



AGROMET BULLETIN



Volume 6. No. 2 | February 2018

HIGHLIGHTS

- ✚ **Six of thirteen parishes received above-normal rainfall in February.**
- ✚ **No parish experienced drought, however, a few communities experienced dry conditions.**
- ✚ **Above-normal rainfall is forecast for March through May.**
- ✚ **Above-normal temperatures are forecast for the next 3 months.**

Weather Summary February 2018

During the month of February, the weather was dominated mainly by High Pressure Ridges.

For the month, Sangster International Airport (SIA) in Jamaica's northwest recorded 43.1 mm of rainfall, while Norman Manley International Airport (NMIA) in the southeast recorded 8.3 mm of rainfall.

SIA received 70% of its 30-year mean monthly rainfall, while NMIA received about 39 % of its mean. There were eight (8) rain days recorded for SIA and three (3) rain days for NMIA. These values were below the monthly means of nine (9) and four (4) rain days respectively.

The highest maximum temperature recorded for SIA was 31.5 °C (on February 20). This value ranks 11th for a maximum temperature recorded at the station since February 1992; behind the 33.7 °C recorded in 2003.

Meanwhile, the highest maximum temperature recorded for NMIA was 33.4°C (on February 20). A look at the records from 1993 showed that, this value ranks 4th for a February highest maximum temperature, behind the 34.2°C recorded in 1997.



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 Figure1) and a forecast SPI (see Figure 2) using a 3-month and 6-month time interval, respectively.

Parish	Station	February Rainfall Total (mm)	Percent of 30-year Mean (%)	Observed SPI for December-January- February
Hanover	Mount Peto	33	30	1.51
Westmoreland	Savanna-La-Mar	18	22	0.39
Westmoreland	Frome	54	66	0.88
Manchester	Sutton	0	0	0.89
St. Elizabeth	Y.S. Estates	81	72	0.16
St. Elizabeth	Potsdam	8	12	2.23
Clarendon	Beckford Kraal	49	85	0.71
St. Catherine	Tulloch	87	100	0.57
St. Catherine	Worthy Park	106	158	0.67
Trelawny	Orange Valley	67	114	0.33
St. James	Sangster Airport	43	70	0.90
St. Ann	Cave Valley	56	95	1.09
St. Mary	Hampstead	155	132	1.83
Portland	Shirley Castle	434	117	1.10
St. Thomas	Serge Island	54	73	1.11
KSA	Lawrence Tavern	68	91	1.36
KSA	Palisadoes	8	39	0.97

Table 1: Observed SPI for Selected Stations across Jamaica during the December-February 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 December-February period, all 17 stations across the island, showed near-normal (wet) to exceptionally wet conditions.

A comparison of the SPI figures for Dec/Jan/Feb with those for Nov/Dec/Jan shows that:

- Conditions at Hampstead and Shirley Castle became wetter with the rankings showing extremely wet and moderately wet conditions respectively.
- Despite changes in their SPI values, several stations were still experiencing wet conditions; they included Mount Peto, Frome, Beckford Kraal, Cave Valley, Serge Island and Palisadoes, with rankings from abnormally wet to severely wet.
- For Sangster, the ranking dropped from exceptionally wet to moderately wet conditions, while Potsdam remained exceptionally wet despite a decrease in the station's SPI value.

In February, six (6) of thirteen (13) parishes received above-normal rainfall, one (1) parish received normal rainfall and the remaining six (6) parishes received below-normal rainfall. The parishes receiving above-normal rainfall were, St. James, St. Ann, St. Mary, Portland, St. Thomas and St. Catherine, while Clarendon received normal rainfall. Three (3) western parishes namely, Hanover, Westmoreland and St. Elizabeth, along with Manchester, Trelawny and Kingston & St. Andrew were the parishes receiving below-normal rainfall. Despite this scenario, conditions across the island over the 3-month period remained wet.



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

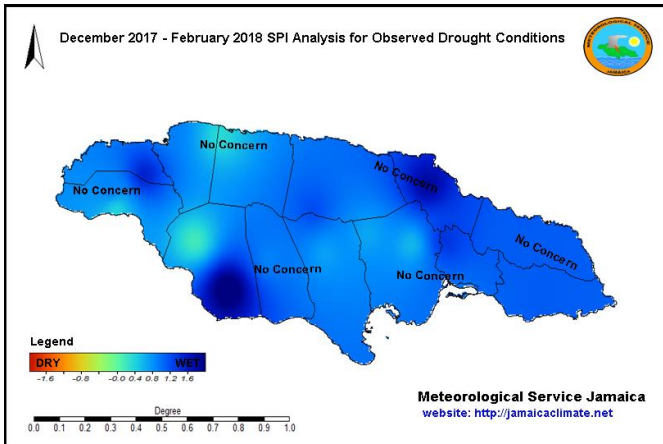


Figure 1: December 2017- February 2018 SPI Analysis for Observed Conditions

The forecast through May (see Figure 2 below), has determined that the island should receive sufficient rainfall as we transition from the dry season to the traditional early wet season. Wetness across the island could decrease with some southern parishes likely to receive less rainfall percentage-wise compared to some northern parishes. Therefore, there should be no concerns for drought conditions developing over the next three (3) months, once the forecast is achieved.

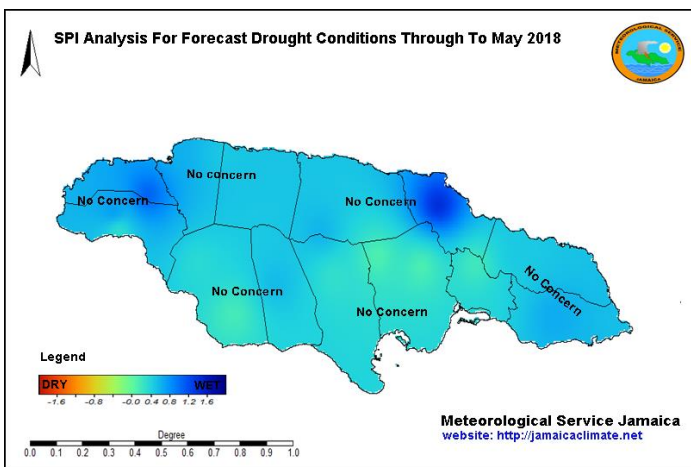


Figure 2: Forecast Drought Conditions through to May 2018



Seasonal Forecast – March to May 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 (March-May), the forecast models are indicating that Jamaica should receive above-normal rainfall, that is, wetter-than-normal conditions going from the dry season to the early rainfall season. The forecast for above-normal temperatures remains consistent for the March-May 2018 period.

	% Below (B)	% Normal (N)	% Above (A)
Jamaica Rainfall Outlook	25	35	40
Jamaica Temperature Outlook	20	30	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 3: Jamaica Rainfall and Temperature Probability for March to May 2018.

Table 4 below, shows the precipitation outlook for selected stations across Jamaica as analysed by the Climate Predictability Tool. For the March to May 2018 period. Ten (10) of seventeen (17) stations are indicating higher probabilities for near-normal rainfall, with the remaining seven (7) stations showing higher probabilities for above-normal rainfall..



Stations	Parishes	Below (B) %	Normal (N) %	Above (A)%
Beckford Kraal	Clarendon	33	34	33
Mount Peto	Hanover	25	35	40
Palisadoes	Kingston	33	34	33
Lawrence Tavern	Kingston	33	34	33
Suttons	Manchester	15	35	50
Shirley Castle	Portland	33	34	33
Cave Valley	St. Ann	20	35	45
Tulloch Estate	St. Catherine	33	34	33
Worthy Park	St. Catherine	33	34	33
Y.S. Estate	St. Elizabeth	25	35	40
Potsdam	St. Elizabeth	33	34	33
Sangster Airport	St. James	33	34	33
Serge Island	St. Thomas	33	34	33
Hampstead	St. Mary	25	35	40
Orange Valley	Trelawny	20	35	45
Savanna-La-Mar	Westmoreland	33	34	33
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 March to May 2018.



Summary and Expected Agricultural Impacts

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

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

If the forecast for near-normal to above-normal rainfall does not materialize, this could result in more areas experiencing dry conditions which could cause concern in farming communities, even as the island transitions from the dry season to the 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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