

= 1965 Atlantic hurricane season =

The 1965 Atlantic hurricane season was the first to use the modern @-@ day bounds for an Atlantic hurricane season , which are June 1 to November 30 . These dates conventionally delimit the period of each year when most tropical cyclones form in the Atlantic basin . It was one of the least active seasons on record , with only 6 tropical cyclones developing and reaching tropical storm intensity . Four of the storms strengthened into hurricanes . One system reached major hurricane intensity ? Category 3 or higher on the Saffir ? Simpson hurricane scale . The first system , an unnamed tropical storm , developed during the month of June in the Pacific Ocean , while located south of Guatemala . The storm moved northward across Central America , but caused no known impact in the region . It struck the Florida Panhandle and caused minor impact across much of the Southern United States . Tropical cyclogenesis halted for over two months , until Anna formed on August 21 . The storm remained well away from land in the far North Atlantic Ocean and caused no impact .

Hurricane Betsy was the strongest and most devastating storm of the season . Extensive damage from Betsy was reported in The Bahamas , Florida , and Louisiana , particularly the New Orleans area . It was the first hurricane in the history of the United States to result in at least \$ 1 billion (1965 USD) in losses . Hurricane Carol meandered in the eastern Atlantic for over two weeks from mid @-@ September to very early October . Impact on land from Carol was minimal . In late September , Tropical Storm Debbie developed in the northwestern Caribbean Sea and moved slowly across the region , before later reaching the Gulf of Mexico . The storm dissipated just offshore of Louisiana , which resulted in only minor impact along the Gulf Coast of the United States . The final tropical cyclone , Hurricane Elena , formed on October 12 . Elena remained at sea for nearly a week and caused no damage on land . Collectively , the storms of the 1965 Atlantic hurricane season caused 76 fatalities and \$ 1 @.@ 45 billion in damage , almost entirely due to Hurricane Betsy .

= = Season summary = =

The Atlantic hurricane season officially began on June 1 , 1965 . This was the first Atlantic hurricane season to start on June 1 and end on November 30 , which is the modern @-@ day season bounds . It was a below average season in which six tropical depressions formed . All six of the depressions attained tropical storm status , and four of these attained hurricane status . Furthermore , one storm reached major hurricane status ? Category 3 or greater on the Saffir ? Simpson Hurricane Scale . Two tropical storms and one hurricane made landfall during the season and caused 76 fatalities and about \$ 1 @.@ 45 billion in damage .

Season activity began with the development of an unnamed tropical storm on June 11 . However , the season briefly became dormant after the storm dissipated on June 15 , and there were no other tropical cyclones in June or July . The next system , Hurricane Anna , formed on August 21 , more than two months later . Later in August , Hurricane Betsy developed and eventually became the most intense tropical cyclone of the 1965 season . In mid @-@ September , Hurricane Carol formed in the eastern Atlantic and meandered for over two weeks . The next system , Tropical Storm Debbie , developed in the northwestern Caribbean Sea on September 24 . Hurricane Elena , the final tropical cyclone , developed on October 12 and dissipated on October 18 , slightly less than two weeks before the official end of the season on November 30 .

The season 's activity was reflected with an accumulated cyclone energy (ACE) rating of 84 , which was below the 1950 @-@ 2000 average of 96 @.@ 1 . ACE is , broadly speaking , a measure of the power of the hurricane multiplied by the length of time it existed , so storms that last a long time , as well as particularly strong hurricanes , have high ACEs . It is only calculated for full advisories on tropical cyclones with winds exceeding 39 mph (63 km / h) , which is tropical storm strength .

= = Storms = =

== Tropical Storm One ==

A cut off low pressure area developed from a shear trough in the northwestern Gulf of Mexico on June 9 . The low caused the detachment of a disturbance from the Intertropical convergence zone , which was located near the south coast of Guatemala . At 0600 UTC on June 11 , a tropical depression formed while centered about 95 miles (153 km) south southwest of Sipacate , Guatemala . Shortly thereafter , it struck Escuintla Department without strengthening . After moving across Guatemala and Mexico , the depression emerged into the Gulf of Mexico on June 13 . The depression intensified on the following day , reaching tropical storm status at 0000 UTC . Operationally , the system was considered a tropical depression for its entire duration , thus , this went unnamed . The storm began curving northeastward , and by early on June 15 , it peaked with winds of 50 mph (85 km / h) .

Later that day at 1200 UTC , the storm made landfall near Santa Rosa Beach , Florida at the same intensity . Inland , the storm continued northeastward and became extratropical over eastern Georgia at 0000 UTC on June 16 . Tides along the coast of the Florida Panhandle were 3 ? 4 feet (0 @. 91 ? 1 @. 22 m) above normal . The storm brought sustained winds of 50 to 60 mph (85 to 105 km / h) with gusts up to 75 mph (120 km / h) at Alligator Point . Winds blew the roof off of two beach cottages on St. George Island , while tides sank or washed ashore several small boats . The storm also produced rainfall up to 8 @. 75 inches (222 mm) in Wewahitchka , but no flooding occurred . Two tornadoes were spawned in the state with one damaging a houses and a mobile home in Live Oak . The storm also brought rainfall to several other states .

== Hurricane Anna ==

A weak circulation was noted by Television Infrared Observation Satellite (TIROS) near Cape Verde on August 16 . During the next five days , the system tracked west @-@ northwestward or northwestward , while conditions gradually became favorable for tropical cyclogenesis . At 0600 UTC on August 21 , it is estimated that the system became Tropical Storm Anna . While Anna was tracking north @-@ northeastward on August 23 , an eye feature appeared on TIROS . After another aircraft reported an eye on its radar , Anna was upgraded to a hurricane later that day . Late on August 24 , Anna reached maximum sustained winds of 90 mph (150 km / h) while accelerating northeastward . Anna began losing tropical characteristics , and early on the following day , it transitioned into an extratropical storm while about halfway between the Azores and Greenland .

== Hurricane Betsy ==

A tropical disturbance developed into a tropical depression on August 27 , while well east of the Windward Islands . It tracked generally west @-@ northward until crossing the Leeward Islands on August 28 . No impact was reported in the islands . After re @-@ curving to the northwest , the depression strengthened into Tropical Storm Betsy on August 29 . Betsy then rapidly intensified and became a Category 1 hurricane later that day . It executed a small cyclonic loop , before turning west on September 1 . Significant intensification resumed later that day . By late on September 3 , Betsy became a Category 4 hurricane . While northeast of The Bahamas , Betsy moved erratically and executed another cyclonic loop . The storm steadily weakened , and was briefly downgraded to a Category 2 hurricane early on September 6 . However , it promptly re @-@ strengthened into a Category 3 hurricane . Betsy then tracked southwestward and then westward through the Bahamas . The storm produced very strong winds and rough seas in The Bahamas . Damage reached \$ 14 million and 1 death occurred in the island chain .

By early on September 8 , Betsy made landfall on Key Largo as a Category 3 hurricane . In South Florida , the storm brought strong winds and significant storm surge . In the Upper Florida Keys , water reached several feet in height , which inundated highways and the first floor of buildings .

Nearly all of the land south of Homestead Air Force Base and east of U.S. Route 1 was covered by water . There were 8 deaths and \$ 120 million in losses , which included both property and agriculture . Betsy entered into the Gulf of Mexico and re @-@ strengthened into a Category 4 hurricane on September 9 . While approaching the Gulf Coast of the United States , Betsy peaked with winds of 155 mph (250 km / h) , slightly below the threshold for Category 5 hurricane status . However , further intensification was halted after Betsy made landfall in Grand Isle , Louisiana later on September 9 . In Louisiana , strong winds and rough seas caused extensive damage . Storm surge inundated the levees in New Orleans , flooding much of the city . Throughout the state , more than 22 @,@ 000 homes and either damage or destroyed , and 168 @,@ 000 people were left without electricity . The storm caused more than 17 @,@ 000 injuries and resulted in 58 deaths . Damage in the state of Louisiana reached \$ 1 @.@ 2 billion . Once inland , the storm rapidly weakened , and became extratropical over Ohio on September 12 . Impact in other states ranged from minor to moderate . Overall , Betsy caused about \$ 1 @.@ 45 billion in damage and 76 fatalities . Betsy was the first hurricane in the United States to cause at least \$ 1 billion in losses .

= = = Hurricane Carol = = =

A tropical wave emerged into the Atlantic from the west coast of Africa on September 15 and developed into a tropical depression by early on the following day . It headed steadily westward and strengthened into Tropical Storm Carol late on September 17 . The storm began curving northwestward by the following day . Operationally , advisories were not initiated until 1900 UTC on September 19 , after winds had already reached 50 mph (85 km / h) . Carol then slowed and began turning north @-@ northward . Later on September 20 , a Navy reconnaissance flight confirmed a circulation and also measured hurricane @-@ force winds . Thus , Carol was upgraded to a hurricane at 1800 UTC on September 20 .

On September 21 , another flight into the storm recorded a minimum pressure of 974 mbar (28 @.@ 8 inHg) , the lowest in relation to Carol . The hurricane accelerated , before slowing in forward motion on September 22 . Between September 24 and September 28 , the storm drifted and executed a small cyclonic loop . Thereafter , Carol re @-@ accelerated and was briefly upgraded to a Category 2 hurricane following an Air Force Reconnaissance report of 100 mph (155 km / h) winds . While passing northwest of the Azores , a weather station on Corvo Island reported a sustained wind speed of 64 mph (103 km / h) and a gust up to 80 mph (130 km / h) . The storm curved east @-@ southeastward , weakened , and transitioned into an extratropical cyclone while located west of Portugal on October 1 .

= = = Tropical Storm Debbie = = =

A low pressure area in the northwestern Caribbean Sea developed into a tropical depression on September 24 . The depression brought locally heavy rainfall to areas of Honduras while tracking northwestward . Despite winds of only 30 mph (45 km / h) , the Miami Weather Bureau prematurely named the depression Debbie at 1600 UTC on September 25 . Several hours later , Debbie struck the northeastern Yucatán Peninsula . After emerging into the Gulf of Mexico early on September 26 , the storm was described as " weaker than before " , as the convective activity indicated no organization . However , Debbie began to strengthen , reaching tropical storm status on September 28 .

After peaked at winds of 50 mph (85 km / h) late on September 28 , cooler and drier air caused the storm to weaken . Late on September 29 , Debbie was downgraded to a tropical depression and dissipated just offshore Mississippi about twenty @-@ four hours later . Despite its demise , Debbie brought heavy precipitation , especially in Mobile , Alabama , where a 24 @-@ hour rainfall record was broken after 16 @.@ 85 in (428 mm) fell . Within the city of Mobile , hundreds of cars were flooded , while more than 200 people fled their inundated homes . Many roads and businesses were also closed in the area . Damage in Mobile alone reached \$ 25 million . Rainfall was reported in 7 other states , though no significant impact occurred .

=== Hurricane Elena ===

TIROS imagery indicated a very weak circulation near 12 ° N , 40 ° W on October 11 . Ship reports on the following day indicated a somewhat more organized circulation . As a result , it is estimated that the final tropical depression of the season at 1200 UTC on October 12 , while located about midway between Cape Verde and the Leeward Islands . Initially , the depression remained disorganized while tracking northwestward . However , by early on October 14 , the depression strengthened into Tropical Storm Elena . The storm continued to intensify and by early on October 16 , a minimum pressure of 991 mbar (29 @. @ 3 inHg) . Therefore , Elena likely reached hurricane status at 0600 UTC that day . Later on October 16 , the storm re @- @ curved to the northeast and began to accelerate . On October 18 , Elena attained its peak intensity with maximum sustained winds of 80 mph (130 km / h) and a minimum barometric pressure of 977 mbar (28 @. @ 9 inHg) . At 0000 UTC on the following day , the storm merged with an approaching cold front near the Azores .

== Storm names ==

The following names were used for named storms (tropical storms and hurricanes) that formed in the North Atlantic in 1965 . The name Betsy was later retired . Carol had been removed from the naming list for 10 years following Hurricane Carol of 1954 . It was then retroactively retired because of the 1954 hurricane , not the storm in 1965 . They were replaced with Blanche and Camille for use in the 1969 season . Names that were not assigned are marked in gray .