

= Tropical Depression Nineteen (1970) =

Tropical Depression Nineteen in 1970 was the wettest known tropical cyclone to affect the United States territory of Puerto Rico . The long @-@ lived depression formed on September 24 just off the west coast of Africa , and for several days maintained a general westward track . It passed through the Lesser Antilles on October 1 , and later stalled in the eastern Caribbean Sea . On October 8 , the depression crossed over the Dominican Republic , and subsequently it accelerated to the northeast . It was declassified as a tropical cyclone on October 12 , although its remnants persisted for another week before dissipating in the westerlies near the Azores .

The depression produced heavy rainfall in the Lesser Antilles , reaching 12 in (300 mm) on Barbados ; it left three deaths and moderate damage on the island . Another death was reported in the United States Virgin Islands . Torrential rainfall on Puerto Rico inflicted heavy damage , totaling \$ 65 million (1970 USD , \$ 380 million 2016 USD) . The highest precipitation total was 41 @.@ 68 in (1 @,@ 059 mm) in Jayuya , of which 17 in (430 mm) fell in a 24 ? hour period . Most of the damage can be attributed to damaged sugar cane and coffee crops . At least 18 people were killed on the island , and the system was considered one of the worst disasters in Puerto Rican history .

= = Meteorological history = =

The origins of the depression were identified as a tropical wave on September 22 over western Africa . The system exited the west coast of Africa the next day , and on September 24 it developed into a tropical depression about 95 mi (153 km) southwest of Conakry , Guinea . The depression moved generally westward , gradually intensifying to attain peak winds of 35 mph (56 km / h) by September 25 . A nearby upper @-@ level trough ? an elongated area of low pressure ? hindered further strengthening , and on October 1 the depression struck the island of Saint Lucia . As it crossed the Lesser Antilles , its winds and barometric pressure approached the values of a tropical storm .

In the Caribbean , the trough caused the depression to slow to a westward drift , resulting in several days of heavy rainfall in the region , particularly Puerto Rico . One forecast on October 5 anticipated a continued westward track toward Jamaica . Instead , the depression turned to the north the next day under the influence of the upper @-@ level westerlies . On October 7 , the depression attained its lowest pressure of 1000 mbar (29 @.@ 53 inHg) , off the southern coast of Hispaniola . The next day , it made landfall in Peravia Province in the Dominican Republic . After crossing the country and exiting into the Atlantic Ocean , the depression accelerated to the northeast , followed by an eastward turn on October 10 before another turn to the northeast . By October 12 , the depression could no longer be classified as a tropical cyclone , although satellite imagery indicated that its remnants continued northeastward . On October 15 the system turned to the west , suppressed by a strong high @-@ pressure area to its north . It re @-@ intensified while crossing through the Azores , attaining a pressure of 994 mbar . It turned to the northwest and was absorbed into the westerlies on October 20 .

= = Preparations , impact , and aftermath = =

Around October 3 , forecasters advised residents on islands from Barbados and St. Vincent through Guadeloupe to prepare for floods , high seas , and gale @-@ force gusts . On October 10 , a warning to be on guard against gusts was issued to owners of light aircraft in Puerto Rico and the Virgin Islands . As it crossed through the islands , the depression produced heavy rainfall , including 8 @.@ 90 in (226 mm) on Saint Lucia , 2 @.@ 19 in (56 mm) on Dominica , and 12 in (300 mm) on Barbados . In the latter island , the depression left 200 people homeless , caused \$ 500 @,@ 000 in damage , and killed three people .

Heavy rains impacted the U.S. Virgin Islands , including a total of 11 @.@ 4 in (290 mm) recorded by the National Park Service on Saint John . The rains caused flooding across the territory , washing out roads and destroying several houses . One boy was swept away by the floodwaters , although

he was rescued by two people . A girl was also swept by the floods and drowned . The desalination plant on Saint Croix was damaged during the floods , temporarily stopping the supply of drinking water ; water from Puerto Rico had to be shipped to provide the 700 @, @ 000 gallons needed daily . On St. Thomas , the main airport was closed for several days .

For six days , the depression dropped rainfall across the northern Caribbean , particularly in Puerto Rico . The highest overall rainfall total was 41 @. @ 68 in (1 @, @ 059 mm) , recorded at a station near Jayuya in the center of the island . This was the highest rainfall total from a tropical cyclone on record in Puerto Rico , surpassing that of the deadly hurricanes of 1928 and 1899 , which produced 29 @. @ 6 in (750 mm) and 23 @. @ 0 in (580 mm) , respectively . The station at Jayuya also recorded 17 in (430 mm) in 24 hours . Four other locations reported over 30 in (760 mm) . Such heavy rainfall caused 20 rivers to swell above flood stages .

The depression left 10 @, @ 000 people homeless across Puerto Rico , with 3 @, @ 000 housed in emergency shelters in San Juan . At least 600 houses were destroyed and another 1 @, @ 000 damaged . Damage was particularly severe in Barceloneta , Aibonito , and Coamo . Across the island , the depression affected at least 40 state roads , with fifteen blocked by landslides , and eleven bridges destroyed . Flooding forced the closure of Puerto Rico Highway 2 between Manatí and Barceloneta . The depression left more than \$ 40 million (1970 USD , \$ 234 million 2016 USD) in crop damage , primarily to sugarcane and coffee , as reported by William R. Poage , the chair of the House Agricultural Committee . Throughout Puerto Rico , the depression caused damage estimated at \$ 65 million (1970 USD , \$ 380 million 2016 USD) , as well as at least 18 confirmed fatalities . A reported six months after the depression indicated there were 34 people missing , although their status is unknown .

In the aftermath of the disaster , Luis A. Ferré , the Governor of Puerto Rico , declared a state of emergency over the whole island , asking for \$ 10 million (1970 USD) in federal aid . On October 12 , two days after the rains subsided , President Richard Nixon declared the territory as a disaster area . Ferre also appeared in a telethon to raise funds for the homeless . The National Guard , the Red Cross , and other volunteer groups helped the displaced persons . In all , the disaster was described as one of the worst in Puerto Rico history . The Governor of the Virgin Islands , Melvin Evans , requested aid similar to Puerto Rico , and that territory was also declared a federal disaster area about a week after the rains ended . The heavy rainfall in the Virgin Islands caused a marked dinoflagellate algal bloom in the days after the rains ended .