



AGROMET BULLETIN



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HIGHLIGHTS

- ✚ **Most stations experienced below-normal rainfall in July, but still observed wet conditions over the past three months.**
- ✚ **Near-normal to above-normal rainfall is forecast for mostly central parishes for August through October.**
- ✚ **Wet conditions in south-central parishes still a concern for pest and disease outbreaks in farming areas.**
- ✚ **St. Mary now experiencing drought conditions.**
- ✚ **Above normal temperatures are forecast for August to October.**

Weather Summary July 2017

During the month of July, the daily weather was dominated by Troughs, although their presence did not produce any severe weather event across the island. Showers occurred mostly during the afternoon hours and mainly over sections of central and western parishes.

During the month, Sangster in the northwest recorded 72.0 mm of rainfall, while Norman Manley in the southeast recorded 0.2 mm of rainfall. Sangster received 138% of its 30-year mean rainfall, while Manley received less than 1% of its 30-year mean rainfall. There were five (5) rain-days recorded for Sangster Airport and zero (0) rain-day for Manley Airport.

The highest maximum temperature recorded for Sangster Airport was 35.4°C (on July 24) meanwhile, Manley Airport recorded 35.2°C (on July 20).



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	July Rainfall Total (mm)	Percent of 30-year Mean (%)	Observed SPI for May-June-July
Hanover	Mount Peto	260	106	0.80
Westmoreland	Savanna-La-Mar	82	47	0.38
Westmoreland	Frome	180	78	0.11
Manchester	Sutton	58	61	1.19
St. Elizabeth	Y.S. Estates	272	151	1.01
St. Elizabeth	Potsdam	52	62	1.18
Clarendon	Beckford Kraal	13	15	1.42
St. Catherine	Tulloch	136	92	1.28
St. Catherine	Worthy Park	87	83	1.78
Trelawny	Orange Valley	10	18	1.60
St. James	Sangster	72	138	1.36
St. Ann	Cave Valley	104	119	1.84
St. Mary	Hampstead	48	77	0.97
Portland	Shirley Castle	59	42	0.07
St. Thomas	Serge Island	7	4	-0.86
KSA	Langley	162	168	0.33
KSA	Manley Airport	0	1	0.64

Table 1: Observed SPI for Selected Stations across Jamaica during the May-July 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 May-June-July period twelve (12) stations were still experiencing wet conditions, four (4) stations experienced near-normal conditions and one (1) station experienced dry conditions. Three stations namely, Worthy Park, Orange Valley and Cave Valley recorded extremely wet conditions, while Beckford Kraal and Sangster recorded severely wet conditions. Mount Peto, Sutton, Y.S.Estates, Potsdam, Tulloch and Hampstead recorded moderately wet conditions, while Manley Airport experienced abnormally wet conditions. Four (4) stations recorded near-normal conditions, however, one (1) station, Serge Island recorded moderately dry condition.

Analysis of the impact of rainfall activity for 16 of the 17 stations across the island, showed near-normal to extremely wet conditions for the three months period.

With wet conditions being experienced over the May/June/July period and especially over central parishes, the concern for farming communities was recovering from damages experienced during the May/June rains. This, along with the outbreak of pests, will still require continued action by all stakeholders. There was some drying observed over sections of eastern parishes, with St Mary recording drought conditions during the June/July period, which would not be welcomed in farming communities in that parish.

See Figure 1 below for the graphical representation of observed SPI values for the May-June-July period.

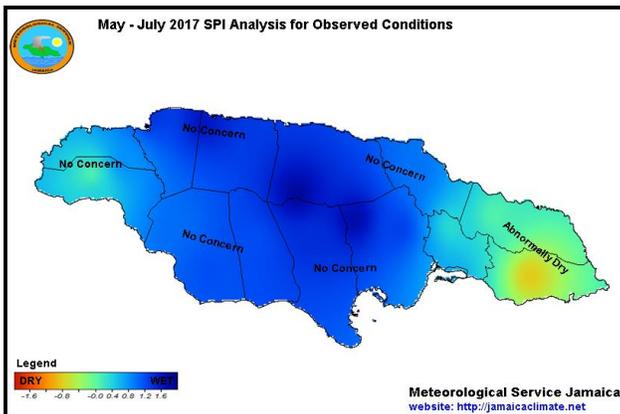


Figure 1: May-June-July SPI Analysis for Observed Conditions

The forecast through October (see Figure 2 below) has determined that there should still be wet conditions over some central parishes, with some mild drying over eastern and southwestern parishes. This forecast for more rains over central parishes may not be welcomed by farmers, who would have fears of more damages to crop and livestock from flooding that was experienced over the previous three to four months. However, farmers over eastern and southwestern parishes may be looking forward to this drying, especially in areas where consecutive months of above-normal rainfall were experienced.

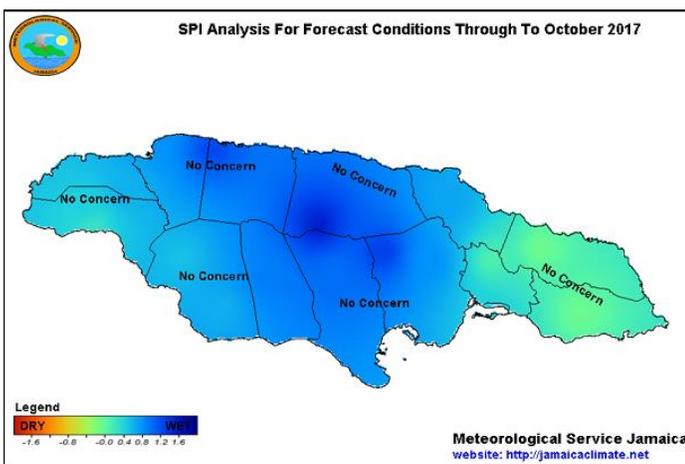


Figure 2: Forecast Drought Conditions through to October 2017



Seasonal Forecast – August to October 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 approach the next three month (August/September/October) which includes the peak period (September) for the hurricane season, the forecasts are indicating near-normal to above-normal rainfall across most stations, with above-normal temperatures.

In July, the island recorded less rainfall which is in contrast to the previous four months (March to June) and which coincided with the usual mid-summer reduction in rainfall amounts.

The current projection is indicating no significant reductions in rainfall amounts especially over central parishes over the next three months (August-October), which includes the peak rainfall season, as well as; the peak period (September) for hurricane activity across the Atlantic/Caribbean region. Should the projections of more rains especially over central parishes materialize, this could result in more concerns for crop damages in farming areas that are recovering from previous flooding events. The projections for less rains in eastern parishes would be a concern for farming communities in St. Mary, which recorded drought condition, as well as; for other parishes, which could experience dry/drought conditions.

	% Below (B)	% Normal (N)	% Above (A)
Jamaica Rainfall Outlook	25	35	40
Jamaica Temperature Outlook	20	25	55
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 August to October 2017.

Table 4 below, shows the precipitation outlook for selected stations across Jamaica as analysed by the Climate



Predictability Tool. Eleven (11) of the seventeen (17) stations are indicating higher probabilities for above-normal rainfall for the August to October 2017 period, while four (4) stations are indicating probabilities of below-normal rainfall and two (2) stations the probability of normal rainfall.

Stations	Parishes	Below (B) %	Normal (N) %	Above (A)%
Beckford Kraal	Clarendon	25	35	40
Mount Peto	Hanover	15	25	60
Manley Airport	Kingston	20	35	45
Langley	Kingston	15	25	60
Suttons	Manchester	15	30	55
Shirley Castle	Portland	40	35	25
Cave Valley	St. Ann	33	34	33
Tulloch Estate	St. Catherine	20	30	50
Worthy Park	St. Catherine	20	35	45
Y.S. Estate	St. Elizabeth	15	30	55
Potsdam	St. Elizabeth	40	30	30
Sangster	St. James	25	35	40
Serge Island	St. Thomas	50	30	20
Hampstead	St. Mary	25	30	45
Orange Valley	Trelawny	33	34	33
Savannah-La-Mar	Westmoreland	45	30	25
Frome	Westmoreland	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 4: Precipitation Outlook for Selected Stations for August to October 2017.



Summary and Expected Agricultural Impacts

The CPT is indicating that most central areas across the island are expected to experience near-normal to above-normal rainfall during the August to October period.

The current forecast of no significant reduction in rainfall will be of concern to farmers especially in central parishes where wet/flooding conditions and loss of crops occurred during the March to June period. The forecast for less rainfall in eastern parishes could be of concern for dry/drought conditions affecting other parishes similar to that experienced by St. Mary. Additionally, the increased temperatures which are forecast could cause heat stress for animals and crops; therefore, close monitoring is required in the farming communities.

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

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