



AGROMET BULLETIN



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HIGHLIGHTS

- ✚ **The majority of stations experienced above-normal rainfall in October.**
- ✚ **Near-normal rainfall is forecast for November through January.**
- ✚ **No parish experienced drought condition.**
- ✚ **Above normal temperatures are forecast for the next 3 months.**

Weather Summary October 2017

Daily weather conditions during October was dominated by the presence of Troughs.

During the month, Sangster in the northwest recorded 149.5 mm of rainfall, while Norman Manley in the southeast recorded 270.2 mm of rainfall. Sangster received about 93% of its 30-year mean rainfall, while Manley received about 232 % of its 30-year mean rainfall. There were thirteen (13) rain days recorded for Sangster Airport and fifteen (15) rain days for Manley Airport.

The highest maximum temperature recorded for Sangster Airport was 34.5 °C (on October 28th) meanwhile, Manley Airport recorded 33.6°C (on October 18th).



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	October Rainfall Total (mm)	Percent of 30-year Mean (%)	Observed SPI for August-September- October
Hanover	Mount Peto	319	90	-0.85
Westmoreland	Savanna-La-Mar	181	76	-0.64
Westmoreland	Frome	236	95	-1.47
Manchester	Sutton	276	109	0.99
St. Elizabeth	Y.S. Estates	246	83	-1.09
St. Elizabeth	Potsdam	266	108	0.51
Clarendon	Beckford Kraal	306	114	0.36
St. Catherine	Tulloch	278	116	0.30
St. Catherine	Worthy Park	372	165	0.05
Trelawny	Orange Valley	113	76	-0.56
St. James	Sangster	150	93	0.18
St. Ann	Cave Valley	319	160	1.02
St. Mary	Hampstead	138	99	0.70
Portland	Shirley Castle	No Data	No data	--
St. Thomas	Serge Island	408	153	0.39
KSA	Langley	No data	No data	--
KSA	Manley Airport	270	232	0.60

Table 1: Observed SPI for Selected Stations across Jamaica during the August-October 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 August-October period, 10 of the 15 stations across the island, showed near-normal to severely wet conditions, while the other 5 stations showed abnormally dry to severely dry conditions. A comparison with the period July-September showed an improvement for the August to October period with more areas having wet conditions.

A comparison of the SPI figures at the end of October with those at the end of September showed that:

- Suttons was still experiencing moderately wet conditions.
- Cave Valley, which experienced abnormally wet conditions, is experiencing wetter conditions as shown by the moderately wet ranking,
- Serge Island continues to see improvement moving from abnormally dry conditions to near-normal (wet) conditions. Also seeing an improvement in drought condition was Savanna-La-Mar, moving from moderately dry to abnormally dry conditions.
- Conditions at Y.S. Estates worsened, moving from near-normal (dry) to moderately dry. Mount Peto has also experienced a worsening in dry conditions moving from abnormally dry to moderately dry conditions.

In October, the below normal rainfall activity continued over western parishes which has resulted in more areas experiencing drier conditions, which would now be a concern in farming communities, especially those in Westmoreland, Hanover, sections of St. Elizabeth and now St. James and Trelawny. In contrast the above-normal rainfall received in eastern and some southern parishes would result in improvement for areas which were



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

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

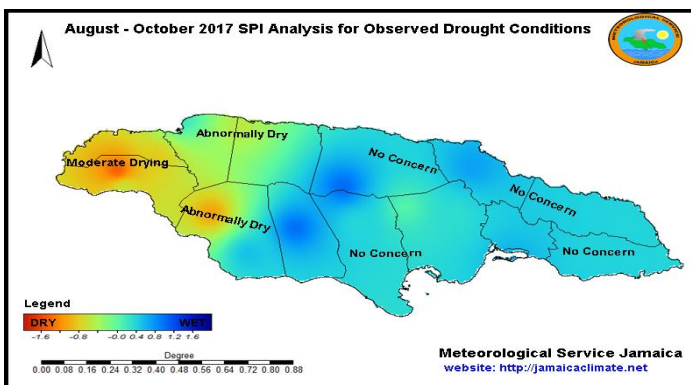


Figure 1: August-September-October SPI Analysis for Observed Conditions

The forecast through January (see Figure 2 below) which includes the early weeks of the dry season has determined that there should be a general drying trend across the island with westernmost parishes as well as, sections of the east and south likely to receive less rainfall (by percentage) than other areas.

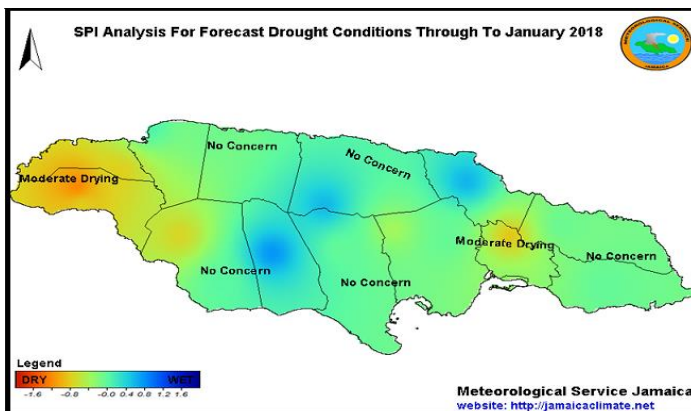


Figure 2: Forecast Drought Conditions through to January 2018



Seasonal Forecast – November 2017 to January 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 (November/December/January) which includes the end of the hurricane season, along with the start of the dry season, the forecast models are indicating that Jamaica should receive near-normal rainfall. However, western and eastern parishes as well as, some southern areas could receive below-normal rainfall while, stations over hilly inland areas could receive 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	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 November 2017 to January 2018.

Table 4 below, shows the precipitation outlook for selected stations across Jamaica as analysed by the Climate Predictability Tool. Nine (9) of the seventeen (17) stations are indicating higher probabilities for below-normal rainfall for the November 2017 to January 2018 period, while the remaining eight (8) stations are indicating probabilities of above-normal rainfall.



Stations	Parishes	Below (B) %	Normal (N) %	Above (A)%
Beckford Kraal	Clarendon	25	30	45
Mount Peto	Hanover	45	30	25
Manley Airport	Kingston	25	35	40
Langley	Kingston	45	30	25
Suttons	Manchester	15	25	60
Shirley Castle	Portland	25	35	45
Cave Valley	St. Ann	45	30	25
Tulloch Estate	St. Catherine	25	35	40
Worthy Park	St. Catherine	45	30	25
Y.S. Estate	St. Elizabeth	40	35	25
Potsdam	St. Elizabeth	25	35	40
Sangster	St. James	20	30	50
Serge Island	St. Thomas	45	30	25
Hampstead	St. Mary	20	30	50
Orange Valley	Trelawny	50	30	20
Savanna-La-Mar	Westmoreland	55	25	20
Frome	Westmoreland	45	30	25

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 November 2017 to January 2018.



Summary and Expected Agricultural Impacts

The CPT is indicating that some areas across the island are expected to experience near-normal rainfall, while western and some eastern areas should experience below-normal rainfall during the November to January period.

The projections for near-normal rainfall in some areas would be welcomed, especially by the farming communities which received less than expected rainfall during the past three months including the primary rainfall month of October. However, the outlook of less than expected rainfall over western parishes will require continued readiness of farmers in these areas to act quickly 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.

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