

= Tropical Storm Arthur ( 2002 ) =

Tropical Storm Arthur was the first tropical cyclone of the 2002 Atlantic hurricane season . The origins of the storm are believed to have been from a decaying cold front in the Gulf of Mexico , which dropped light to moderate rainfall across the southeastern United States . Developing on July 14 near the coast of North Carolina , Arthur tracked quickly east @-@ northward through much of its duration as a tropical cyclone . It reached peak winds of 60 mph ( 95 km / h ) on July 16 , though as it interacted with a mid @-@ level cyclone and cooler waters it transitioned into an extratropical cyclone . The remnants of Arthur passed over Newfoundland with gusty winds and rainfall , where one person drowned .

= = Meteorological history = =

The origins of Tropical Storm Arthur are believed to have been from a decaying cold front in the northeastern Gulf of Mexico in July 2002 . By July 9 , a weak low @-@ level circulation was first detected , in association with a broad low pressure area . Across the region , surface pressures were high , while upper level wind shear was marginally favorable for slow tropical development . The system tracked slowly north @-@ northwestward , gradually becoming better defined , although thunderstorm activity remained limited and disorganized .

By July 11 , dry air and unfavorable wind shear prevented the convection from developing near the center . The low became elongated , though on July 12 the overall convection became more concentrated as it turned to a northeast drift . An approaching mid @-@ level trough caused the system to accelerate northeastward across Florida Panhandle , though upon doing so the thunderstorm activity quickly diminished . On July 13 , forecasters expected the system to be absorbed by the approaching trough . However , the low pressure area emerged into the western Atlantic Ocean near North Carolina early on July 14 , and upon doing so its convection increased and became better organized . The circulation and convection became further defined , and the National Hurricane Center estimates the system developed into Tropical Depression One late on July 14 about 45 miles ( 75 km ) west @-@ southwest of Hatteras , North Carolina .

Upon becoming a tropical cyclone , the depression was moving quickly to the east @-@ northeast , due to a deepening mid @-@ level low south of the Canadian Maritimes . It maintained good upper @-@ level outflow , and its track over the gulf stream allowed for steady strengthening . Early on July 15 , convection increased over the center and developed an organized rainband southwest of the center ; as a result , the National Hurricane Center upgraded the depression to Tropical Storm Arthur . After continuing to steadily intensify , Arthur attained peak winds of 60 mph ( 95 km / h ) early on July 16 about 490 miles ( 790 km ) south @-@ southeast of Halifax , Nova Scotia . Upon reaching peak intensity , the convection had become well @-@ organized over the center despite westerly wind shear . Subsequently , the center became separated from the area of deepest convection , and Arthur maintained its peak intensity as it began transitioning into an extratropical cyclone . The storm turned northward around the larger mid @-@ level low , and by July 17 Arthur completed extratropical transition . Shortly thereafter , the extratropical remnants crossed eastern Newfoundland . On July 19 , the remnants of Arthur turned to a southeast drift between Newfoundland and Greenland , and by late in the day its winds decreased to below gale force .

= = Impact = =

The precursor tropical disturbance dropped light to moderate precipitation in Florida , Georgia , and South Carolina , peaking at 4 @-@ 49 inches ( 114 mm ) in Weston , Florida . The system produced scattered precipitation across North Carolina , generally between 1 ? 3 inches ( 25 ? 75 mm ) . On July 16 , Arthur passed north of Bermuda , where it brought gusty winds and 0 @-@ 57 inches ( 14 @-@ 5 mm ) of rainfall . As an extratropical storm , Arthur produced gusty winds and dropped about 1 inch ( 25 mm ) of rainfall in Newfoundland . Strong waves capsized a boat in the Conne River , killing one person .

Five ships recorded tropical storm force winds in association with Arthur , of which two were when the storm was extratropical . Early on July 16 , a vessel with the call sign Weston reported sustained winds of 51 mph ( 82 km / h ) from the south @-@ southwest , which was the strongest ship reported wind speed . As the storm approached Canada as an extratropical storm , a buoy reported an 8 minute average wind speed of 45 mph ( 72 km / h ) , along with a wind gust of 60 mph ( 97 km / h ) .