



AGROMET BULLETIN



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HIGHLIGHTS

- + Central and some western stations experienced above-normal rainfall and wet conditions.**
- + Below normal rainfall is forecast for most areas for April through June.**
- + Dry conditions could continue affecting eastern areas as the secondary rainfall season begins.**

Weather Summary March 2017

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

During the month, Sangster in the northwest recorded 87.8 mm of rainfall, while Norman Manley in the southeast recorded 30.5 mm of rainfall. Sangster received 166% of its 30-year mean rainfall, while Manley received 125% of its 30-year mean rainfall. There were nine (9) rainfall days reported for Sangster Airport, while Manley Airport recorded 3 rainfall days.

The highest maximum temperature recorded for Sangster Airport was 31.5°C (on March 3 and 31) meanwhile Manley Airport reported 31.8°C (on March 3).



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	200	171	1.02
Westmoreland	Savanna-La-Mar	94	113	-0.01
Westmoreland	Frome	171	199	1.09
Manchester	Sutton	259	250	1.44
St. Elizabeth	Y.S. Estates	249	200	1.04
St. Elizabeth	Potsdam	209	246	1.11
Clarendon	Beckford Kraal	186	218	0.68
St. Catherine	Tulloch	71	103	0.62
St. Catherine	Worthy Park	134	209	0.66
Trelawny	Orange Valley	96	215	0.0
St. James	Sangster	88	166	-0.25
St. Ann	Cave Valley	412	604	2.7
St. Mary	Hampstead	127	142	-0.41
Portland	Shirley Castle	985	332	0.97
St. Thomas	Serge Island	127	171	-0.08
KSA	Langley	142	115	-0.24
KSA	Manley Airport	31	125	0.26

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-February-March period, one station namely, Cave Valley recorded exceptionally wet conditions, while Sutton recorded severely wet conditions. Five other stations, namely Mount Peto, Frome, YS Estates, Potsdam and Shirley Castle were moderately wet, while Beckford Kraal, Tulloch and Worthy Park experienced abnormally wet conditions.

The remaining seven (7) stations were considered to be within near-normal bounds. However, the majority of stations (twelve of seventeen) which covered sections of central and some western parishes, experienced near-normal to very wet conditions for the three month period.

With wet conditions being experienced across the majority of parishes in March, the rains may have provided temporary relief from the dry conditions, which were affecting the farming sector and in particular those areas over southern parishes. In contrast, sections of eastern parishes, along with sections of St. James and Trelawny were not as wet and therefore may still be experiencing deficits in rainfall. See Figure 1 below for the graphical representation of observed SPI values for the January-February-March period.

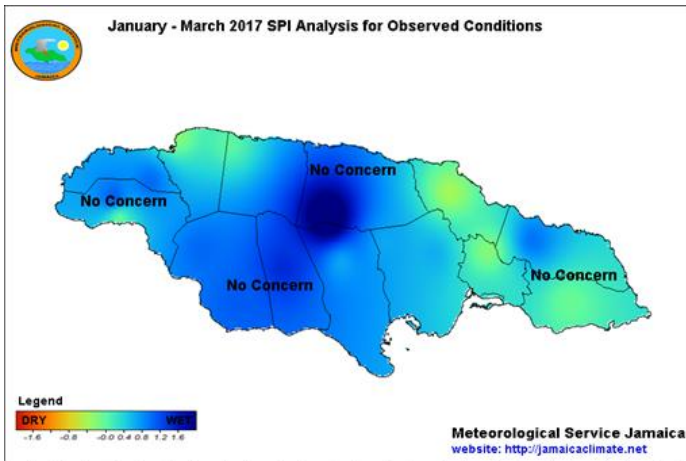


Figure 1: January-February-March SPI Analysis for Observed Conditions

The drought forecast through June (see Figure 2 below) has determined that there should be some level of drying especially over northwestern and eastern parishes, while, sections of other parishes should experience near normal conditions. With this outlook, there should be no immediate concerns in many farming areas mainly in the south and extreme west of the island, however, for eastern and northwestern areas where the dry conditions are forecast to continue there could be negative impact on crops and animals.

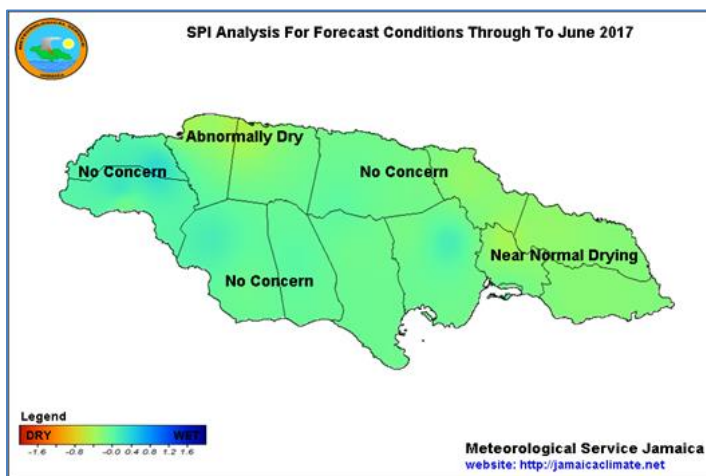


Figure 2: Forecast Drought Conditions through to June 2017



Seasonal Forecast – April to June 2017

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.

As we enter into the traditional first rainfall season, the forecasts are indicating below normal to near normal rainfall across most stations, with above normal temperatures.

During the months of January and February, dry/drought conditions affected sections of many parishes due to steady declines in rainfall amounts. However, this trend was reversed in March, where some areas received significant amounts of rainfall.

The current projections are indicating a decline in rainfall over the next three months. Therefore, the unusual rains in March may have brought only temporary relief from the dry/drought conditions which were being experienced and so, a return to these conditions over some areas is a possibility as Jamaica transitions into the first wet season for 2017.

	% Below (B)	% Normal (N)	% Above (A)
Jamaica Rainfall Outlook	40	35	25
Jamaica Temperature Outlook	25	30	45
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 2017.

Table 4 below, shows the precipitation outlook for selected stations across Jamaica as analysed by the Climate Predictability Tool. Fifteen (15) of the seventeen (17) stations are indicating higher probabilities for below-normal rainfall for the April to June 2017 period, another two (2) stations are indicating probabilities for near-normal rainfall while, no station is indicating above-normal activity.



Stations	Below (B) %	Normal (N) %	Above (A)%
Manley (Kingston)	50	30	20
Sangster (St. James)	50	20	30
Savanna-la-mar (Westmoreland)	50	20	30
Beckford Kraal (Clarendon)	45	30	25
Serge Island (St. Thomas)	50	30	20
Cave Valley (St. Ann)	33	33	33
Tulloch Estate (St. Catherine)	50	30	20
Y.S. Estate (St. Elizabeth)	33	33	33
Hampstead (St. Mary)	45	30	25
Orange Valley (Trelawny)	45	30	25
Langley (Kingston)	50	20	30
Mount Peto (Hanover)	45	20	35
Shirley Castle (Portland)	45	30	25
Suttons (Manchester)	40	25	35
Potsdam (St. Elizabeth)	45	30	25
Frome (Westmoreland)	45	20	35
Worthy Park (St. Catherine)	50	30	20
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 2017.



Summary and Expected Agricultural Impacts

The CPT is indicating that Jamaica is generally expected to experience below to near-normal rainfall during the April to June period.

With the current forecast and despite the rainfall received in March, there should be concerns for the possible return of dry/drought conditions over sections of the island over the next three months. Therefore, farming communities should continue drought alleviation activities.

We will continue to closely monitor conditions and disseminate the necessary advice.

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