

= Tropical Storm Henri ( 2003 ) =

Tropical Storm Henri was a weak tropical storm that formed in the 2003 Atlantic hurricane season . The eighth storm of the season , Henri was one of six tropical cyclones to hit the United States in the year . Henri formed from a tropical wave in the Gulf of Mexico in early September , and crossed over Florida as a tropical depression . Its remnants later moved into the Mid @-@ Atlantic before dissipating completely .

Henri caused little damage as a tropical cyclone . In Florida , it dropped heavy rainfall , though damage was limited to minor flooding damage . In Delaware and Pennsylvania , damage was greater , where heavy rainfall damaged hundreds of houses and businesses . The resulting floods in Delaware were described as a 1 in 500 year event . The total damage by Henri along its path amounted to \$ 19 @.@ 6 million ( 2003 USD , \$ 21 @.@ 5 million 2006 USD ) , but no deaths were reported .

= = Meteorological history = =

On August 22 , a tropical wave moved off the coast of Africa , and it moved westward across the Atlantic Ocean and Caribbean Sea without developing significantly . On September 1 the wave axis entered the Gulf of Mexico , and upon doing so convection steadily organized around a low @-@ level center of circulation . The system moved northward and developed into Tropical Depression Twelve on September 3 while located about 300 miles ( 480 kilometers ) west of Tampa , Florida . Embedded within a slow mid @-@ latitude trough , the depression moved eastward and strengthened into Tropical Storm Henri on September 5 .

Despite strong southwesterly vertical shear , Henri continued intensifying while moving eastward , and reached a peak strength of 60 mph ( 95 km / h ) later on September 5 . Shortly thereafter , though , the shear greatly weakened the storm , and it was downgraded to a tropical depression . Henri was not able to recover its intensity , and made landfall near Clearwater , Florida on September 6 as a 35 mph ( 55 km / h ) tropical depression , and quickly crossed the state as it accelerated to the northeast . Despite initial predictions of re @-@ intensification over open waters due to potentially lower shear , Henri failed to re @-@ strengthen and degenerated into a remnant low pressure area on September 8 off the coast of North Carolina .

The broad and disorganized remnant low remained nearly stationary due to a ridge of high pressure to its north . Residual convection within the remnants of Henri remained disorganized , but forecasters kept watch for the potential for redevelopment . However , it moved inland near Cape Hatteras on September 12 without reorganizing . The remnants continued to the north and dissipated on September 17 over New England .

= = Preparations = =

The National Hurricane Center issued a Tropical Storm Warning from Englewood to Indian Pass , Florida while Henri was a tropical depression ; however , warnings were discontinued by the time Henri made landfall . Flood warnings were issued across the state prior to the storm making landfall , with predictions of 5 to 10 inches ( 125 ? 255 mm ) of rainfall . As a result of the storm 's approach , twelve shelters were placed on standby . Similarly , the Hurricane Shelter Information Hotline was placed on standby and ready to be activated within 10 minutes . Levy County officials declared a state of emergency . There , sand bags and sand were sent to Cedar Key , Yankeetown , and Inglis in anticipation for storm surge and flooding .

= = Impact = =

Henri dropped heavy rainfall along its path , with the worst of the flooding occurring in Delaware . The storm caused \$ 19 @.@ 6 million in damage ( 2003 USD ) , primarily in Delaware .

== Florida , Bahamas , and Bermuda ==

Prior to making landfall , the storm produced strong waves on the Florida west coast . Following a summer of tropical moisture in Florida , Henri brought more heavy rainfall to the saturated state , peaking at 9 @. @ 09 in ( 230 mm ) in Hialeah in the southeast portion of the state . Two other areas experienced over 7 in ( 180 mm ) , though most areas received only light rainfall . In Hernando County , a stationary thunderstorm dropped over 5 in ( 125 mm ) of rain in around an hour . It caused a rapid flooding of roads , though quickly retreated . Damage was minor , due to lack of many homes in the area . A feeder band in Charlotte County dropped 7 in ( 180 mm ) of rain in three hours , flooding numerous streets and homes . Throughout Florida , damage was minimal , and there were no deaths . However , lightning from a feeder band injured a man in Lee County , while an indirect injury occurred from a car crash due to hydroplaning .

In the Bahamas , outer rainbands from Henri dropped around 1 inch ( 25 mm ) of rain . Winds in the archipelago gusted to 32 mph ( 51 km / h ) . Just days after Hurricane Fabian struck Bermuda , moisture from Henri brought thunderstorms and heavy rainfall and thunderstorms totaling to 2 @. @ 44 inches ( 62 mm ) at the airport . This hindered cleanup efforts , though caused no known damage .

== Mid @-@ Atlantic ==

In North Carolina , Virginia , and Maryland , rainfall was generally light , with the exception of a few areas receiving over 3 inches ( 75 mm ) . Henri produced greater amounts of rain in Delaware and Pennsylvania , with a peak of 9 @. @ 02 in ( 229 mm ) in Hockessin . In Downingtown , Pennsylvania , over eight inches ( 203 mm ) of rain fell in around six hours , while Doppler Radar estimated that Kennett Square received over 10 inches ( 255 mm ) in a five @-@ hour period . The heavy rainfall led to record discharge rates along the Red Clay Creek , which also had a record crest peaking at just below 26 feet ( 8 m ) . Parts of the creek saw a 500 @-@ year flood , which has a 0 @. @ 2 % chance of occurring in any given year . Numerous rivers in southeastern Pennsylvania also crested above their flood stage .

In Delaware , the flooding damaged numerous houses , including 194 in the Glenville area . The rapid flooding trapped numerous people in their cars and homes , forcing at least one rescue by helicopter . Those people were evacuated to nearby schools . The severe flooding washed out most of a bridge in Hockessin and destroyed 6 Wilmington & Western Railroad bridges , causing about \$ 5 million ( 2003 USD , \$ 5 @. @ 5 million 2006 USD ) in damage . The railroad bridges were still being rebuilt as of 2006 . Greenbank Mill , a historic gristmill complex , saw \$ 450 @, @ 000 in damage . Damage in Delaware totaled to \$ 16 @. @ 1 million ( 2003 USD , \$ 17 @. @ 5 million 2006 USD ) .

Flash flooding in Pennsylvania resulted in 2 @, @ 600 emergency 911 calls and around 100 rescues for cars or houses . The flooding destroyed 12 homes , and damaged 336 , over half of them severely . Wet soil downed trees and power lines , causing power outages to 109 @, @ 000 PECO Energy customers . High floodwaters damaged 22 bridges and closed 2 indefinitely , while the flooding closed several roads , including a portion of U.S. Highway 1 in Chadds Ford . Damage in Pennsylvania totaled to \$ 3 @. @ 5 million ( 2003 USD , \$ 3 @. @ 8 million 2006 USD ) . The impacts were severely compounded the following week by Hurricane Isabel across the region .

== Aftermath ==

On September 23 , just days after the storm moved through , President George W. Bush declared New Castle County , Delaware as a disaster area following the effects of Henri and later Hurricane Isabel . The declaration designated the affected citizens eligible for grants to pay for temporary housing , house repairs , and serious disaster @-@ related expenses . The declaration also allowed for federal funding for 75 % of the repair cost for replacing public facilities . By two months after the storm , 659 residents had applied for disaster aid through the Federal Emergency Management

Agency ( FEMA ) , totaling to just over \$ 1 million ( 2003 USD , \$ 1 @. @ 1 million 2006 USD ) . 141 small businesses applied for loans , totaling to around \$ 2 @. @ 5 million ( 2003 USD , \$ 2 @. @ 75 million 2006 USD ) . In addition , FEMA received 183 applications for public assistance , which would be used for rebuilding public roads and buildings . Over twenty volunteer organizations met to establish a long @- @ term committee to find resources for disaster recovery needs . One goal sought by the committee was to find a permanent housing solution for every one who was displaced from their houses from the storms . Volunteers also helped remove ruined appliances and furniture to local landfills , totaling to more than 300 tons . State and county governments in Delaware purchased 171 homes following the damage in the Glenville area , the highest number of houses purchased in the state due to storm damage . The house purchasing was done to mitigate the flood damage by restoring the area as a wetland .

On September 26 , President Bush also declared Chester County , Pennsylvania as a disaster area following the damage of Henri , Tropical Storm Isabel , and severe flooding unrelated to either tropical cyclone . By a month after the declaration , 342 homeowners and business owners applied for disaster aid , totaling to around \$ 600 @, @ 000 ( 2003 USD , \$ 660 @, @ 000 2006 USD ) .