

= Tropical Storm Gabrielle (2007) =

Tropical Storm Gabrielle was a short @-@ lived tropical cyclone that passed over North Carolina before tracking out to sea . The seventh named storm of the 2007 Atlantic hurricane season , Gabrielle developed as a subtropical cyclone on September 8 about 385 miles (625 km) southeast of Cape Lookout , North Carolina . Unfavorable wind shear impacted the storm for much of its duration , although a temporary decrease in the shear allowed the cyclone to become a tropical storm . On September 9 , Gabrielle made landfall at Cape Lookout National Seashore in the Outer Banks of North Carolina with winds of 60 mph (90 km / h) . Turning to the northeast , the storm quickly weakened and dissipated on September 11 .

In advance of the storm , tropical cyclone watches and warnings were issued for coastal areas , while rescue teams and the U.S. Coast Guard were put on standby . The storm dropped heavy rainfall near its immediate landfall location but little precipitation elsewhere . Along the coast of North Carolina , high waves , rip currents , and storm surge were reported . Slight localized flooding was reported . Gusty winds also occurred , though no wind damage was reported . Along the coast of Florida , rough surf drowned one person . Overall damage was minor .

= = Meteorological history = =

A cold front moved off the southeast coast of the United States on September 1 . Gradually decaying , the front degenerated into an area of cloudiness and showers just east of the Georgia coast on September 2 . Tracking eastward , a weak low pressure area developed the next day . It slowly became better organized as its motion became erratic , and by late on September 4 the convection had become concentrated to the east of the center . On September 5 , a Hurricane Hunters flight indicated the system had not acquired the characteristics of a tropical or subtropical cyclone . Interaction with an upper @-@ level trough resulted in moderate wind shear which suppressed further development , and by September 6 the thunderstorm activity lost much organization . Upper @-@ level winds became increasingly favorable , allowing the convection to concentrate about halfway between North Carolina and Bermuda . With a deep @-@ layer ridge to its north , the system turned to a steady west @-@ northwest track . A reconnaissance aircraft flight late on September 7 reported a very elongated center , with peak flight winds of 55 mph (90 km / h) about 100 miles (160 km) northeast of the center . Subsequent to the flight , the center became slightly better organized , and based on the large wind field and the presence of an upper @-@ level low to its west @-@ southwest , the National Hurricane Center classified the system as Subtropical Storm Gabrielle early on September 8 while located about 385 miles (625 km) southeast of Cape Lookout , North Carolina .

Upon becoming a subtropical cyclone , Gabrielle was located in an area of cooler air to its north , dry air to its south and west , southerly wind shear , and cooler water temperatures along its path . Despite these unfavorable conditions , a curved convective band developed in its northern and western quadrants , and the circulation became better defined . Subsequently , the rainbands in its northeastern quadrant dissipated , leaving the well @-@ defined center far removed from the convection . By later that day , the circulation began to become more involved with the remaining convection . Based on evidence of a weak warm @-@ core , the system was re @-@ designated as Tropical Storm Gabrielle late on September 8 about 185 miles (300 km) southeast of Cape Lookout , North Carolina .

Vertical wind shear decreased as the storm passed over the Gulf Stream , allowing a strong convective burst to develop near the center . As it approached the coast of North Carolina , the center re @-@ developed within the deep convection underneath the mid @-@ level circulation , although increased northerly wind shear displaced the center of Gabrielle to the north of the thunderstorm activity . Based on reports from Hurricane Hunters , it is estimated Gabrielle moved ashore at Cape Lookout National Seashore at 1530 UTC on September 9 with winds of 60 mph (95 km / h) , though due to the shear the strongest winds remained offshore . Tracking around the ridge over the western Atlantic , the storm turned to the north and north @-@ northeast , emerging into

the ocean near Kill Devil Hills , North Carolina early on September 10 as a poorly organized system with convection far to the south of the center . Gabrielle weakened to a tropical depression shortly thereafter , and maintained scattered convection despite unfavorable wind shear as it tracked along the northern portion of the Gulf Stream . By midday on September 11 , the circulation had become ill defined and elongated ; failing to meet the criteria of a tropical cyclone , the National Hurricane Center declared Gabrielle dissipating well to the south of Nova Scotia . By early the next day , the remnants of Gabrielle were absorbed by an approaching cold front .

= = Preparations = =

Upon becoming a subtropical cyclone , the National Hurricane Center issued a tropical storm watch from Edisto Beach , South Carolina to Oregon Inlet in North Carolina , including the Pamlico Sound . As the storm approached the coast , the watch south of Cape Fear , North Carolina was discontinued , and a tropical storm warning was issued from Surf City , North Carolina northward to the North Carolina - Virginia state border ; a watch was also issued northward to Cape Charles Light on the Delmarva Peninsula , and to New Point Comfort on the western shore of the Chesapeake Bay , which was upgraded to a warning the next day .

Prior to the arrival of the storm , the National Park Service closed visitor centers and campgrounds along the Outer Banks . For about 12 hours , the ferry between Hatteras and Ocracoke was closed . North Carolina Governor Mike Easley put rescue teams and the National Guard on standby . Residents and tourists were advised to secure loose objects , and to remain indoors . As the storm 's effects were expected to be minor , no evacuations were ordered . On Ocracoke Island , boats were hauled out . The threat of the storm forced the cancellation of a fishing tournament at Atlantic Beach , which resulted in effects to the local economy .

Initially , uncertainty in Gabrielle 's track led the National Hurricane Center 's five -day track forecast cone to include the Mid -Atlantic , southeastern New York , and southern New England . Forecasters predicted rough surf and rip currents , prompting the Coast Guard to perform preparations in the Northeastern United States . On Cape Cod , Massachusetts , an HU -25 Falcon jet flew along the coastline , broadcasting storm advisories to offshore vessels . A Coast Guard patrol boat was deployed offshore for search and rescue . Boaters and mariners were advised to exercise caution , and were told to " make safe decisions " . However , the storm passed well to the south with little effect .

= = Impact = =

Rough surf from Gabrielle along the coast of Florida drowned one surfer and forced the rescue of 200 swimmers . Officials at New Smyrna Beach estimated 6 to 9 feet (1 - 8 to 2 - 7 m) seas . By early on September 9 , the outer rainbands began affecting southeastern North Carolina . Sustained winds of tropical storm force from the storm occurred along coastline , unofficially reaching 44 miles per hour (71 km / h) at Frisco . Wind gusts were stronger , unofficially reaching 61 miles per hour (98 km / h) at Ocracoke . Along the coast , rough surf was reported , and waves reached 10 to 12 feet (3 - 0 to 3 - 7 m) . Rip currents caused numerous swimmers to be rescued by lifeguards . Heavy rainfall from the storm was confined to near its immediate landfall location , peaking at 9 . 03 inches (229 mm) at a station 7 . 2 miles (12 km) to the east -northeast of Newport ; other areas reported 4 to 8 inches (0 - 10 to 0 - 20 m) . Two offshore ships observed tropical storm -force winds , though the reports were considered to be overestimated .

In some locations , the rainfall led to flooding , which prevented farmers from harvesting crops . Elsewhere throughout the state , the storm failed to relieve severe drought conditions as it was initially hoped to . The passage of the storm left a portion of North Carolina Highway 12 on Hatteras Island closed for three hours , briefly flooding part of the road . Streets in Morehead City and Beaufort were closed , and several homes and businesses suffered minor flood damage . In Carteret County , the flooding inflicted \$ 5 , 000 (2007 USD) in property damage . Storm surge

was fairly light along the coast , peaking at 3 feet (0 @ . @ 91 m) above normal at Hatteras Island . Overall damage in the state was minor , including minor beach erosion and some flooded streets . No fatalities were reported .