

= Tropical Storm Danielle (1992) =

Tropical Storm Danielle was a weak tropical storm that made landfall on Virginia in the 1992 Atlantic hurricane season . The fourth storm of the season , Danielle was one of two tropical cyclones in the year to make landfall in the United States , the other being Hurricane Andrew . It formed out of a stationary trough of low pressure on September 18 near the coast of North Carolina . The system quickly reached tropical storm status , and Danielle looped to the west due to a change in steering currents . Tropical Storm Danielle reached a peak of 65 mph (105 km / h) winds before weakening and hitting the Delmarva Peninsula . The storm quickly dissipated over land .

The storm dropped light rainfall throughout its path , and winds were minimal . The combination of Danielle and a high pressure system produced higher than normal tides and strong waves , causing beach erosion and light coastal damage . The waves killed two in New Jersey from a boat sinking , and also destroyed three houses in the Outer Banks of North Carolina . Overall damage from the storm was minimal .

= = Meteorological history = =

A surface trough of low pressure with an area of convection persisted off the southeast coast of the United States on September 18 . On the same day , a weak tropical wave which moved off the coast of Africa on September 8 approached the area . A cold front merged with the stationary area of disturbed weather on September 20 , and on September 22 a circulation developed 200 miles (325 km) southeast of Cape Hatteras , North Carolina . Organization continued as outflow became better defined , and the system developed into Tropical Depression Six later that day .

The depression rapidly organized and attained tropical storm status with winds of 50 mph (80 km / h) just six hours after forming , upon which it was named Danielle . In response to an approaching trough , Danielle initially moved to the northeast . However , the trough outran the system , and a developing high pressure system to its north resulted in Danielle executing a tight , anticyclonic loop on September 23 to the 24th . The storm strengthened as it turned to the northwest , and reached a peak of 65 mph (105 km / h) winds on September 25 while just off the northeastern coast of North Carolina . Danielle turned to the north @-@ northwest , and made landfall on the Eastern Shore of Virginia late on the 25th . It rapidly weakened over land , and dissipated over eastern Pennsylvania on September 26 .

= = Preparations = =

Early in its life , forecasters had difficulties regarding the future track and intensity of Danielle , including a northeastward motion instead of its loop . After Danielle executed its loop , forecasters consistently predicted a landfall along the northeastern North Carolina coastline . As a result , officials issued Tropical Storm Warnings for the coast of North Carolina on September 24 , 36 hours before the storm passed to the east of the state . The continued northward motion caught forecasters off guard , and consequentially tropical storm warnings were not issued for the Delmarva Peninsula until just 12 hours before the storm made landfall . In addition , forecasters issued tropical storm warnings from Delaware through Watch Hill , Rhode Island , as a precaution .

In North Carolina , ferry operations between Ocracoke and the mainland at Hyde County were closed , while officials canceled schools in Dare County , North Carolina due to the approaching storm . Several families voluntarily evacuated St. George 's Island in southern St. Mary 's County , Maryland . In addition , officials in Delaware recommended evacuations for low @-@ level areas and beaches . As a precaution , officials set up two shelters in Kent County .

= = Impact = =

= = = North Carolina = = =

The pressure gradient between Tropical Storm Danielle and a ridge of high pressure to its north produced moderately strong winds across eastern North Carolina , peaking at 58 mph (93 km / h) at Alligator River Bridge . Several other locations reported over tropical storm force winds . The pressure gradient also produced higher than normal waves along the coastline , with a maximum of 20 feet (6 m) at Duck . Despite passing close to the coastline , Danielle dropped only light rainfall , totaling to 0 @. @ 2 inches (5 mm) at Cape Hatteras . However , locations in the central portion of the state experienced over 1 inch (25 mm) of rainfall .

Waves and high tides from the storm caused flooding along the Pamlico Sound side of Ocracoke and southern Hatteras Island . High tides also resulted in overwash in Pea Island , forcing the closure of State Highway 17 due to 12 inches (305 mm) of salt water . High tides from the storm also destroyed two houses in South Nags Head and one in Rodanthe , two of which were previously condemned after the 1991 Perfect Storm . Three other houses in the Outer Banks were threatened by the storm . Elsewhere in the Outer Banks , damage was minimal , and was limited to pedestrian ramps and steps to the beachfront .

= = = Mid @-@ Atlantic = = =

In Virginia , Tropical Storm Danielle produced peak wind gusts of 61 mph (98 km / h) at Cape Henry , though sustained winds remained below tropical storm strength . Rainfall was light along the coast , totaling to around 0 @. @ 34 inches (8 @. @ 6 mm) . However , outer bands of the storm produced heavier rainfall in the center portion of the state , peaking at 4 @. @ 09 inches (103 @. @ 88 m) at Charlottesville . The storm also produced higher than usual tides , peaking at 4 @. @ 42 feet (1 @. @ 3 m) at the mouth of the Elizabeth River in Sewells Point , as well as strong waves along the Virginia coastline . The waves caused significant overwash , leaving parts of Norfolk under 2 feet (.6 m) of water . Several homes , businesses , and cars were flooded , as well . The waves also eroded beaches along the coast . Overall , damage was minimal , and there were no reports of deaths or injuries .

Upon making landfall Danielle produced an estimated storm tide of 2 to 3 feet (.6 to .9 m) in Ocean City , Maryland . Wind gusts peaked at 53 mph (85 km / h) , also in Ocean City . The storm produced moderate rainfall of over 3 inches (76 mm) across the Eastern Shore of Maryland , while interior amounts experienced slightly lesser amounts of up to 2 @. @ 79 inches (71 mm) in Pasadena . Waves from the storm caused minor to moderate beach erosion along the coastline , and the combination of waves and high tides caused moderate street flooding . Near Salisbury , the storm produced a possible hook echo , though no tornadoes were reported . Danielle caused no deaths or injuries in the state .

In Delaware , the storm dropped light precipitation , with a maximum amount of 3 @. @ 75 inches (95 mm) in Smyrna . Wind gusts peaked at 66 mph (106 km / h) at Cape Henlopen . Danielle caused 2 to 3 @-@ foot (.6 to .9 @-@ m) higher than normal tides , along with strong waves . The combination of the two flooded some coastal houses and resulted in significant beach and dune erosion . The waves also sank four boats and washed away a dock near Slaughter Beach . Gusty winds caused power outages in New Castle County , while persistent rainfall caused sewer interruptions . Overall , with the exception of the severe beach erosion , damage was minimal .

= = = Northeast United States = = =

Tropical Storm Danielle dropped light rainfall across much of New Jersey , with some areas in the southwestern portion of the state experiencing over 3 inches (76 mm) . Strong waves from the storm washed out miles of beaches along the coastline . In Ocean City , the waves passed over the boardwalk and into houses . Further north , the waves crashed a four @-@ person , 35 @-@ foot (10 @-@ m) sailboat near Island Beach State Park . Two managed to swim safely to shore , though the other two occupants drowned .

Danielle 's outer bands dropped light rainfall from Connecticut through Maine , with isolated

locations in Rhode Island and Massachusetts reporting over 3 inches (76 mm) . Damage in New England is unknown .

= ? *Nycticebus linglom* =

? *Nycticebus linglom* is a fossil strepsirrhine primate from the Miocene of Thailand . Known only from a single tooth , an upper third molar , it is thought to be related to the living slow lorises (genus *Nycticebus*) , but the material is not sufficient to assign the species to *Nycticebus* with certainty , and the species name therefore uses open nomenclature . With a width of 1 @. @ 82 mm , this tooth is very small for a primate . It is triangular in shape , supported by a single root , and shows three main cusps , in addition to various crests . The absence of a fourth cusp , the hypocone , distinguishes it from various other prosimian primates .

= = Taxonomy = =

? *Nycticebus linglom* was described in 1997 by French paleontologists Pierre Mein and Léonard Ginsburg in a report on the fossil mammals of Li Mae Long , a Miocene site in Thailand . The animal is known from a single tooth , and on the basis of comparisons with other prosimian primates Mein and Ginsburg concluded that it is most closely related to the living slow lorises (genus *Nycticebus*) . However , in view of the very limited material , they only tentatively assigned the fossil species to *Nycticebus* , using open nomenclature . The specific name , *linglom* , is the Thai word for " loris " .

= = Description = =

The single known tooth , a third upper molar (M3) known as T Li 41 , is tiny , with a length of 1 @. @ 29 mm and width of 1 @. @ 82 mm . Mein and Ginsburg claim that it is the smallest known prosimian molar . The tooth is triangular in shape and shows a simple , reduced morphology . Three important cusps ? the protocone , paracone , and metacone ? are present , connected by a crest . They are low and rounded . The metacone , located at the back of the tooth , is closer to the protocone , which is on the front lingual corner (the side of the tongue) , than it is to the paracone on the front labial corner (the side of the cheeks) . The protocone is rounded on the lingual side and is attached to a weak crest on the front and back . On the front labial corner , a lengthy crest , the parastylar crest , is present , which includes a minor cusp known as a parastyle . Some wear is visible on the parastylar crest , and at the front of the tooth a contact facet with the preceding second upper molar is present . The tooth has a single , well @-@ developed root , which contains a number of grooves , suggesting that it consists of three smaller , fused rootlets .

? *Nycticebus linglom* is much smaller than the fossil sivaladapine primates , and unlike tarsier M3s , the single known fossil is reduced in form and lacks a fourth main cusp , a hypocone . With its reduced , triangular form , it more closely resembles lorises (family Lorisidae) , but the absence of a hypocone also distinguishes it from the slender lorises (*Loris*) , the angwantibos (*Arctocebus*) , and the pygmy slow loris (*Nycticebus pygmaeus*) . The fossil genus *Nycticeboides* lacks the rounded lingual face of the protocone seen in ? *N. linglom* and possesses additional cuspules . However , ? *N. linglom* strongly resembles the Bengal slow loris (*Nycticebus bengalensis*) , from which it is distinguished by its smaller size and fused roots .

= = Range and ecology = =

Li Mae Long , the collection site of ? *N. linglom* , is dated to the latest Early Miocene , corresponding to the European zone MN 4 , around 18 mya . It is in the Thai province of Lamphun . The fossil fauna encompasses 34 species of mammals , including the tarsier *Tarsius thailandica* and the treeshrew *Tupaia miocenica* . Mein and Ginsburg conclude that the fauna represents a tropical forest environment close to a shallow lake .

