



ANNUAL SEVERE WEATHER SUMMARY FOR 2019

METEOROLOGICAL SERVICE, JAMAICA



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Jamaica's General Weather Pattern

Typically Cold Fronts that traverse from the North American continent to the Caribbean region including Jamaica are evident from mid-October to mid-April; whilst the Tropical Weather Systems namely Tropical Waves, Tropical Depressions, Tropical Storms and Hurricanes occur from April to December. The official hurricane season however, is from June to November. Jamaica's bimodal rainfall pattern consists of two peak periods, the primary peak occurs in October and the secondary peak is usually observed in May. The lowest amounts of rainfall (dry period) are at a minimum during the period of February to March and the month of July.

Summary of Severe Weather Events in 2019

Surface Troughs and Tropical Waves were the two main significant features that impacted the island during 2019 and resulted in severe weather conditions across sections of the island as captured in Figure 1. These severe weather events varied in the reports of impacts which affected the island and includes flooding, landslides, lightning activity, blocked roadways and damages to property and infrastructure. There were also, isolated reports of damages caused by strong winds (microburst/freak storm). At least one death was reported from a lightning strike and a flooding incident respectively.

During the year Meteorological Drought conditions were observed across sections of the island for at least ten of the 12 bi-monthly periods. Table 1 shows the various severe weather features and events, the reported impacts caused by each event and the parishes or areas which were affected. The most extensive severe weather event was that of May 23-30, which was associated with a Mid to Upper-level Trough across Jamaica, as well as an area of Low Pressure that had briefly formed over the southern Caribbean Sea.

Meteorological Drought

Meteorological drought which is reported on a parish level over a bi-monthly period, was experienced throughout the year across sections of the island except, during the August/September and September/October periods. St. Mary and Portland were the parishes that recorded the most bi-monthly periods of meteorological drought conditions as seen in Figure 2. The parishes which experienced the least number of bi-monthly periods of drought conditions were St. Catherine and St. Thomas. Generally parishes in the eastern part of the island were affected more frequent by drought conditions however, other parishes experienced varying levels of dryness, with possible localized drought conditions.

Temperature

Globally, June and July 2019 were reported as being the hottest months on record, with June temperatures ranging about 0.10°C (or 0.18°F) higher than that of the previous record of June 2016, based on data from the National Oceanic and Atmospheric Administration (NOAA) in the United States. During June and July 2019, extreme temperatures were at times significantly higher in at some locations across the island when compared to last year (2018). For example, Shortwood Teachers' College recorded an extreme temperature of 39.1°C on June 22, 2019, compared to 36.0 °C on June 26, 2018. These unprecedented temperatures that were observed across sections of the island in June, could have been attributed to the presence of the Saharan Dust Layer (SAL), little or no cloud cover and a strong High Pressure System.

Tropical Cyclones

There was no tropical cyclone that directly impacted the island during the year however, a Surface to Upper Level Trough induced by Hurricane Humberto on September 16 & 17 and Tropical Cyclones Jerry and Karen from September 23 to 26, produced severe weather conditions across the island and in the case of the latter, was responsible for the lone reported weather related fatality in 2019.

Severe Weather Events Reported for 2019			
Date	Weather Feature	Damage/ Impact	Affected parishes/areas
January 9	Surface Trough across Jamaica	Flooding	Sections of St. Andrew, St. Catherine and Clarendon
January 29	Stationary Front just west of Jamaica	Heavy showers which resulted in the diversion of 10 flights to NMIA from Sangster due to low visibility	Westmoreland, Hanover and St. James.
May 23-30	Mid to Upper- Level Trough across the central Caribbean including Jamaica, as well as an area of Low Pressure that developed briefly across the southern Caribbean.	Flooding, landslide and road blockage.	All parishes experienced heavy showers. Flooding occurred in the corporate area on the 23 rd and 24 th , while landslides occurred along the section of Darliston to Whithorn in Westmoreland.
July 8	Tropical Wave interacted with mid-level Trough	Outbreaks of showers and thunderstorms and reports of Freak Storm (possibly microburst).	Showers and thunderstorms across eastern and central parishes and likely microburst in Clarendon and surrounding areas of St. Ann
August 8	Tropical Wave	Outbreaks of showers, thunderstorms and lightning.	Sections of the island including St. Catherine
September 16-17 *	Surface to Upper-Level Trough induced by Hurricane Humberto	Heavy thundershowers and thunderstorms. Lightning struck and injured 4 football players at the National Stadium East Field	Along section of the south parishes from St. Thomas to Manchester.
September 23-26 *	Surface to Upper-Level Trough induced by Tropical cyclones Jerry and Karen	Flooding, landslides and blocked roadways. A 9-year old boy drowned after being washed away by water in a drain/gully on the 25 th .	Eastern and central parishes namely: St. Ann, St. Mary, Portland, St. Thomas, Kingston and St. Andrew, St. Catherine and Clarendon
October 1-2	A broad area of Low Pressure over the western Caribbean including Jamaica	Heavy showers & thunderstorms. Flooding and landslides. Lightning struck a	St. Thomas, Kingston & St. Andrew and Clarendon

		school boy on a football field at the Haile Selassie High School.	
October 9	Tropical Wave	Flooding	Flooding in the vicinity of six miles, Spanish Town Road
November 16-17	Cold Front across the island on the 16 th , which became stationary on the 17 th	Heavy showers, landslide and road blockage.	Flooding in the vicinity of Tinson Pen on the 16 th and a landslide that resulted in blocked roads along Stony Hill to the Parks Road corridor
December 10	High -Pressure Ridge across Jamaica	Landslide and road blockage	The landslide resulted in a blockage of the main road leading to Guava Ridge near Gordon Town in St. Andrew
January- December	El Nino	Meteorological Drought	St. Ann, St. Mary, Portland, St. Thomas, St. Catherine and St. Elizabeth.

Table 1: shows the severe weather events that were reported in 2019.¹

*- Denotes weather events for which Severe Weather Reports were done.

¹ Disclaimer: The information about damages/impacts and affected parishes/areas were those that were reported in the local electronic and/or print media and therefore the Meteorological Service, Jamaica takes no responsibility for the accuracy of the information, save and except for that of Meteorological Drought.

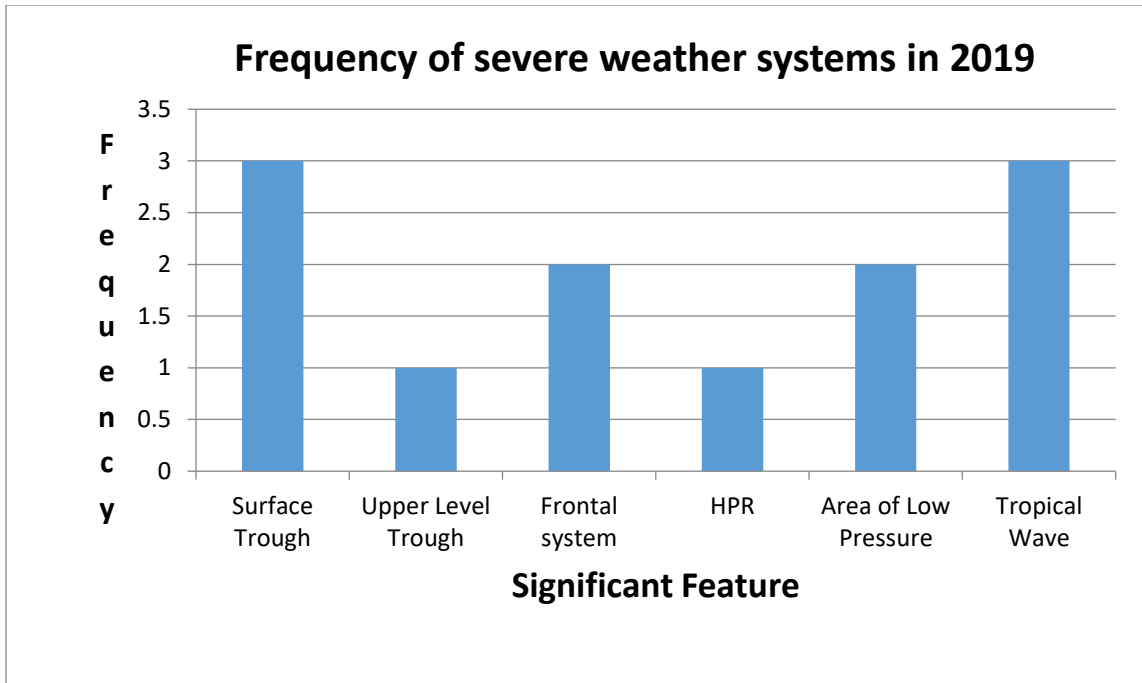


Figure 1: Depicts the severe weather features that impacted the island during 2019

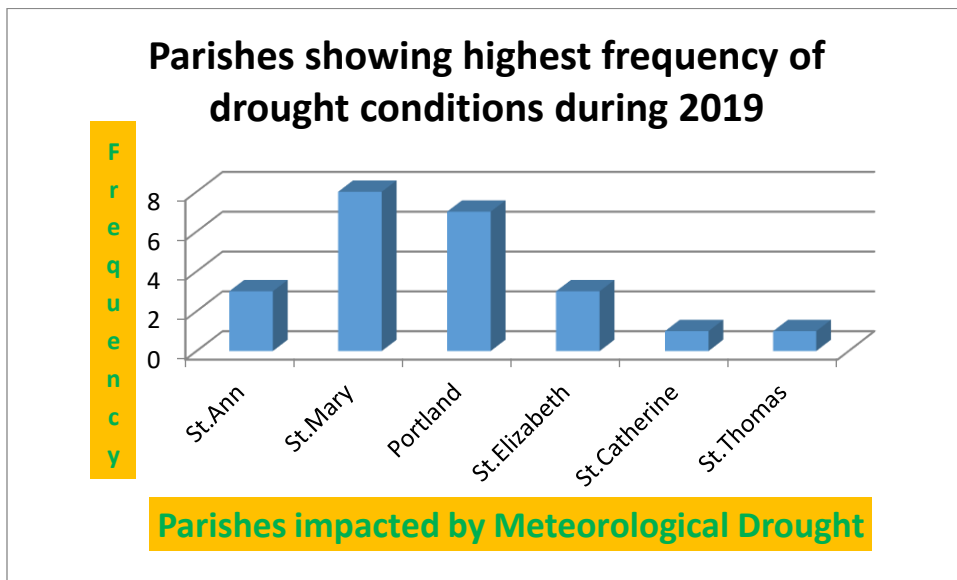


Figure 2: Parishes impacted by Meteorological Drought conditions during 2019