coastal and inland flooding resulted in numerous road closures and schools and non @-@ governmental offices were closed on November 10 . Water rise along the coast was estimated between 3 and 5 ft (0 @. @ 91 and 1 @. @ 52 m) at the height of the storm . Following the storm , a local state of emergency was declared in Wakulla County . Throughout Florida , damage from the storm amounted to \$ 265 @, @ 000 .

In Alabama , where Ida made landfall , heavy rains resulted in widespread flash flooding . A maximum of 9 @. @ 83 in (250 mm) of rain fell in Opelika during the storm . Several roads in coastal counties were closed after being covered by high water . Heavy rains in central areas of the state also resulted in moderate flooding . In Calhoun County , a three @-@ block area of Anniston was inundated by 2 @. @ 5 ft (0 @. @ 76 m) of water . In addition to the storm 's heavy rains ,

waves up to 20 ft (6 @. @ 1 m) caused severe damage along coastal regions . A storm surge of 4 @. @ 38 ft (1 @. @ 34 m) was recorded at Bayou La Batre . The Gulf State Park Pier near Gulf Shores , recently re @- @ opened after being destroyed by Hurricane Ivan in 2004 , was damaged . Damage from beach erosion and coastal resorts amounted to roughly \$ 9 million in the state .

Before making landfall in Alabama , Hurricane Ida brushed southeastern Louisiana , bringing light to moderate rains and increased surf to the state . Offshore , one person drowned after attempting to assist a boat that let out a distress signal during the storm . The rough seas resulted in moderate to severe beach erosion that caused roughly 1 @, @ 000 ft (300 m) of levee to collapse . The levee collapse led to minor flooding and threatened three homes . The storm cut a new pass through Elmer 's Island to Grand Isle between 100 and 200 ft (30 and 61 m) wide . A maximum sustained wind of 62 mph (99 km / h) and a gust of 74 mph (119 km / h) was recorded at the mouth of the Mississippi River . The highest rainfall total was recorded in Venice at 1 @. @ 16 in (29 mm) . Although not solely caused by Ida , high tides along the Texas coastline led to a few road closures .

Minor effects from Ida were also experienced in Mississippi , Georgia and Tennessee . In Mississippi , 4 @. @ 13 in (105 mm) of rain fell in Waynesboro . Some flooding was reported in areas near the Alabama border while winds of up to 45 mph (75 km / h) brought down trees . Along the coast , the hurricane 's storm surge was estimated at between 3 and 3 @. @ 5 ft (0 @. @ 91 and 1 @. @ 07 m) . Heavy rainfall from the storm affected much of Georgia , with a large swath of 3 to 5 in (76 to 127 mm) falling in northern parts of the state . A peak of 7 @. @ 32 in (186 mm) was recorded in Lithonia . Additionally , minor rains affected parts of eastern Tennessee , totaling 4 @. @ 11 in (104 mm) on Mount Le Conte .

= = = Nor 'easter = = =

Along the east coast of the United States , a nor 'easter involving the remnants of Ida resulted in widespread damage along coastal areas . In North Carolina strong winds downed several trees loosened in saturated soil . In Rockingham County , one person was killed after being struck by a branch while driving . Four homes were destroyed along the Outer Banks , and over 500 others were damaged , leaving at least \$ 5 @. @ 8 million in losses . Widespread coastal damage and flooding took place in Virginia , as rainfall exceeding 7 in (180 mm) fell in many places and large waves battered beaches . In some areas , roads were closed multiple times due to flooding . Minor damage was also reported as a few homes were inundated with up to 1 ft (0 @. @ 30 m) of water . Some areas reported a storm surge comparable to that of Hurricanes Gloria in 1985 and Isabel in 2003 . Damage from the storm in Virginia was estimated to be at least \$ 38 @. @ 8 million , of which \$ 25 million was in Norfolk alone . In New York , one person drowned after being caught in rough seas off Rockaway Beach . Total beach losses in the state reached \$ 8 @. @ 2 million .