



AGROMET BULLETIN



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HIGHLIGHTS

- ✚ **Seven of thirteen parishes received below-normal rainfall in March.**
- ✚ **No parish experienced drought, however, a few communities in several parishes experienced relatively dry conditions.**
- ✚ **Near normal to above-normal rainfall is forecast for April through June.**
- ✚ **Above-normal temperatures are forecast for the next 3 months.**

Weather Summary March 2018

During the month of March, the weather was dominated mainly by Troughs.

During the month, Sangster International Airport (SIA) in Jamaica's northwest recorded 129.3 mm of rainfall, while Norman Manley International Airport (NMIA) in the southeast recorded 6.5 mm of rainfall. SIA received 243% of its 30-year mean monthly rainfall, while NMIA received about 27% of its mean monthly rainfall. There were five (5) rain days recorded for SIA and two (2) rain days for NMIA. These values were below the monthly means of eleven (11) and five (5) rain days respectively.

The highest maximum temperature recorded for SIA was 32.0 °C (on March 11). A look at the records from 1993 showed that, this value ranks 12th for a March highest maximum temperature, behind the 35.7°C recorded in 2010. Meanwhile, the highest maximum temperature recorded for NMIA was 32.6°C (March 9). This value ranks 7th for a maximum temperature recorded at the station since March 1993; behind the 33.9 °C recorded in 2006.



Standardized Precipitation Index (SPI)

The Standardized Precipitation Index (SPI), developed by T.B. McKee, N.J. Doesken, and J. Kleist in 1993, is a tool used to monitor drought conditions based on precipitation. The SPI can be used to monitor conditions on a variety of time scales namely 1-month, 3-month, 6-month, 9-month and 12-month periods. This temporal flexibility allows the SPI to be useful in both short-term agricultural and long-term hydrological applications by providing early warning of drought and for making assessments on the severity of a drought. The Meteorological Service, Jamaica (MSJ) calculates an observed SPI (see Table 1 and Figure 1) and a forecast SPI (see Figure 2) using a 3-month and 6-month time interval, respectively.

Parish	Station	March Rainfall Total (mm)	Percent of 30-year Mean (%)	Observed SPI for January-February- March
Hanover	Mount Peto	91	78	1.22
Westmoreland	Savanna-La-Mar	7	9	0.11
Westmoreland	Frome	34	39	0.53
Manchester	Sutton	123	119	0.62
St. Elizabeth	Y.S. Estates	80	64	-0.64
St. Elizabeth	Potsdam	97	114	1.15
Clarendon	Beckford Kraal	11	13	0.08
St. Catherine	Tulloch	56	80	0.70
St. Catherine	Worthy Park	22	35	0.40
Trelawny	Orange Valley	No data	No data	No data
St. James	Sangster Airport	129	243	1.14
St. Ann	Cave Valley	86	125	1.13
St. Mary	Hampstead	230	258	2.49
Portland	Shirley Castle	211	71	0.69
St. Thomas	Serge Island	11	15	0.63
KSA	Lawrence Tavern	42	67	0.83
KSA	Palisadoes	7	27	0.30

Table 1: Observed SPI for Selected Stations across Jamaica during the January-March Period.



SPI Value	Category	SPI Value	Category
0.00 to -0.50	Near Normal	0.00 to 0.50	Near Normal
-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

Standardized Precipitation Index Discussion

Based on the SPI figures for the January-March period, 15 of 17 stations across the island, showed near-normal (wet) to exceptionally wet conditions; one station experienced dry condition and one station had no data.

A comparison of the SPI figures for Dec-Feb with those for Jan-Mar shows that:

- Conditions at Hampstead became wetter with the ranking showing exceptionally wet condition.
- Despite changes in their SPI values, several stations were still experiencing wet conditions; they included Mount Peto, Potsdam, Sangster, Cave Valley and Lawrence Tavern, all with moderately wet rankings.
- Stations with abnormally wet rankings were Frome, Sutton, Tulloch, Shirley Castle and Serge Island.
- Y.S. Estates was the only station to record abnormally dry conditions.

In March, four (4) of thirteen (13) parishes received above-normal rainfall, two (2) parishes received normal rainfall and the remaining seven (7) parishes received below-normal rainfall. The parishes receiving above-normal rainfall were, St. Elizabeth, Trelawny, St. Ann and St. Mary, while Portland and Manchester received normal rainfall. Extreme western parishes namely, Hanover and Westmoreland, along with Clarendon, St. Catherine, Kingston & St. Andrew, St. Thomas and St. James were the parishes receiving below-normal rainfall. Despite St. Elizabeth recording slightly above-normal (104%) rainfall, northern sections of the parish experienced dry conditions. In contrast, St. Mary was still experiencing wet conditions.



See Figure 1 below for the graphic representation of observed SPI values for the January-February-March period.

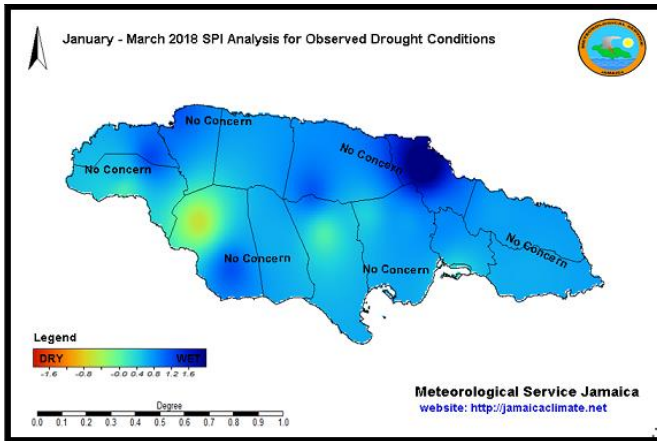


Figure 1: January – March 2018 SPI Analysis for Observed Conditions

The forecast through June, has determined that the island should receive normal to above-normal rainfall during the traditional early wet season. A comparison with previous forecasts is indicating that wetness across the island could still decrease, with some central and western parishes likely to receive less rainfall percentage-wise compared to eastern parishes. While some drying has taken place in some areas of the island since the abnormal rains in January, there are no immediate concerns for this drying to worsen nor to expand, once the forecast is achieved.

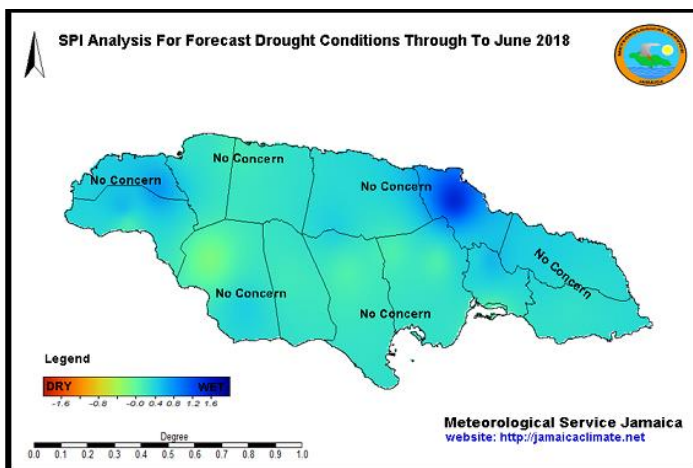


Figure 2: Forecast Drought Conditions through to June 2018



Seasonal Forecast – April to June 2018

The MSJ makes seasonal climate forecasts using the Climate Predictability Tool (CPT). The CPT was developed by the International Research Institute for Climate and Society (IRI) in order to create and communicate seasonal forecasts that address the needs of different user groups.

During the next three months (April-June), the forecast models are indicating that Jamaica should receive normal to above-normal rainfall, during the traditional early rainfall season. The forecast for above-normal temperatures remains consistent for the April-June 2018 period.

	% Below (B)	% Normal (N)	% Above (A)
Jamaica Rainfall Outlook	25	35	40
Jamaica Temperature Outlook	30	30	40
Key A: Above-normal rainfall means greater than 66 percentile of the rank data N: Near-normal rainfall means between 33 and 66 percentile of the rank data B: Below-normal rainfall means below 33 percentile of the rank data			

Table 3: Jamaica Rainfall and Temperature Probability for April to June 2018.

Table 4 below, shows the precipitation outlook for selected stations across Jamaica as analysed by the Climate Predictability Tool for the April to June 2018 period. Ten (10) of seventeen (17) stations are indicating higher probabilities for above-normal rainfall, three (3) stations are indicating higher probabilities for normal rainfall and with the remaining four (4) stations showing higher probabilities for below-normal rainfall.



Stations	Parishes	Below (B) %	Normal (N) %	Above (A)%
Beckford Kraal	Clarendon	40	30	30
Mount Peto	Hanover	20	30	50
Palisadoes	Kingston	40	30	30
Lawrence Tavern	Kingston	33	34	33
Suttons	Manchester	30	30	40
Shirley Castle	Portland	40	30	30
Cave Valley	St. Ann	20	35	45
Tulloch Estate	St. Catherine	40	30	30
Worthy Park	St. Catherine	25	35	40
Y.S. Estate	St. Elizabeth	30	30	40
Potsdam	St. Elizabeth	33	34	33
Sangster Airport	St. James	25	35	40
Serge Island	St. Thomas	30	30	40
Hampstead	St. Mary	33	34	33
Orange Valley	Trelawny	20	35	45
Savanna-La-Mar	Westmoreland	25	35	40
Frome	Westmoreland	15	35	50
Key				
A: Above-normal rainfall means greater than 66 percentile of the rank data				
N: Near-normal rainfall means between 33 and 66 percentile of the rank data				
B: Below-normal rainfall means below 33 percentile of the rank data				

Table 4: Precipitation Outlook for Selected Stations for April to June 2018.



Summary and Expected Agricultural Impacts

The below-normal rainfall received over Hanover, Westmoreland, Clarendon and over sections of Manchester and St. Elizabeth has resulted in some farming communities experiencing dry conditions.

The CPT is indicating that most areas across the island are likely to experience near-normal to above-normal rainfall over the April to June period.

If the forecast for near-normal to above-normal rainfall materializes, then there should be no concerns for dry conditions to worsen or to expand. If however, the forecast does not materialize, this could result in some areas becoming drier or they may experience drought conditions which, could cause concern among farmers, during the traditional early wet season.

The forecast for continued above-normal temperatures could cause heat stress for livestock and other animals, therefore, cooling solutions are still being recommended.

The Met Office will continue to closely monitor conditions and disseminate advisories as necessary.

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