

= Hurricane Edna =

Hurricane Edna was a deadly and destructive major hurricane that impacted the United States East Coast in September of the 1954 Atlantic hurricane season . It was one of two hurricanes to strike Massachusetts in that year , the other being Hurricane Carol . The fifth tropical cyclone and storm of the season , as well as the fourth hurricane and second major hurricane , Edna developed from a tropical wave on September 2 . Moving towards the north @-@ northwest , Edna skirted the northern Leeward Islands as a tropical depression before turning more towards the west . The depression attained tropical storm status to the east of Puerto Rico and strengthened further to reach hurricane status by September 7 . The storm rapidly intensified and reached its peak intensity of 125 mph (205 km / h) north of the Bahamas before weakening to Category 2 status near landfall in Massachusetts on September 11 . Edna transitioned into an extratropical cyclone in Atlantic Canada before its remnants dissipated in the northern Atlantic .

Edna caused 20 fatalities throughout its lifetime as a tropical cyclone , as well as a moderate amount of damage . It first caused rainfall @-@ induced flooding in Puerto Rico , and it later brushed the Bahamas . High waves affected the coastline of North Carolina . Edna resulted in the heaviest day of rainfall in New York City in 45 years , while strong waves cut off Montauk from the remainder of Long Island . There were six highway deaths in the state , and \$ 1 @. @ 5 million in crop damage . There were widespread evacuations in southern New England , after Hurricane Carol struck the same area only 11 days prior . Strong winds caused extensive power outages for 260 @, @ 000 people , including nearly all of Cape Cod . Edna became the costliest hurricane in the history of Maine , where the hurricane caused flooding that washed out roads and rail lines . There were 21 deaths in New England , eight of whom in Maine due to drownings . Later , high winds severely damaged crops in Atlantic Canada .

= = Meteorological history = =

Hurricane Edna originated in an easterly tropical wave which modern research has estimated to have spawned a tropical depression east of the Caribbean Sea on September 2 , 1954 . The low pressure area was not observed in real time until several days later , on September 5 , while situated between Puerto Rico and The Bahamas . Near the disturbance , a ship reported heavy squalls and wind gusts to 70 mph (110 km / h) . Additionally , the island of Puerto Rico experienced torrential rainfall in association with the storm . Operationally , the system was not recognized to have organized into a tropical cyclone until September 6 ; it is listed in the Atlantic hurricane database as achieving tropical storm intensity early on September 4 . Edna proceeded west @-@ northwestward , bypassing Hispaniola to the north , and by September 7 it had strengthened into a minimal hurricane on the present @-@ day Saffir ? Simpson Hurricane Scale .

Initially a rather small storm in terms of physical size , the hurricane steadily intensified throughout the day . Reconnaissance aircraft flew into the storm frequently to take observations on the cyclone 's structure . The center of circulation passed near San Salvador Island , and on September 8 , Edna further strengthened into a Category 3 major hurricane while broadly curving northward . Reconnaissance flights indicated a maturing and evolving eye , approximately 20 mi (32 km) in diameter . The overall circulation increased in size as banding features became more well @-@ defined . The storm reached its peak winds of 120 mph (190 km / h) and maintained them for over two days . However , reconnaissance data was at times inconsistent and inaccurate , leading to suspicious and unlikely jogs in the storm 's track . The cause of these errors is attributed to misinterpretation of radar information .

Midday on September 9 , while tracking nearly due north , Edna 's minimum central barometric pressure fell to 968 mbar (28 @. @ 6 inHg) , but is believed to have leveled off shortly thereafter . The radius of hurricane @-@ force winds increased , and the storm may have become asymmetrical , with convection concentrated to the right of the center , although this was not confirmed due to a lack of data . An approaching weak frontal boundary spread overcast conditions over the Eastern Seaboard north of North Carolina . By September 10 , Edna was located just south

of Cape Hatteras , passing east of the Outer Banks early the next day . As the hurricane accelerated to the northeast , it began to deteriorate and weaken . Closely following the recent track of Hurricane Carol , Edna approached New England , but diverged from Carol 's track upon skirting the eastern coast instead of moving inland . Weather reporting stations in the Mid @-@ Atlantic States reported rapid clearing as the storm gained latitude , while heavy rain and gusty winds enveloped New England . On September 11 , Edna passed directly over Cape Cod after weakening to Category 2 status , although surface weather analysis depicted a central pressure of 950 mbar (28 inHg) . It subsequently tracked just east of Eastport , Maine . The storm continued northeastward into Atlantic Canada and transitioned into an extratropical cyclone , although the exact time of this transition is unknown . The storm 's extratropical remnants reemerged into the northern Atlantic after crossing eastern Canada and were last noted on September 15 .

= = Preparations = =

In advance of the storm , hurricane warnings were issued for parts of The Bahamas and South Florida , as winds of up to hurricane force were expected . Farther to the north , storm warnings were posted from Myrtle Beach , South Carolina to Eastport , Maine . Along the coast of North Carolina and the Virginia Capes , where gale @-@ force winds and high tides were expected , residents were advised to take precautions . In New York City , it was to be considered " a miracle " if Edna did not strike the area directly , and the storm was predicted to be one of the most severe hurricanes in the history of the New York Weather Bureau . In the 24 hours before the storm struck , New York Telephone received 361 @,@ 392 calls , which was the third highest volume the company ever recorded . In the Montauk area , 500 residents evacuated their homes by early September 11 , while all businesses closed in Westerly , Rhode Island . Businesses in Providence , which was flooded during Hurricane Carol , prepared sandbags to mitigate flooding . Most beach homes had closed for the summer season , and hundreds of people who lived along the southern New England coast evacuated . Other threatened areas were evacuated , including Milford , Connecticut , where 3 @,@ 000 families left their homes . Sirens alerted other residents to remain indoors and drivers to stay off the highways . Along the coast of Connecticut , bus and train service was halted . A state of emergency was declared in New London , and mail service was canceled in some areas . On September 10 , the Navy ordered the evacuation of hundreds of warships and aircraft . Coast Guard planes evacuated from Rhode Island and Massachusetts . About 40 Red Cross shelters , which were opened during Hurricane Carol 11 days prior , were reopened to provide food . Officers at Fort Devens sent 40 trucks with cots , blankets , and generators to areas expected to be struck by the storm . Advance warning was credited with a lower death toll in Edna than Carol .

= = Impact = =

= = = West Indies = = =

On September 7 , a bulletin from San Juan , Puerto Rico reported extensive , flood @-@ inducing rainfall along the western and southern coasts of the island . Over 10 in (250 mm) of precipitation fell within a two @-@ day period . The easternmost islands of The Bahamas , including San Salvador , experienced gale @-@ force winds and high seas .

= = = United States = = =

Edna 's path near North Carolina was about 50 mi (80 km) east of Carol . Winds blew at up to 70 mph (110 km / h) along the shore , accompanied by strong surf , although no fatalities or major property damage resulted from the storm . Tides at Norfolk , Virginia were only slightly above normal during the storm 's passage to the east , and winds were moderate in strength . Peripheral rainfall in

Maryland and Delaware eased drought conditions . In coastal New Jersey , northwesterly winds reached 65 mph (105 km / h) , and Long Branch received around 4 in (100 mm) of rainfall . Further north , Long Island also suffered moderate to strong winds , blowing from the north at their peak . A Weather Bureau station in New York City recorded 45 mph (72 km / h) winds midday on September 11 . Rainfall reached 4 @. @ 98 in (126 mm) in the city , becoming the wettest day in 45 years . The storm cut off Montauk Point on eastern Long Island at its height , prompting the Coast Guard to temporarily relocate 500 families . Rainfall in Suffolk County amounted to 9 in (230 mm) . Crop damage in New York was estimated at \$ 1 @. @ 5 million , and six people died in the city due to highway deaths .

When Edna struck New England , it was moving quickly to the northeast at 45 mph (72 km / h) . It struck eastern Massachusetts about 100 mi (160 km) east of where Hurricane Carol struck only a week prior . Hurricane @-@ force winds affected much of the coastline , with peak gusts of 120 mph (190 km / h) on Martha 's Vineyard offshore Massachusetts , and 110 mph (180 km / h) on Block Island offshore Rhode Island . Along the coast , wind gusts peaked at 100 mph (160 km / h) at Hyannis , Massachusetts . The high winds caused widespread power outages , including for nearly all of Cape Cod . The storm surge reached 6 ft (1 @. @ 8 m) along the Massachusetts coast , causing flooding and heavy boating damage . Further west , there was lesser coastal flooding , although heavy rainfall after previously wet conditions caused urban and stream flooding ; rainfall peaked at around 11 in (280 mm) . Damage in Connecticut and Rhode Island was mainly in areas already affected by Hurricane Carol . Several streets were washed out , and rivers rose above flood stage .

Damage was heaviest in Maine , estimated at \$ 25 million , which made Edna the costliest hurricane in the state 's history . Strong wind gusts , reaching 74 mph (119 km / h) , and heavy rainfall , peaking at 7 @. @ 49 in (190 mm) , extended into the state ; these were considered the heaviest rains in the state in 58 years . The Androscoggin and Kennebec rivers both reached above @-@ normal levels , causing flooding and washing out roads . In Augusta , the Kennebec River reached 20 @. @ 5 ft (6 @. @ 2 m) , which was 5 ft (1 @. @ 5 m) above the peak level after the spring snow melt . Flooding entered basements , affected fields , and covered bridges . In West Peru , the floods washed out a bridge that was under construction . In addition , the winds downed trees , which blocked widespread roads and caused power outages in 18 % of the state . Washed out roads and rail lines cut off the state from the rest of New England . In Lewiston , a trapped car in 5 ft (1 @. @ 5 m) deep waters required rescue by boat . Another stranded family was rescued after seven hours in Unity , in which one child and a rescuer were killed . There were eight deaths in the state , most of whom related to cars being swept away by floods .

There were 21 deaths in New England , including eight drownings in Maine . Throughout the United States , damage was estimated at \$ 42 @, @ 815 @, @ 000 . Damage was less from Edna than from Carol , primarily due to its strongest winds not occurring at the time of highest tides , and its track farther to the east . Throughout New England , 260 @, @ 000 people lost power , most of whom in Massachusetts .

= = = Atlantic Canada = = =

While rapidly losing characteristics of a tropical cyclone , Edna traversed central New Brunswick . In contrast with the smaller , more compact Hurricane Juan , which struck Atlantic Canada in 2003 , Edna was a much larger storm with strong winds extending hundreds of miles from the center . The tightest pressure gradient was focused on the east side of the storm , over mainland Nova Scotia . Edna brought down approximately 700 million board feet of timber , and although the amount of trees the storm destroyed was comparable to that of Juan , its effects were more widespread and not as locally severe . Sustained winds reached 160 km / h (99 mph) at Yarmouth and 95 km / h (59 mph) at Halifax . The intense winds downed power and telephone lines and destroyed many barns ; one such structural collapse killed a man , and livestock were lost throughout the region . Other damage to property included several fallen chimneys , a toppled church steeple in Pictou , and roof failures . In Kentville , an apartment building undergoing construction was destroyed .

Approximately \$ 3 million CAD in apple crops were decimated , while in Yarmouth , both live lobsters and lobster pots were lost . Debris blocked streets across the province , and at least 800 m (0 @. @ 50 mi) of road was washed out . Damage in Nova Scotia totaled \$ 6 million CAD : in the aftermath , Yarmouth and Kentville declared states of emergency .

In New Brunswick , the storm dropped 130 mm (5 @. @ 1 in) of rain and produced winds of 120 km / h (75 mph) . Wind damage was less significant than in Nova Scotia , although still evident in structures and utility lines . A theatre in McAdam was destroyed , and several people were injured across the area . The storm flooded streets in St. Stephen . About 400 salmon , valued at \$ 10 @, @ 000 CAD , were lost in Dalhousie . Total damage in the province is estimated at \$ 1 @. @ 78 million CAD . Elsewhere , power outages were reported in Montreal .

= = Aftermath = =

In Maine , 20 counties were declared states of emergency . After the storm , Southern New England Telephone sent a crew of 100 workers in 50 trucks to Maine to assist in restoring power . Power was quickly restored , and in some places the outages were less severe than during Carol . For only the third time in its history , the Portland Evening Express was not delivered due to the storm . Most primary roads were re @- @ opened by two days after the storm , although rural areas and rail lines took longer to repair . There was a temporary travel ban for all but emergency vehicles in Maine due to washed out roads . Affecting densely populated portions of the state , Edna struck the day before the governor race between Republican Burton M. Cross and Democratic Edmund Muskie . Before the election , politicians commented how a suppressed turnout as a result of the storm would benefit Muskie , in a state where no Democrat had won governorship since 1934 . Muskie ultimately won the election in a close race , which saw a lower turnout than 1950 , likely due to Edna suppressing the rural , Republican turnout .

After a survey from the Federal Civil Defense Administration described damage as " tremendous " , President Dwight Eisenhower declared portions of Maine as a disaster area , which allocated federal funding for relief . The president also authorized additional aid to Rhode Island and Massachusetts due to additional damage there from Edna . Due to the severity of the storm , the name Edna was retired after this usage , for ten years before it was reintroduced for the 1968 season . At the 1969 Interdepartmental Hurricane Conference , it was proposed that the names Edna , Carol , and Hazel be permanently retired because of their importance to the research community . Despite the proposal , the name Edna was added to the 1972 naming list , but was ultimately unused .