



AGROMET BULLETIN



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HIGHLIGHTS

- ✚ **The majority of stations experienced above-normal rainfall in November.**
- ✚ **Near-normal to above-normal rainfall is forecast for December through February.**
- ✚ **No parish experienced drought however, some communities recorded varying levels of drought.**
- ✚ **Above-normal temperatures are forecast for the next 3 months.**

Weather Summary November 2017

During the month, the weather was dominated by Troughs. The presence of a persistent Trough resulted in severe weather conditions across the island between the 19th and 24th.

During the month, Sangster in the northwest recorded 358.4 mm of rainfall, while Norman Manley in the southeast recorded 139.9 mm of rainfall. Sangster received 352% of its 30-year mean rainfall, while Manley received about 164 % of its 30-year mean rainfall. There were sixteen (16) rain days recorded for Sangster Airport and twelve (12) rain days for Manley Airport.

The highest maximum temperature recorded for Sangster Airport was 32.9 °C on November 25 while, Manley Airport recorded its highest maximum temperature of 32.8°C on November 12.



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	November Rainfall Total (mm)	Percent of 30-year Mean (%)	Observed SPI for September-October-November
Hanover	Mount Peto	192	152	-0.32
Westmoreland	Savanna-La-Mar	90	66	-1.00
Westmoreland	Frome	140	109	-0.81
Manchester	Sutton	No data	No data	--
St. Elizabeth	Y.S. Estates	176	111	-1.07
St. Elizabeth	Potsdam	302	289	1.45
Clarendon	Beckford Kraal	151	120	0.55
St. Catherine	Tulloch	112	72	0.45
St. Catherine	Worthy Park	128	119	0.26
Trelawny	Orange Valley	119	105	-0.06
St. James	Sangster	358	352	1.77
St. Ann	Cave Valley	118	97	1.30
St. Mary	Hampstead	398	166	0.93
Portland	Shirley Castle	515	84	-0.06
St. Thomas	Serge Island	96	43	1.15
KSA	Langley	No data	No data	--
KSA	Manley Airport	140	164	0.95

Table 1: Observed SPI for Selected Stations across Jamaica during the September-November 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 September-November period, 9 stations across the island, showed near-normal (wet) to extremely wet conditions, while 6 stations showed near-normal (dry) to moderately dry conditions.

A comparison of the SPI figures at the end of November with those at the end of October shows that:

- Sangster, Potsdam and Serge Island were experiencing wetter conditions, as shown by the extremely wet, severely wet and moderately wet rankings respectively.
- Also experiencing wetter conditions were Hampstead and Manley Airport, both moving from abnormally wet to moderately wet rankings and Cave Valley which moved from moderately wet to severely wet conditions for this period.
- Conditions at Savanna-La-Mar became drier, moving from abnormally dry to moderately dry.
- Conditions at Frome and Mount Peto although showing small improvement were still dry. In the case of the former moving from severely dry to moderately dry conditions and for the latter moving from moderately dry to near-normal (dry) conditions.
- Meanwhile, Y.S. Estates was still experiencing moderately dry conditions.

In November, most parishes received above-normal rainfall activity however, dry conditions were still being experienced, especially by farming communities in some western parishes. These communities previously experienced consecutive months of below-normal rainfall and therefore, despite the November rains not much relief was experienced from the dryness. In contrast the two consecutive months of above-normal rainfall received in most eastern and central parishes resulted in significant improvement in areas which previously were



experiencing dry conditions and especially within the farming communities in Portland, St. Thomas, St. Catherine, St. Ann and Clarendon.

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

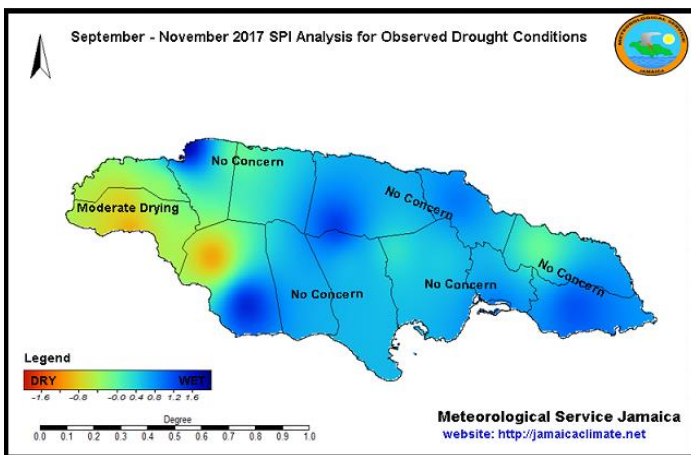


Figure 1: September-October-November SPI Analysis for Observed Conditions

The forecast through February (see Figure 2 below) which includes the most of the dry season, has determined that there should be a general drying trend especially across western parishes, as well as, sections of some eastern and some central areas which could receive less rainfall (by percentage) than other areas.

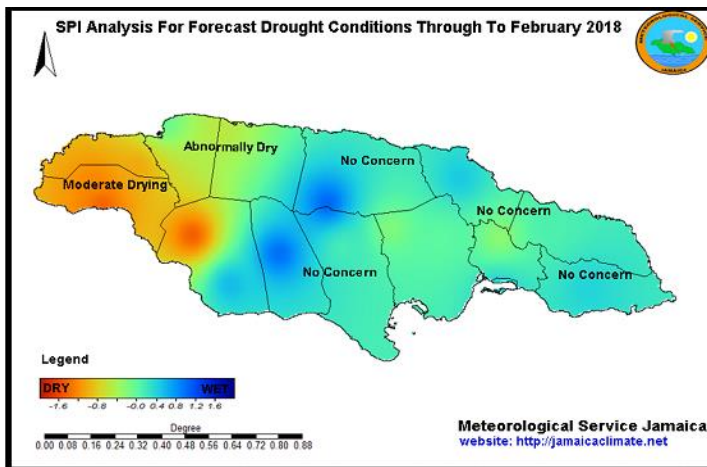


Figure 2: Forecast Drought Conditions through to February 2018



Seasonal Forecast – December 2017 to February 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.

As we approach the next three months (December/January/February) which represents the greater part of the dry season, the forecast models are indicating that Jamaica should receive near-normal to above-normal rainfall. Above-normal temperatures are also expected across the island.

	% Below (B)	% Normal (N)	% Above (A)
Jamaica Rainfall Outlook	33	34	33
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 December 2017 to February 2018.

Table 4 below, shows the precipitation outlook for selected stations across Jamaica as analysed by the Climate Predictability Tool. For the December 2017 to February 2018 period, eight (8) of the seventeen (17) stations are indicating higher probabilities for above-normal rainfall, another eight (8) stations for normal rainfall and one (1) station for below-normal rainfall.



Stations	Parishes	Below (B) %	Normal (N) %	Above (A)%
Beckford Kraal	Clarendon	25	35	40
Mount Peto	Hanover	35	15	50
Manley Airport	Kingston	30	30	40
Langley	Kingston	33	34	33
Suttons	Manchester	30	30	40
Shirley Castle	Portland	33	34	33
Cave Valley	St. Ann	33	34	33
Tulloch Estate	St. Catherine	40	30	30
Worthy Park	St. Catherine	33	34	33
Y.S. Estate	St. Elizabeth	30	30	40
Potsdam	St. Elizabeth	30	30	40
Sangster	St. James	33	34	33
Serge Island	St. Thomas	25	35	40
Hampstead	St. Mary	33	34	33
Orange Valley	Trelawny	30	30	40
Savanna-La-Mar	Westmoreland	33	34	33
Frome	Westmoreland	33	34	33

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 December 2017 to February 2018.



Summary and Expected Agricultural Impacts

The CPT is indicating that most areas across the island are expected to experience near-normal to above normal rainfall over the December to February period. For stations in Westmoreland which are projected to see normal rainfall this may not be sufficient to totally reverse the dry conditions which are being experienced in these areas.

The projections for near-normal to above-normal rainfall in some areas would be welcomed, especially by the farming communities which received less than expected rainfall during two (2) of the past three (3) months, including October. However, the outlook for a continuation of dry conditions over some areas in western parishes will require more action from farmers in these areas, to prevent stress on crops which could occur in farming communities which are already seeing dry conditions.

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

Issued by the
Climate Branch
Meteorological Service, Jamaica
65 ¾ Half Way Tree Road
Kingston 10
Telephone: 929-3700/3706
Email: datarequest@metservice.gov.jm