AGROMET BULLETIN

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HIGHLIGHTS

- **Southeastern and northwestern stations experienced below-normal rainfall and extremely dry conditions.**
- **Below normal rainfall is forecast for most areas for March through May.**
- **Dry conditions could continue affecting most areas as the end of the dry season approaches.**

Weather Summary February 2017

During the month of February the weather was dominated by High Pressure Ridges.

During the month, Sangster Airport in the northwest recorded 37.6 mm of rainfall, while Norman Manley Airport in the southeast recorded 7.6 mm of rainfall. Sangster received 61% its mean rainfall for the month of February while Manley received 36% of its mean rainfall for the month, based on the thirty year (1971-2000) rainfall means. There were four (4) rainfall days reported for Sangster Airport while Manley Airport reported two (2) rainfall days.

The highest maximum temperature recorded for the Sangster Airport was 32.3°C (23rd and 24th February) meanwhile for Norman Manley Airport it was 32.2°C (2nd February).

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 December 2016 to February 2017 SPI for Selected Stations

Parish	Station	February Rainfall Total (mm)	Percent of 30-year Mean (%)	Observed SPI for December-January-February
Hanover	Mount Peto	149	135	-0.19
Westmoreland	Savanna-La-Mar	13	16	-1.02
Westmoreland	Frome	74	91	-0.32
Manchester	Sutton	141	223	0.58
St. Elizabeth	Y.S. Estates	115	102	0.31
St. Elizabeth	Potsdam	57	87	0.22
Clarendon	Beckford Kraal	49	84	-1.21
St. Catherine	Tulloch	119	137	0.13
St. Catherine	Worthy Park	68	102	-0.32
Trelawny	Orange Valley	10	18	-1.22
St. James	Sangster	38	61	-1.50
St. Ann	Cave Valley	115	194	-0.23
St. Mary	Hampstead	71	61	-0.20
Portland	Shirley Castle	350	94	-0.35
St. Thomas	Serge Island	4	5	-2.53
KSA	Langley	71	48	-0.79
KSA	Manley Airport	8	36	-0.65

Table 1: Observed SPI for Selected Stations across Jamaica during the December-January-February 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 December-January-February period, one station namely, Serge Island recorded exceptionally dry conditions, while Sangster recorded severely dry conditions. Three other stations, namely Orange Valley, Beckford Kraal and Savanna-La-Mar were moderately dry, while Langley and Manley recorded abnormally dry conditions.

During the three month period however, Suttons recorded abnormally wet conditions.

The remaining nine (9) stations were considered to be within near-normal bounds. However, the majority of stations (thirteen of seventeen) which covered sections of all northern and some southern parishes, experienced near-normal to very dry conditions for the three month period.

With dry conditions being experienced across a majority of parishes, there are concerns for the farming sector. In contrast, there is no concern for St. Elizabeth, Manchester and St. Catherine where, fairly wet conditions prevailed. See Figure 1 below for the graphical representation of observed SPI values for the December-January-February period.

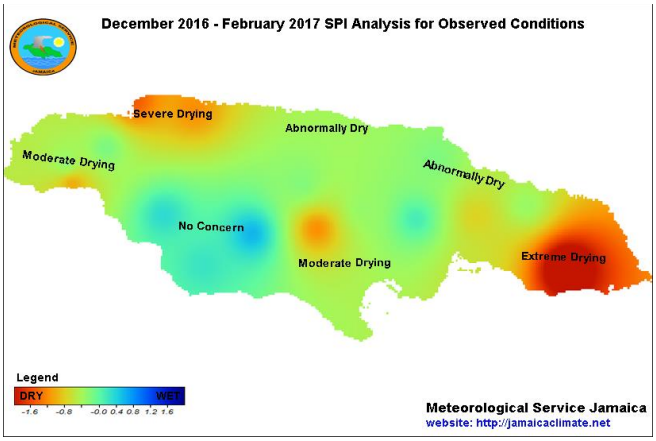

Figure 1: December-January-February (2016-2017) SPI Analysis for Observed Conditions

The drought forecast through May (see Figure 2 below) has determined that there will be continued drying over sections of most parishes, while, northern sections of St. Elizabeth, Manchester and St. Mary should continue to experience fairly wet conditions. With this outlook, there should be concerns in the farming sector for the continuation of drought conditions and its impacts on crops and animals, as well as the possibility of drought conditions spreading to other areas which are not currently experiencing these conditions.

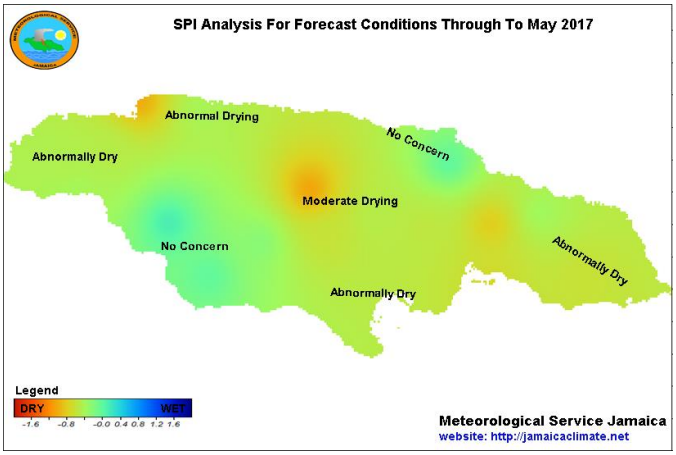

Figure 2: Forecast Drought Conditions through to April 2017

Seasonal Forecast – February to April 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.

The rainfall outlook for March to May 2017 indicates that most stations examined will likely receive below to near normal rainfall during the period, along with warmer days. With the current deficit in rainfall over most parishes, continued drying could result in worsened drought conditions in areas already affected as well as spreading of drying conditions to other areas.

Given this situation, drought alleviation activities should continue for those farming communities experiencing dry conditions and close monitoring is recommended for other areas. We will however continue to monitor the findings from the models in order to update our farmers on any changes.

	% Below (B)	% Normal (N)	% Above (A)
Jamaica Rainfall Outlook	45	30	25
Jamaica Temperature Outlook	30	25	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 March to May 2017.

Table 4 below, shows the precipitation outlook for selected stations across Jamaica as analysed by the Climate Predictability Tool. Twelve (12) of the seventeen (17) stations are indicating higher probabilities for below-normal rainfall for the March to May 2017 period, another five (5) 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)	33	33	33
Savanna-la-mar (Westmoreland)	33	33	33
Beckford Kraal (Clarendon)	45	30	25
Serge Island (St. Thomas)	33	33	33
Cave Valley (St. Ann)	50	30	20
Tulloch Estate (St. Catherine)	40	25	35
Y.S. Estate (St. Elizabeth)	45	30	25
Hampstead (St. Mary)	50	30	20
Orange Valley (Trelawny)	45	30	25
Langley (Kingston)	45	30	25
Mount Peto (Hanover)	50	30	20
Shirley Castle (Portland)	45	30	25
Suttons (Manchester)	33	33	33
Potsdam (St. Elizabeth)	50	30	25
Frome (Westmoreland)	50	30	20
Worthy Park (St. Catherine)	33	33	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 March to May 2017.

Summary and Expected Agricultural Impacts

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

With this forecast and the current deficit in rainfall over many areas, there should be concerns for the possible worsening and spreading of drought conditions over other sections of the island. Farming communities should therefore continue drought alleviation activities, even as the end of the dry season approaches.

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

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