= Hurricane Florence (1988) =

Hurricane Florence was the third of four named tropical cyclones to make landfall on the United States during the 1988 Atlantic hurricane season . The seventh tropical storm and second hurricane of the season , Florence developed on September 7 from an area of convection associated with a dissipating frontal trough in the southern Gulf of Mexico . After initially moving eastward , the storm turned northward and strengthened . Florence reached hurricane status and later peak winds of 80 mph (130 km / h) on September 9 shortly before striking southeastern Louisiana . The storm rapidly weakened over land and dissipated on September 11 over northeastern Texas .

Early in its duration , the storm dropped rainfall across the Yucatán Peninsula . Upon striking Louisiana , Florence produced a moderate storm surge , causing severe beach erosion in some locations . Gusty winds were also reported , causing power outages to over 100 @,@ 000 people . In Alabama , one man died while trying to secure his boat . Rainfall from the hurricane caused severe river flooding in portions of the Florida Panhandle in an area already severely affected by heavy rainfall ; the flooding damaged or destroyed dozens of houses in Santa Rosa County . Throughout its path , damage totaled about $ 2 @.@ 9 million (1988 USD , $ 5 @.@ 3 million 2008 USD) .

= = Meteorological history = =

On September 4 , a cold front exited the coast of Texas into the Gulf of Mexico . A convective band from the front continued southeastward and stalled between Veracruz , Mexico and Tampa , Florida . The band began to split into two on September 6 ; the northeastern portion developed into a frontal wave and tracked northeastward , while the southwestern portion remained nearly stationary and began showing signs of tropical organization . Located in an area of generally low pressures , the system developed a spiral band structure , though deep convection was mostly intermittent . Subsequent to the formation of a surface circulation , the system developed into a tropical depression while located about 450 miles (725 km) northwest of Mérida , Yucatán .

The depression drifted eastward under the influence of the dissipating frontal trough , and intensified into Tropical Storm Florence to the north of the Yucatán Peninsula , as confirmed by Hurricane Hunters . Initially , the center was located to the north of the deep convection , with only one weak rainband to the north of the circulation . However , subsequent to a drop in vertical wind shear , an increase in moisture , and increase in upper @-@ level outflow , deep convection greatly increased and organized over the circulation early on September 9 . As the trough dissipated and a ridge built northwestward behind it , steering currents became weak , leaving Florence temporarily stationary . Later on September 9 , the influence of a mid- to upper @-@ level trough to its north caused Florence to accelerate northward . Steadily intensifying , Florence attained hurricane status about 100 miles (165 km) south of the mouth of the Mississippi River . The hurricane intensified slightly further , and struck the western Mississippi River Delta with winds of 80 mph (130 km / h) at 0200 UTC on September 10 . Upon making landfall , dry air became entrained in the circulation , and Florence rapidly weakened over southeastern Louisiana . By the time it passed over New Orleans and Lake Ponchartrain most convection had dissipated , and about ten hours after making landfall Florence degenerated into a tropical depression . The system subsequently crossed over southwestern Mississippi as it turned northwestward , and later entered northern Louisiana before dissipating over northeastern Texas on September 11 . The mid @-@ level circulation turned northeastward through the central United States before dissipating over Ohio on September 13 .

= = Preparations = =

On September 9 , about 16 hours before Florence made landfall , the National Hurricane Center issued a hurricane watch from Port Arthur , Texas to Pensacola , Florida . Three hours later , the watch was upgraded to a hurricane warning from Pensacola to Cameron , Louisiana , with a tropical storm warning issued from Pensacola eastward to Apalachicola , Florida . Around the time of

Florence moving ashore , the National Hurricane Center limited the hurricane warning from Pensacola , Florida to Morgan City , Louisiana . Hours after the hurricane made landfall , the warning was replaced by a tropical storm warning from Mobile , Alabama to Grand Isle , Louisiana , which was discontinued two hours later .

Prior to the arrival of the hurricane , an estimated 20 @,@ 000 people evacuated the coastal parishes of southeastern Louisiana , including nearly all of the 2 @,@ 000 residents on Grand Isle . Small @-@ scale evacuations were issued for residents living in low @-@ lying or coastal areas of Mississippi and Alabama . Offshore , the threat of the hurricane prompted oil companies to evacuate employees on oil rigs to the mainland .

The threat of the hurricane caused Democratic presidential nominee Michael Dukakis to cancel a rally and two fund @-@ raising events in New Orleans . Governor Buddy Roemer issued for the Louisiana National Guard to be on standby for emergency duty . Officials closed several bridges across southeastern Louisiana and also canceled ferry travel across Lake Ponchartrain . In Pensacola , Florida , the Navy base moved the USS Lexington into the Gulf of Mexico during the hurricane , and also sent more than 100 aircraft to a base in Ohio .

= = Impact = =

The primary rainband extending southward from the circulation of Florence dropped moderate rainfall across the Yucatán Peninsula and through southern Mexico . Rainfall amounts peaked at 10 @.@ 79 inches (274 mm) in San Baltazar Loxicha , Guerrero , with 10 @.@ 67 inches (271 mm) reported in southeastern Chiapas and 9 @.@ 74 inches (247 mm) near Merida . Damage , if any , is unknown .

Upon making landfall on Louisiana , Hurricane Florence produced higher than normal tides , including a peak observation of 7 @.@ 5 feet (2 @.@ 3 m) above mean sea level on the Bayou Benvenue to the east of New Orleans . Rainfall was relatively light , ranging from about 1 inch (25 mm) to a maximum of 4 @.@ 05 inches (103 mm) at Watson . Winds of tropical storm force occurred across southeastern Louisiana , with wind gusts peaking at 64 mph (103 km / h) at an automatic Coast Guard Station on the Southwest Pass of the Mississippi River Delta . An unofficial tornado was reported in Tangipahoa Parish . Minor storm surge flooding occurred outside of the levee system of southern Louisiana in Plaquemines , Saint Bernard , and Saint Tammany Parishes . On Grand Isle , strong wave action resulted in significant beach erosion , with most areas on the island losing about 40 feet (12 @.@ 2 m) of beach . The storm surge also flooded a portion of Louisiana Highway 300 near Delacroix . The passage of the hurricane broke a levee in Delacroix ; it was quickly repaired with flooding from the levee being pumped to the gulf . Light to moderate damage was reported across the southeastern portion of the state , primarily from falling trees . The winds also downed numerous power lines , leaving about 150 @,@ 000 people without power for some period of time during the storm . The power outages were short @-@ lived , with about 6 @,@ 900 left without power by the day after the hurricane . Damage in the state was fairly minor , totaling about $ 2 @.@ 5 million (1988 USD , $ 4 @.@ 4 million 2007 USD) .

Rainfall from Florence reached over 7 inches (178 mm) at one location in southeastern Mississippi , while a station 3 miles (4 @.@ 8 km) south @-@ southeast of Brewton , Alabama reported a storm @-@ wide peak rainfall total of 10 @.@ 67 inches (271 mm) . Despite the rainfall , no damage was reported in Alabama or Mississippi . In Mobile Bay in Alabama , one man died while attempting to secure his boat ? the only direct fatality related to the hurricane .

Heavy rainfall was reported along the Florida Panhandle , peaking at over 10 inches (254 mm) in the extreme northwestern portion of the state . The rainfall caused the worst flooding in ten years , and resulted in additional flooding to the already swollen Coldwater Creek and Blackwater River in Santa Rosa County . Near the river , 30 homes were destroyed with an additional 50 houses damaged , totaling about $ 320 @,@ 000 (1988 USD , $ 560 @,@ 000 2007 USD) in damage . Several roads were closed from the flooding , as well . The strong convective band associated with Florence extended across the Florida Panhandle , spawning nine tornadoes in Walton County and one waterspout in Bay County . Damage from the tornadoes amounted to about $ 100 @,@ 000 (

1988 USD , $ 175 @,@ 000 2007 USD) .

The remnant circulation of Florence produced light to moderate rainfall across the Ohio Valley and central United States . Precipitation reached over 3 inches (75 mm) in extreme southeastern Missouri , southern Illinois , and central Ohio , and extended as far northward as Michigan .