

= Hurricane Leslie (2012) =

Hurricane Leslie was an Atlantic tropical cyclone that had minor effects in Bermuda and Atlantic Canada in September 2012 . The twelfth tropical cyclone of the annual hurricane season , Leslie developed from a tropical wave located nearly 1 @, @ 500 miles (2 @, @ 400 km) east of the Leeward Islands on August 30 . About twelve hours later , it strengthened into Tropical Storm Leslie . Tracking steadily west @-@ northwestward , it slowly intensified due to only marginally favorable conditions . By September 2 , the storm curved north @-@ northwestward while located north of the Leeward Islands . Thereafter , a blocking pattern over Atlantic Canada caused Leslie to drift for four days . Late on September 5 , Leslie was upgraded to a Category 1 hurricane . However , due to its slow movement , the storm causing upwelling , which decreased sea surface temperatures (SST 's) , weakening Leslie back to a tropical storm on September 7 .

The storm drifted until September 9 , when it accelerated while passing east of Bermuda . Relatively strong winds on the island caused hundreds of power outages and knocked down tree branches , electrical poles , and other debris . Slight re @-@ intensification took place , with Leslie becoming a hurricane again , before transitioning into an extratropical cyclone near Newfoundland on September 11 . In Atlantic Canada , the storm brought heavy rainfall to both Nova Scotia and Newfoundland . In the latter , localized flooding occurred , especially in the western portions of the province . Also in Newfoundland , strong winds from Leslie ripped off roofs , destroyed trees , and left 45 @, @ 000 homes without power . Additionally , a partially built house was destroyed and several incomplete homes were damaged in Pouch Cove . Overall , Hurricane Leslie caused \$ 10 @. @ 1 million (2012 USD) in damage and no fatalities .

= = Meteorological history = =

A tropical wave , which was accompanied by a broad surface low pressure area , emerged into the Atlantic Ocean from the west coast of Africa late on August 26 . Tracking generally westward , the system remained disorganized for the next several days . By August 29 , the system became increasingly organized as showers and thunderstorms concentrated toward the center . Based on Dvorak satellite classifications and scatterometer surface wind data , it is estimated that Tropical Depression Twelve developed at 0000 UTC on August 30 , while located about 1 @, @ 495 miles (2 @, @ 406 km) east @-@ southeast of the northern Leeward Islands . Situated to the south of a subtropical ridge , the system tracked west @-@ northwestward over warm waters . As a result , the depression strengthened into Tropical Storm Leslie by 1200 UTC on August 30 .

After becoming a tropical storm on August 30 , the subtropical ridge caused Leslie to turn west @-@ northwestward . By the early on August 31 , the storm featured well @-@ define outflow in all directions and the center of circulation was close to the main area of convection . Intensity estimates around that time indicated sustained wind speeds of 70 mph (110 km / h) . However , intensification halted later on August 31 as wind shear increased over the storm , causing convection to become displaced from the center . Early on September 1 , an eye @-@ like feature appeared on satellite imagery ; however , there was uncertainty as to whether or not the feature was displaced from the low @-@ level center . The storm became increasingly disorganized , with the circulation displaced from the main convective area several hours later .

Relentless wind shear caused Leslie to weaken to slightly to a 60 mph (95 km / h) tropical storm , despite sea surface temperatures (SSTs) exceeding 84 ° F (29 ° C) . Early on September 3 , the storm decelerated and curved northwestward , while approaching a weakness in Bermuda high pressure ridge . Eventually , Leslie turned to a more northerly motion . A blocking pattern over Atlantic Canada caused the storm to drift at forward speeds under 5 mph (8 @. @ 0 km / h) for four days . Wind shear also decreased , allowing Leslie to re @-@ organize and strengthen into a hurricane at 1200 UTC on September 5 . Six hours later , Leslie attained its maximum sustained wind speed of 80 mph (130 km / h) . However , the slow movement of the storm caused upwelling ? a process by which warm SSTs are replaced with colder waters . As a result , Leslie slowly began to weaken and fell to tropical storm intensity by early on September 8 . Despite weakening , the

storm 's circulation expanded to a radius of more than 1 @, @ 150 miles (1 @, @ 850 km) ; the wind field also expanded , with tropical storm force winds reaching about 175 miles (282 km) in diameter from the center .

By early on September 9 , the blocking pattern diminished as a broad mid- to upper @-@ level trough and associated cold front moved off the East Coast of the United States . As a result , Leslie accelerated north @-@ northeastward . Later that day , the storm passed about 130 miles (210 km) east of Bermuda . After leaving the region of upwelled waters , Leslie began to re @-@ strengthen and became a hurricane again at 1200 UTC on September 10 . Early on the following day , the storm reached its minimum barometric pressure of 968 mbar (28 @. @ 6 inHg) . However , a combination of cold SSTs , strong wind shear , and merging with a cold front caused the storm to become an extratropical cyclone at 0900 UTC on September 11 , while located about 85 miles (137 km) south of St. Lawrence , Newfoundland . Leslie was operationally considered a tropical cyclone when it made landfall on the Burin Peninsula of Newfoundland . The remnants of Leslie moved rapidly across Newfoundland and re @-@ emerged into the Atlantic later on September 11 . At 0600 UTC on the following day , the remnants of Leslie merged with another extratropical low pressure area over the Labrador Sea .

= = Preparations and impact = =

= = = Bermuda = = =

A few tropical cyclone warnings and watches were implemented in relation to Leslie . At 2100 UTC on September 6 , a tropical storm watch was issued for Bermuda . The watch was upgraded to a tropical storm warning at 0900 UTC on September 8 . By early on September 10 , the warning was discontinued . On September 6 , officials in Bermuda urged residents to " prepare for the worst " . Schools prepared to close Friday as residents got ready for the approaching storm . " Leslie could be a historic storm for Bermuda as it is very large and forecast to intensify rapidly as it approaches , " the Bermuda Emergency Measures Organization said . " The island could experience hurricane force winds for a sustained period of time , possibly up to two days . "

However , the storm passed further east of Bermuda than initially predicted , causing only minor impact . Nonetheless , sustained winds of 39 mph (63 km / h) and a gust up to 54 mph (87 km / h) was reported in St. David 's Island . At the same location , 3 @. @ 15 inches (80 mm) of precipitation was recorded . Throughout Bermuda , scattered power outages affected hundreds of residents and tree branches and other debris fell on roads ; at least one street pole was toppled in Hamilton .

= = = Canada = = =

At 0600 UTC on September 10 , a tropical storm watch was issued from Indian Harbour southward to Stones Cove , Newfoundland , and from Fogo Island to Charlottetown . Simultaneously , a hurricane watch was put into effect from Stones Cove to Charlottetown . By 1500 UTC on September 10 , the tropical storm watches were discontinued . Around that time , a tropical storm warning was implemented from Indian Harbour to Triton . By late on September 11 , all watches and warnings were discontinued . As a precaution , the town of Badger declared a state of emergency .

While still a tropical cyclone , Leslie produced 2 to 4 inches (51 to 102 mm) of rain across much of Nova Scotia , peaking at 6 @. @ 5 inches (170 mm) in Shubenacadie . The rainfall likely contributed to the ongoing flooding in some areas of Nova Scotia . Similarly , 2 to 4 inches (51 to 102 mm) of precipitation was reported throughout much of Newfoundland , with a peak total of 4 @. @ 25 inches (108 mm) in Cow Head . Localized flooding left some roads and bridges impassable and briefly isolated the Port au Port Peninsula from the mainland of Newfoundland . Due to winds up to 85 mph (137 km / h) , Leslie ripped off roofs , destroyed trees , and left 45 @, @ 000 homes without power , particularly on the Avalon Peninsula , in the southeast portion of

Newfoundland . In Pouch Cove on the Avalon Peninsula , the storm destroyed a partially built house and damaged incomplete homes in the Pleasantville neighborhood of St. John 's . Within the latter , several streets were closed , as crews cleaned up scattered debris . A portion of Memorial University of Newfoundland 's campus was closed after glass littered a pedestrian walk . Later , the remnants of Leslie brought rainfall to Nunavut , bring 1 @. @ 4 inches (36 mm) of precipitation to Iqaluit during a three @- @ day period . Damage in Atlantic Canada reached 10 million CAD (\$ 10 @. @ 1 million USD) .

= = = Elsewhere = = =

While passing to north of the Lesser Antilles , Leslie generated rough surf on various Leeward Islands , the Virgin Islands , and Puerto Rico . Leslie , combined with the remnants of Hurricane Isaac , also produced rip currents along the east coast of Florida , mainly from Nassau County south to Martin County . Additionally , the storm also brought rip currents to coastal Delaware and New Jersey between September 5 and September 6 .