






AGROMET BULLETIN



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HIGHLIGHTS

-  **Most stations experienced near-normal to wet conditions.**
-  **Above-normal rainfall is forecast for September through to November.**
-  **Little to no impact from drought conditions expected through November.**

Weather Summary August 2016

During the month of August, weather conditions were dominated by Troughs and Tropical Waves.

Rainfall recorded at Norman Manley (located in the southeast of Jamaica) was 41.2 mm while Sangster (located in the northwest) recorded 197.3 mm. There were eight (8) rain days reported for Norman Manley and ten (10) rain days reported for Sangster.

The highest maximum temperature recorded for Norman Manley was 35.2°C (18th August) and at Sangster, 34.9 °C (30th August).

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.



Observed June to August SPI for Selected Stations

Parish	Station	August Rainfall Total (mm)	Percent of 30-year Mean (%)	Observed SPI for June-July-August
Hanover	Mount Peto	248	80	-0.38
Westmoreland	Sav-La-Mar	203	82	-0.52
Westmoreland	Frome	175	64	-0.76
Manchester	Sutton	282	173	0.67
St. Elizabeth	Y.S. Estates	214	78	-0.85
St. Elizabeth	Potsdam	210	153	0.09
Clarendon	Beckford Kraal	200	139	-0.06
St. Catherine	Tulloch	127	60	-0.64
St. Catherine	Worthy Park	166	113	-0.47
Trelawny	Orange Valley	102	128	-0.04
St. James	Sangster	197	218	0.49
St. Ann	Cave Valley	186	131	1.17
St. Mary	Hampstead	211	228	0.25
Portland	Shirley Castle	251	129	-0.02
St. Thomas	Serge Island	147	66	-0.69
KSA	Langley	155	76	-0.27
KSA	Manley Airport	41	56	-0.29

Table 1: Observed SPI for Selected Stations across Jamaica during the June-July-August 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 June-July-August period, the driest of all stations listed in Table 1 was Y.S. Estates in St. Elizabeth, whose value fell in the ‘moderately dry’ class. As in July, the wettest station in August was Cave Valley in St. Ann with an SPI value in the ‘moderately wet’ category. For this June-July-August



period there were four (4) stations in the “abnormally dry” category and one (1) considered “moderately dry” while two (2) stations exhibited abnormal wetness and moderate wetness. The remaining ten (10) stations are considered to be within near-normal bounds. This means that a majority of stations have experienced near-normal to wet conditions.

Although SPI values for Beckford Kraal, Worthy Park, Orange Valley and Shirley Castle are still in the near-normal category, the overall trend for these stations is towards wetness as the current SPI values have increased since the May-June-July period. Additionally, all four stations received rainfall in August above their respective 30-yr means.

Abnormally dry conditions were generally experienced in southwestern Jamaica as well as St. Catherine and St. Thomas but there remains no concern for central Jamaica. See Figure 1 below for the graphical representation of observed SPI values for the June-July-August period.

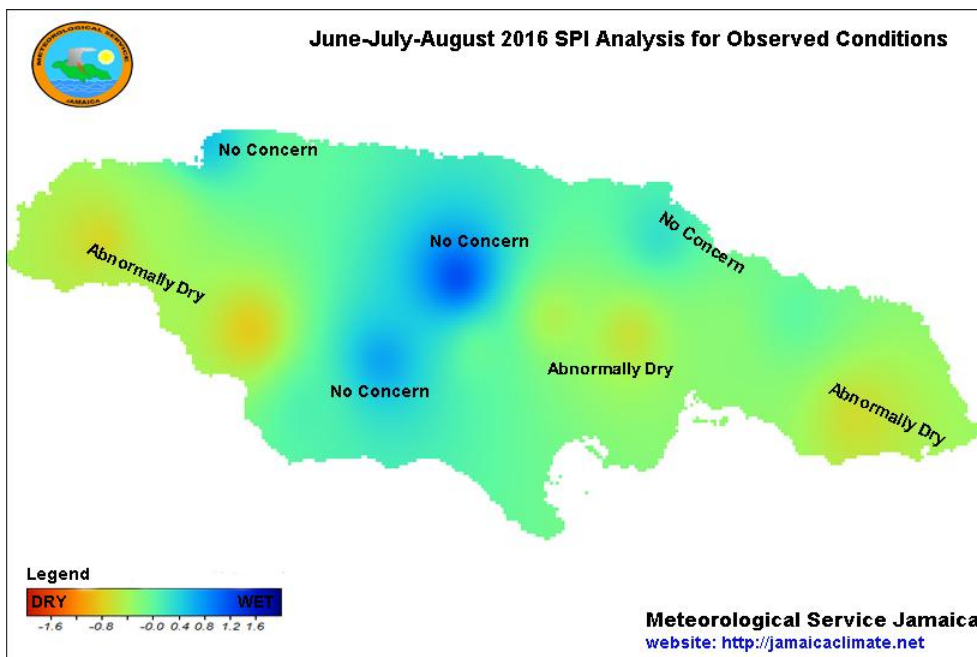


Figure 1: June-July-August 2016 SPI Analysis for Observed Conditions

The SPI analysis through November has determined that there is no concern for drought conditions across all Jamaica (see Figure 2 below).

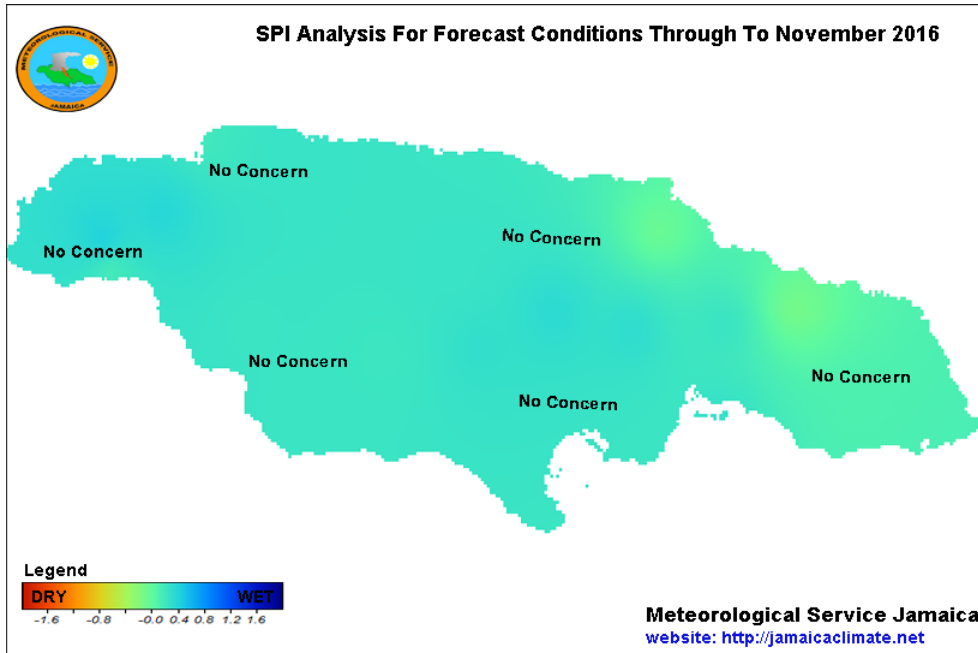


Figure 2: Forecast Drought Conditions through to November 2016

Seasonal Forecast – September to November 2016

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.

For the September to November period, precipitation models have indicated an expectation of above-normal rainfall across most areas while temperature models are indicating warmer-than-normal temperatures (see Table 3 below). Confidence in these models continues to improve as current environmental conditions are aligning with model predictions. These environmental conditions also coincide with the expected increase in tropical cyclone activity in this current stage of the Atlantic Hurricane Season.



	% Below (B)	% Normal (N)	% Above (A)
Jamaica Rainfall Outlook	25	30	45
Jamaica Temperature Outlook	15	25	60
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 September to November.

Specifically, each month’s forecast is as follows:

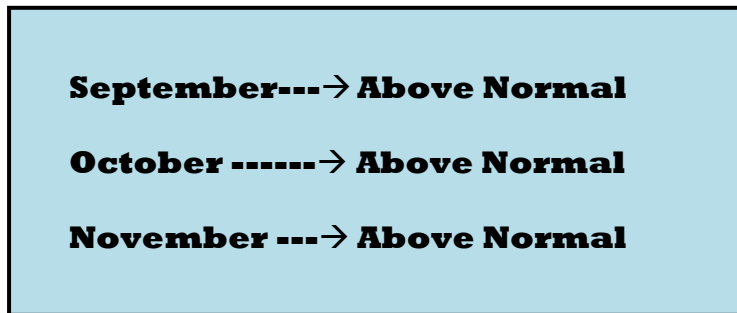


Figure 3: September-October-November Rainfall Outlook

With this forecast of above-normal rainfall for most places, there should be little to no impact from drought conditions, especially over central and western parishes. The Meteorological Service will continue to monitor the findings from the models in order to advise farming communities should the situation change and action is required on their part.

Table 4 below, shows the precipitation outlook for selected stations across Jamaica as analysed by the Climate Predictability Tool. A majority of the seventeen (17) analysed stations are indicating higher probabilities for above-normal rainfall for the September to November period, except for sections of eastern parishes and Trelawny.



Stations	Below (B) %	Normal (N) %	Above (A)%
Manley (Kingston)	25	30	45
Sangster (St. James)	35	25	40
Savanna-la-mar (Westmoreland)	25	30	45
Beckford Kraal (Clarendon)	20	30	50
Serge Island (St. Thomas)	40	25	35
Cave Valley (St. Ann)	20	30	50
Tulloch Estate (St. Catherine)	25	30	45
Y.S. Estate (St. Elizabeth)	30	25	45
Hampstead (St. Mary)	40	25	35
Orange Valley (Trelawny)	40	25	35
Langley (Kingston)	35	25	40
Mount Peto (Hanover)	25	30	45
Shirley Castle (Portland)	40	35	25
Suttons (Manchester)	25	30	45
Potsdam (St. Elizabeth)	25	30	45
Frome (Westmoreland)	25	30	45
Worthy Park (St. Catherine)	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 4: Precipitation Outlook for Selected Stations for September to November.



Summary and Expected Agricultural Impacts

Both the CPT and SPI analysis tools are in agreement that Jamaica is generally expected to experience above-normal rainfall for September, October and November 2016. Both also agree that eastern parishes could tend toward below-normal rainfall (CPT) or drier conditions (SPI) but even with this forecast reduction, there should be no concerns for drought. Consequently, little to no agricultural impact is expected due to drought conditions.

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