History of Hurricanes and Floods in Jamaica

Between the beginning of the hurricane season in June until the end of the season in November, an average of ten (10) tropical storms are formed, some of which develop into hurricanes. Therefore, countries within the hurricane zone, including Jamaica have been subject to the effects of this destructive force. The records of the Meteorological Service of Jamaica show that hurricanes are a recurring threat to Jamaica and the heavy winds and rains associated with these natural disasters have often left Jamaica with lingering effects like flooding and landslides. The earliest reference to a hurricane in Jamaica dates back to 1559, when a hurricane caused severe damage to the island's infrastructure.

Highlighted below are some hurricanes/tropical storms that have affected Jamaica since the 18th century.

18th century

1722 August 28

- The Jamaica Weather Report of 1915, reported that the entire island was damaged due to the hurricane of 1722
- The eye of the storm passed over Port Royal, causing serious damage and the water in Port Royal rose 16 feet above its usual level
- Most of the buildings in Kingston were either damaged or completely destroyed
- About 5% of the town was in ruins and plantations all over the island were severely destroyed
- Of the 50 vessels that were in the port, only 4 military personnel within those vessels, were spared
- Approximately 400 lives were lost

1726 October 22

- Hurricane affected the east end of the island
- Historian Edward Long (146) stated that several houses in Kingston, Spanish Town and Port Royal had been blown down
- 50 vessels had either sunk or been wrecked

1744 October 20

- Described in Long (146) as a "great hurricane" which damaged the whole island
- 104 ships wrecked in harbor
- A new fort at Mosquito Point (now Fort Augusta) was entirely destroyed
- All wharves at Port Royal, Kingston, Passage Fort and Old Harbour were destroyed and most of the goods at these wharves being swept away by flood rains
- After the passing of the hurricane, disease broke out resulting in the loss of more lives

1780 October 3

- Southern Jamaica worst affected
- High waves destroyed houses along the south coast
- William Beckford (1790) reported that during this hurricane the entire island was affected but the town of Savanna-la-Mar in Westmoreland was destroyed and south-western Jamaica was hardest hit
- An earthquake followed the passing of this hurricane

1786 October 20

- There was a storm followed by a great scarcity of food
- Due to the succession of hurricanes and fires, a law was passed entitled "An Act for the Further Raising and Establishing the Credit of this Island, and for Preventing Vexatious Suits at Law," 1788

19th century

1812 October 12-14

- The Jamaica Physical Journal (1835) states that the entire island was affected by a large cyclone
- In Kingston and Savanna-la-mar many houses and fences were blown down
- Boats and other vessels were either destroyed or driven ashore
- The hurricane of 1812 was accompanied by a severe earthquake

1813 August 1

- Shipping ports in Kingston were greatly affected by the storm
- Buildings were also damaged in Kingston (Jamaica Courant, Aug. 2-9, 1813 and Edwards, 1793)

1813 August 28

- Savanna-la-mar was badly affected
- Storm resulted in the wreckage of several vessels in Savanna-la-mar

1815 October 18-19

- According to the Jamaica Physical Journal (1835) and the Weather Report no. 352, (1908), the eastern section of the island was affected
- Heavy rains in eastern Jamaica led to much flooding
- There was great destruction of houses in St. George and St. David

1874 September 1

- Kingston, St. Andrew, St. Ann and St. Mary worst hit
- The Daily Gleaner and Daily News reported (November 1874) that many houses, churches and other buildings sustained real damage. Iron bridges became twisted under the pressure of the heavy winds and whole villages with mud cottages were washed away
- Yams, sugar canes, plantain vegetations were destroyed throughout island
- More than 24 vessels had either sunk, been grounded or suffered serious damage

- 5 persons were killed
- Damage estimated at £75,000

1880 August 18

- Described as "great hurricane" in the Jamaica Weather Report no. 449, (1915)
- Two cyclones were said to have damaged the eastern side of the island
- Due to flooding, 5 persons drowned and 25 perished among fallen houses
- There was damage to crops, wharves and shipping areas in Kingston

1886 June 27 & August 19-20

- The first storm affected eastern Jamaica
- The second hurricane to pass on the 19th and 20th was a direct hit to Jamaica and the centre passed from eastern Jamaica to Montego Bay (Jamaica Weather Report no. 67 and 69)

20th century

1903 August 11

- Cyclone damaged north side and other areas of the island
- There were 65 reported deaths and damages assessed at £125,000
- £50,000 spent in relief loans. Trinidad contributed £1,000



Ebenezer Wesleyan Church in Morant Bay, after hurricane in 1903 (National Library of Jamaica Photo collection)

1904 June 13

- Storm resulted in heavy rains over the western end of the island
- Montego Bay bridge was destroyed due to flooding and winds (Weather Report vol. iv- Introduction)

1912 November 10-18

- The Jamaica Weather Report for the month of November, 1912 no. 411 (pages 1-3) states that due to a cyclone, heavy rains fell over the north-eastern part of the island in St. Thomas, Portland, St. Andrew, and St. Mary on the 10th, 11th and 12th of November 1912
- On the 14th of November, a cablegram was received stating that there was a second depression located south-west of Kingston
- By the 18th of November, both cyclones had produced a hurricane and resulted in a "furious" hurricane which created severe weather conditions in Montego Bay and Kempshot in St. James
- North-west side of island was worst affected and there was severe flooding
- A total of 100 persons died with 42 of that number being from Montego Bay
- There was a tidal wave in Savanna-la-Mar that did great damage. Lucea and Green Island were considerably damaged

- No estimate of total damages found but separate estimates for items such as houses, schools etc. can be found in the Minutes of the Honourable Legislative Council, 17 Dec. 1912

1915 August 12-13

- "Report on the Hurricane of August 12th and 13th" (1915) no. 446 p. 2-4 stated that the centre of the hurricane passed over Buff Bay in St. Mary. In Port Maria between 250 and 300 persons were rendered homeless. The Town Hall and Court House had to be resorted to for shelter
- Much damage was done to wharves in St. Mary
- Considerable damage was done to Oracabessa and Ocho Rios and the wharves and wharf houses were damaged in St. Ann's Bay and Falmouth
- Houses on the sea coast were either destroyed or lifted up and carried away
- The most severe damage with regards to roads was to those along the sea coast
- About 200 yards of the railway track outside of Buff Bay was completely destroyed
- All towns on the northern coast were destroyed
- Total of 11 deaths
- 80-90% of banana crops were lost and the total spent on repair of damages was £57,692 (Minutes of the Honourable Legislative Council)

1915 September 24-25

- Heavy rains, winds and thunderstorms were experienced at Kempshot, Montego Bay, Lucea and Negril
- The centre of the storm was located south of Jamaica
- Banana fields were greatly damaged
- Rio Minho and Thomas River in Clarendon became full resulting in flooding
- There was also a severe thunderstorm in Clarendon that lasted for 3 hours
- There was some loss of life due to flooding (Weather Report no. 447 September 1915) p.5-6

1916 August 15-16

- South Coast worst hit
- Death toll was 17 and thousands were left homeless
- There was much damage to banana, cocoa and coconut trees. Banana crops were totally destroyed all over the island
- Government devoted £21,000 for relief works(Jamaica Weather Report no. 460 p.1)

1917 September 23

- Great damage to the northern part of Jamaica
- 57 persons died, thousands injured and homeless
- Many communities were destroyed and the eye of the hurricane was said to have passed between Kingston and Port Antonio
- The system had two small centres and these passed along the entire length of the island
 - (Jamaica Weather Report no. 474: Hurricane of September 23rd 1917, p. 1)

1932 November 8

- Government meteorologist J.F. Brennan (5-6) reported that banana crops were 70% destroyed
- The northern side of the island where the banana cultivation was most extensive suffered significant loss due to continuous winds and waves
- High waves also caused serious damage to piers and wharf buildings near to the sea front at Montego Bay, Morant Bay, Savanna- la- mar, Port Antonio among others
- Mains roads, especially those along the sea front, were heavily damaged and repair cost was estimated at £50,000
- There was no report of loss of life(J.F. Brennan in Jamaica Weather Report, November 1932)

1933 October 28-30

- Western parishes St. Elizabeth, Westmoreland, Hanover and St. James worst affected. Districts in these parishes became flooded due to heavy rainfall
- 10 persons died- six from Southfield in St. Elizabeth and three seamen who drowned after the vessel A.H.S. sank near Black River
- Total cost of repairs to the Rio Cobre irrigation system and other damages to buildings, infrastructure and roads as a result of hurricane and floods £680,336
- The St. Mary's church and Rectory in St. Elizabeth were among buildings badly damaged and a large percentage of small habitations of the peasantry at Southfield were swept away and thousands were left homeless
- In areas near the storm's centre banana losses were reported as 100% (A report on the Hurricane of Western Jamaica, October 29th, 1933 by J.F Brennan 1934 no. 685 p.1-6)

1944 August 20

- This unnamed hurricane destroyed 40% of the coconut crop
- Hurricane came after months of drought when the agricultural industry was recovering, so the hurricane and its associated floods were especially damaging
- In St. Thomas, the majority of the coffee and pimento crops were destroyed

1950 October 15-16 Hurricane Jig

- Passed near the west of the island
- Heavy rains caused flooding in central and western parishes which created "sinking-land" in some communities
- The town of Lucea in Hanover was turned into a lake and the town of Cave Valley, a major commercial centre on the border of St. Ann and Clarendon was flooded with waters reaching fifty (50) feet in some places.
- All crops in the land were damaged with banana cultivation suffering the heaviest loss

1951 August 17- 18 Hurricane Charlie

- Reports published in the media stated that the whole island was affected but the south coast was hit hardest
- 154 confirmed dead (including 57 in St. Thomas & 54 in the Corporate area) and 2,000 injured; over 9000 were left homeless
- There was considerable damage to shipping in the Kingston Harbour and five large vessels were driven ashore
- Banana and other food crops were destroyed, coconut plantations and citrus groves perished
- The British government assisted Jamaica by giving grants and interest free loans. Aid came from the United States Army, the United States Red Cross, Trinidad, Dominican Republic, Cuba and many other organizations
- Following the passing of the hurricane, heavy rainfall continued which resulted in numerous landslides across the island
- 80% of Morant Bay was destroyed and several other communities were wiped out

1954 October 5-18 Hurricane Hazel

- Affected Portland, St. Thomas, parts of St. Mary, Kingston, St. Catherine and the midland sections right across the island. There were widespread rains in Eastern Jamaica and 32 deaths as a result of heavy rains and flooding
- The sea invaded many towns and villages on the north coast and banana crops and more than 40% of coconut crops over the island were destroyed

1955 September 26 - 27 Hurricane Janet

- Caused island wide rains which lasted ten days
- Led to flooding all over the island
- Port Maria was declared a disaster area

1958 Tropical Storm Gerda

- Passed along the far north-eastern section of Jamaica and did not pose a serious threat to the island
- Caused flooding on the north coast
- Moderate winds and rains associated with Gerda did not cause any major damage

1963 October 5 - 7 Hurricane Flora

- Affected eastern half of island
- At this time, rains from Hurricane Flora were the heaviest rains for the century and in the recorded history of Jamaica
- The Corporate area was flooded by the continuous downpour. The Sandy Gully drainage scheme was ripped wide open in places
- Rivers had overflowed causing flooding to hundreds of houses. Even some police stations had to be evacuated. Buff Bay River had overflowed its banks and as a result the entire town of Buff Bay was flooded
- It brought damage to crops, livestock and properties banana cultivations were leveled in St. Mary, Portland, St. Thomas, St. Catherine and St. Ann
- As a result of winds and flooding, communication was disrupted.
- Resulted in 11 deaths
- Damages estimated at \$12 million

1964 August 25 Hurricane Cleo

- Affected northeastern coast of island
- A St. Thomas port worker drowned after the canoe in which he was travelling overturned
- 124 were killed in Haiti, 14 in Guadeloupe and 50 in Cuba, but no major damage reported in Jamaica

1967 September 12 Hurricane Beulah

- Passed along south-west Jamaica
- Impact was expected to be greater but the hurricane changed course and Jamaica was spared
- Weather conditions were not significantly changed and hurricane was downgraded to Tropical Storm and eventually a Tropical Disturbance

1973 October 19 Tropical Storm Gilda

- There were three days of rains which resulted in severe flooding
- Bridges collapsed, many homes were damaged and hundreds of families were left homeless
- As a result of flooding, there were six deaths by drowning

1974 August 31 Hurricane Carmen

- Flood rains mostly affected the south coast
- Banana crops were worst affected
- A fair percentage of trees and crops in St. Mary, Portland and St. Thomas were destroyed

1978 September 2 Hurricane David

- Affected easterly half of the island
- Heavy rains and flooding

19**7**9 June 12 Flood

- Flooding took place after a five month period of above normal rainfall
- Rainfall was due to a Tropical Depression
- There were 42 deaths (31 from Westmoreland)
- Nearly 160,000 persons were affected with up to 40,000 being left homeless and 50,000 suffering significant losses
- Roads, buildings, water supply systems, bridges, agricultural crops and livestock were most affected in Westmoreland, Hanover, St. James and Trelawny
- Sewerage plants and graves were washed out and there was concern that another typhoid outbreak would occur

The Office of Disaster Preparedness (ODPEM)

After the June 12, 1979 floods, which devastated sections of western Jamaica, the Government of Jamaica recognized the need for the establishment of a permanent disaster preparedness and relief organization, which would be responsible for coordinating, monitoring and educating the nation on disasters and disaster events. The Office of Disaster Preparedness was set up in 1980 to raise a consciousness among Jamaicans regarding hurricanes and other disasters.

1980 August Hurricane Allen

- Caused 8 deaths and an estimated 200 million dollars worth of damage
- Hardest hit areas along north coast
- Banana crops destroyed
- 4000-5000 left homeless

1988 September 12: Hurricane Gilbert "Wild Gilbert"

- Hurricane Gilbert was the seventh named storm of 1988. It was a direct hit to Iamaica

- Hurricane winds lasted approximately 10 to 12 hours with the eye passing directly over the country
- Jamaica's banana industry lost some 400 million in export earnings
- The entire 7,500 acres of the crop of export bananas had been wiped out



St. Thomas Parish Library after Hurricane Gilbert, 1988

- Tourism and mining industry were also disrupted, a fact that gave rise to income losses and decreased foreign exchange earnings
- Hundreds were left homeless and thousands were forced to seek refuge in emergency shelters which soon became overcrowded. Many designated shelters were destroyed by the hurricanes
- Number of deaths was low considering the intensity of the hurricane, with only 45 dead in Jamaica and hardly any injured.
- It was the first hurricane that had direct impact to the island since 1951
- Flooding, massive food shortage. Floods were perhaps more damaging than the winds. Food stores and supermarkets were looted. Over 51.2 million worth of goods were stolen following Gilbert. Of this amount, police recovered an assortment of goods valued at some 2.5 million
- Under the special provisions of the Suppression of Crimes Act, the city of Kingston was put under curfew
- Many roads were blocked
- Estimated damage totaling US \$800 million
- Hardest hit were the nation's houses, with an estimated one-fifth of the total houses in Jamaica either wrecked or severely damaged

21st century

2001 Hurricane Michelle

- Category 4 hurricane
- Cost the country 2.52 billion
- Transport industry was worst affected with much damage being done to roadways
- Two deaths were reported due to flooding caused by heavy rains
- Flash flooding and mudslides were reported to have caused damage to properties

2004 August 11 Hurricane Charley

- One man killed when he was swept away by flood waters
- Estimated cost of road repairs in worst affected parishes was \$7 million. St. Elizabeth was hardest hit and accounted for 12 of the 32 damaged road sections
- Manchester, St. Ann, Westmoreland, St. Mary, Trelawny and St. Elizabeth were the worst affected parishes
- Due to damage to the agricultural industry the prices of some condiments rose
- Strong winds and rains caused damage to utility poles and infrastructure

2004 September 10-12 Hurricane Ivan

- Hurricane Ivan was a Category 4 hurricane when it made landfall September 10 and became Category 5 by September 11.
- Communities in some parishes were badly damaged. The Portland Cottage community in Clarendon was completely destroyed
- Over 18,000 persons were left homeless and 17 persons were killed
- Roads were washed away due to mudslides and flooding.
- Rivers and other water bodies overflowed their banks resulting in damage to roads and infrastructure

For more information:

<u>Macro-Socio-Economic and Environmental Assessment of the Damage done by Hurricane Ivan Sept</u> <u>10-12, 2004</u>

2005 Hurricanes Dennis & Emily

- These hurricanes resulted in a total damage of \$5.98 billion
- Majority of damage was done to the transportation industry, where roads and bridges were badly affected
- There were seven (7) reported fatalities and hundreds of thousands of persons suffered dislocation as a result of these two hurricanes

For more information:

Assessment of the Socio-Economic and Environmental Impact of Hurricanes Dennis and Emily on <u>Jamaica</u>

2005 October 17-18 Hurricane Wilma

- This was the 12th hurricane of the 2005 hurricane season and its centre was located south-west of Jamaica
- There were twelve injuries and one fatality- a man who drowned in the Birds Hill area of Clarendon
- Bands of rainfall associated with the system persisted over the island for a period of eight (8) days. Moderate to heavy showers affected the entire island
- This resulted in flooding which led to major damage to bridges, roadways and infrastructure.
- All major industries were also affected by flood rains

For more information:

<u>Assessment of the Socio-Economic and Environmental Impact of Hurricane Wilma on Jamaica</u>

2007 August 19 Hurricane Dean

- It was the first major hurricane and first category five of Atlantic season,2007
- Most intense since hurricane Wilma of 2005 and ninth most intense Atlantic hurricane ever recorded and third most intense to ever hit landfall at the time
- 4 lives lost, 500 injured
- Five areas worst hit were: Portland Cottage and Rocky Point in Clarendon, Old Harbour Bay in St. Catherine, and Caribbean Terrace and Bull Bay in Kingston & St. Andrew
- Majority of damage was to Clarendon with 56% of the parish being damaged, followed by St. Catherine and Kingston & St. Andrew
- Losses to the housing sector was over 5 billion. 29,000 housing units damaged across the island (2,854 units were totally destroyed, 12,905 sustained major damage and 13,511 had minor damages)
- Approximately 1 billion in damages to the agricultural sector
- 700 million in damages to education sector and 168 million for health
- 23.8 billion total

For more information:

Assessment of the Socio-economic and Environmental Impact of Hurricane Dean on Jamaica

2008 Tropical Storm Nicole

- Resulted in island wide flooding
- Sandy Gully near Liguanea, St. Andrew felt the greatest impact
- Rainfall measurements showed over 100 millimeters of rain over a 12 hour period
- 13 dead (including three Norbrook construction workers who were killed after a wall collapsed on a shed in which they were sleeping at the time and a five year old girl who was crushed to death by a tree limb that crashed down on the board house that she lived in
- Roughly 40% of population was without power after storm
- The Savanna-la-Mar Baptist church in Westmoreland, which was built in 1829 was destroyed
- Some waters rose higher than 27 feet
- Nicole left Jamaica with a repair bill of more than \$10 billion, more than 150 homes damaged and over 200 communities surrounded by water

For more information:

Jamaica Macro Socio-Economic and Environmental Assessment of the Damage and Loss caused by Tropical Depression no. 16/Tropical Storm Nicole

2008 August 29 - Tropical Storm Gustav

- Resulted in flooding and landslides in some areas
- McGregor Gully in the Vineyard Town area in Kingston overflowed its banks which resulted in widespread flooding in the area
- Harbour View bridge collapsed
- Some men and boys who claimed to be familiar with the workings of the river made business charging money for assistance to get across the waters. Those who did not want to get wet could pay an extra amount to be carried and the price would be increased depending on your body weight and if you needed any additional items to be carried across
- Several houses washed away
- 10 died
- Some roads were inaccessible, water and electricity cut off in some areas

For more information:

Assessment of the Socio-Economic and Environmental Impact of Tropical Storm Gustav on Jamaica

2012 October Hurricane Sandy

- Category 1
- Eastern end of the country worst affected
- Several homes, business places, schools, churches, farms and roads suffered severe to minor damage
- 85% of Jamaica Producers' banana crop was destroyed which resulted in the disruption in the related snack business

For more information:

Jamaica Macro Socio-Economic and Environmental Assessment of the Damage and Loss Caused by Hurricane Sandy

Newspaper Sources Consulted:

- Jamaica Record
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- Jamaica General Advertiser
- Daily Gleaner
- Jamaica Guardian

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