

METEOROLOGICAL SERVICE, JAMAICA

ANNUAL RAINFALL SUMMARY FOR 2019



Introduction

This annual rainfall summary is based on the monthly rainfall summaries that are prepared by the Climate Branch of the Meteorological Service, Jamaica. This summary covers the period January to December 2019. For the purpose of this report Kingston and St. Andrew have been combined as KSA.

Significant Weather Features

Troughs were the dominant weather features throughout the year and accounted for 54% of the monthly period. Troughs were dominant during the following months; January, April, September, October and November. High Pressure Systems (HPSs) accounted for 42% of the period and were dominant during February, March, June and August. All other months had a combination of two or three significant weather features sharing dominance.

Jamaica's Monthly Rainfall

The island's rainfall percentages of the 30-year (1971-2000) mean were above normal on two (2) of the 12 months. These months were March and September and which recorded 126%, and 116% respectively. In general, Jamaica received accumulated rainfall of about 1400 mm in 2019 and this represented 79% of the 30-year (1971-2000) accumulated annual amount.

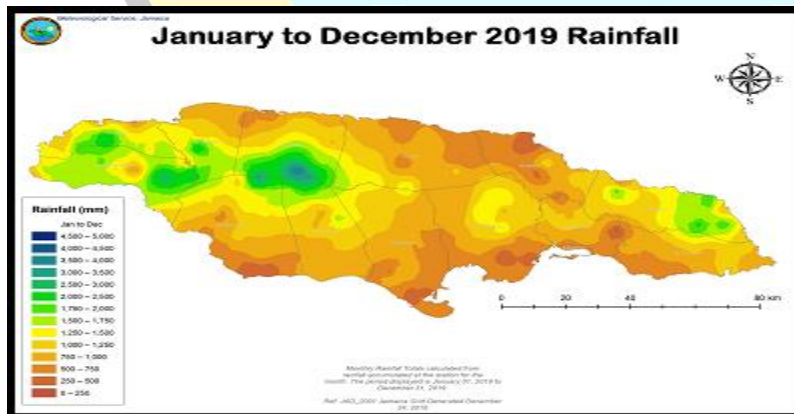


Figure 1. Island Rainfall for 2019



Number of parishes recording normal to above-normal rainfall

The month that had the highest number of parishes recording normal to above-normal rainfall was March with nine (9). This was followed by September with seven (7) parishes and December with six (6) parishes.

Number of parishes recording below-normal rainfall

February was the only month when all thirteen (13) parishes recorded below-normal rainfall. Next was June which recorded twelve (12) parishes, April & October both with eleven (11) parishes and May with ten (10) parishes; completing the list of those months with ten (10) or more of the parish count.

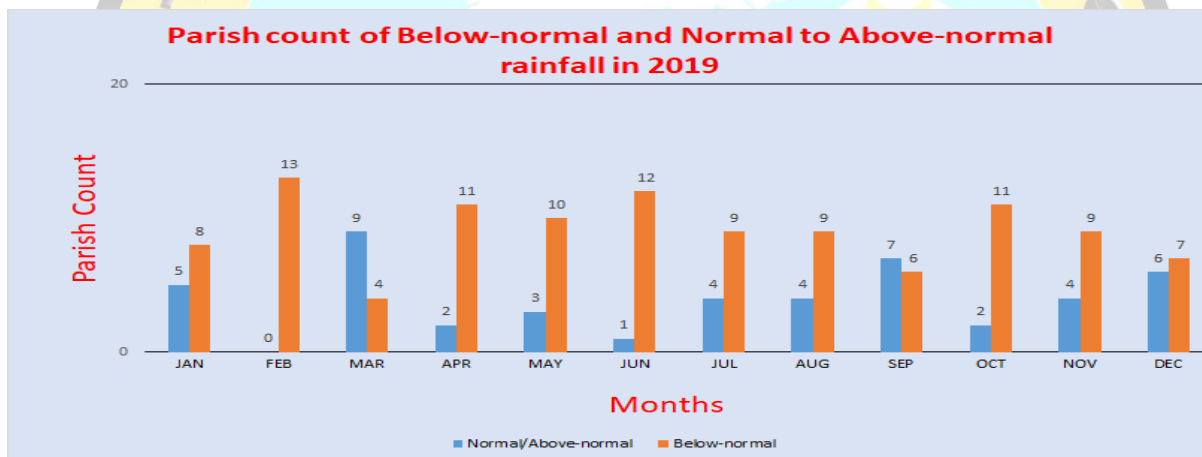


Figure 2. Monthly parish count of above-normal or below-normal rainfall

Meteorological Drought conditions throughout the year

There are twelve (12) bi-monthly periods over which meteorological drought conditions are assessed. There were four (4) bi-monthly periods which recorded three (3) parishes as experiencing drought conditions and these were; December/January, January/February, March/April and June/July. Five (5) other bi-monthly periods had two parishes experiencing drought conditions: one bi-monthly period (May/June) recorded one parish having drought conditions while, the remaining two (2) bi-monthly periods; August/September and September/October had no parish recording drought conditions.



At the parish level St. Mary recorded the highest number of occurrences of meteorological drought conditions with 9 bi-monthly periods, followed by Portland with 7 bi-monthly periods. St. Elizabeth with 3 bi-monthly periods; St. Ann with 2 bi-monthly periods and, St. Catherine & St. Thomas with 1 bi-monthly period each were the other parishes recording drought conditions during the year. Within those periods, St. Mary experienced 7 consecutive bi-monthly periods of drought conditions from December/January to June/July. This was followed by Portland with 4 consecutive bi-monthly periods from December/January to March/April.

Parish/Bi-monthly period	Dec/Jan	Jan/Feb	Feb/Mar	Mar/Apr	Apr/May	May/June	June/July	July/Aug	Aug/Sept	Sept/Oct	Oct/Nov	Nov/Dec	Bi-monthly count
Westmoreland	0.14	0.39	0.72	1.12	0.72	-0.04	-0.34	-0.73	-1.08	-0.41	-0.60	0.59	0
St. Elizabeth	-0.24	-0.62	-0.39	-1.05	-1.77	-0.96	-0.40	-1.90	0.00	0.56	0.09	1.68	3
Manchester	0.49	0.00	0.24	-0.10	-0.76	-1.03	-0.63	-0.69	0.31	0.46	-0.30	0.45	0
Clarendon	-0.08	0.27	0.51	0.21	-0.44	-0.87	-1.12	-1.19	0.21	0.59	0.38	0.66	0
St. Catherine	0.55	0.20	0.93	0.51	-0.89	-1.12	-1.25	-1.94	0.64	0.90	-0.37	-0.43	1
Kgn & St. Andrew	-0.62	-0.49	-0.49	-0.51	-0.54	-0.58	-0.46	-0.69	-0.32	-0.17	-0.27	-0.39	0
St. Thomas	-0.40	-0.54	0.40	0.16	-0.36	-1.09	-1.63	-0.77	-0.66	-0.12	-0.36	-0.64	1
Portland	-1.28	-2.04	-0.85	-1.14	-0.98	-1.04	-1.56	-0.65	-0.73	-1.11	-1.33	-1.42	7
St. Mary	-1.44	-1.73	-0.83	-0.84	-1.15	-1.62	-1.68	-1.01	-0.59	-1.10	-1.22	-1.20	9
St. Ann	-0.94	-1.34	0.00	0.19	-0.64	-1.29	-0.76	0.38	0.97	-0.02	-0.72	-0.61	2
Trelawny	-0.39	-0.12	0.72	1.43	0.57	0.73	0.76	0.70	2.01	1.96	0.77	0.34	0
St. James	0.24	-0.11	0.39	0.37	-0.40	-0.74	-1.07	0.15	-0.08	-0.48	-0.22	-0.61	0
Hanover	-0.59	-0.33	0.57	0.70	0.14	-0.85	-1.11	-0.03	-0.36	-0.84	-0.70	0.04	0
Parish count	3	3	2	3	2	1	3	2	0	0	2	2	

Table 1. Bi-monthly parish SPI values (data in red indicating the occurrence of Meteorological Drought conditions)

SPI Value	Category	SPI Value	Category
0.00 to -0.50	Near-normal (dry)	0.00 to 0.50	Near-normal (wet)
-0.51 to -0.79	Abnormally Dry	0.51 to 0.79	Abnormally Wet
-0.80 to -1.29	Moderately Dry	0.80 to 1.29	Moderately Wet
-1.30 to -1.59	Severely Dry	1.30 to 1.59	Severely Wet
-1.60 to -1.99	Extremely Dry	1.60 to 1.99	Extremely Wet
-2.00 or less	Exceptionally Dry	2.00 or more	Exceptionally Wet

Table 2. Severity Classes of the SPI



Summary

Troughs were the dominant weather features throughout the year. Despite the dominance of Trough throughout the year, there was only one month, September, where Troughs helped to produce more than expected rainfall across the island.

March, which is traditionally the driest month for Jamaica, was in 2019 the wettest month with respect to the island's 30-year (1971-2000) mean rainfall (126%). The month was also when Jamaica recorded the most parishes receiving above-normal rainfall with nine of thirteen. At the end of the year the island had accumulated 1400 millimetres of rainfall and this represented 79% of the 30-year (1971-2000) mean accumulated rainfall.

There were four (4) bi-monthly periods during which three parishes recorded meteorological drought conditions and another 5 bi-monthly periods where two parishes experienced similar conditions. St. Mary recorded the most bi-monthly periods of drought conditions during the year with nine (9), while, Portland recorded eight (8) such occurrences.

