NATIONAL AGROMET BULLETIN

Issued by the

Climate Branch

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Highlights for January 2016

- **Moderate to severe drought conditions reported for some eastern and western stations.**
- **Below normal to near normal rainfall is forecast for most stations for February through April.**
- **Above normal temperatures forecast to continue through April 2016.**

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Weather Summary for the month of January 2016

In the early part of the month of January the weather was dominated by Troughs, however in the latter part of the month High Pressure Ridges were the dominant weather features.

During the month, Sangster Airport in the northwest recorded 27.8 mm of rainfall, while Norman Manley Airport in the southeast recorded 8.5 mm of rainfall. There were five (5) rainfall days reported for the Sangster station, while there were two (2) rainfall days for the Norman Manley station. Both Manley and Sangster Airports received well below their 30-year mean monthly rainfall. Both stations also recorded below the average number of rainfall days.

The highest maximum temperature recorded for Norman Manley Airport was 32.2°C (14th January) meanwhile Sangster Airport reported 33.7°C (17th January). Based on temperature records for the Sangster Airport station from 1963 to present; this 33.7°C was the highest maximum temperature recorded in January.

Standardized Precipitation Index (SPI)

The Standardized Precipitation Index (SPI), developed by T.B. McKee, N.J. Doesken, and J. Kleist in 1993, is based only on precipitation. One unique feature is that 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.

KEY

SPI Value	Category		SPI Value	Category
-0.5 to -0.7	Abnormally Dry (30%tile)		**0.5 to 0.7**	Abnormal Wetness (70%tile)
-0.8 to -1.2	Moderate Drought (20%tile)		**0.8 to 1.2**	Moderate Wetness (80%tile)
-1.3 to -1.5	Severe Drought (10%tile)		**1.3 to 1.5**	Severe Wetness (90%tile)
-1.6 to -1.9	Extreme Drought (5%tile)		**1.6 to 1.9**	Extreme Wetness (95%tile)
-2.0 or less	Exceptional Drought (2%tile)		**2.0 or more**	Exceptional Wetness (98%tile)

Table 1. Rainfall and Drought Analyses for Selected Stations

Parish	Station	January Monthly Total (mm)	Percent of 30 year Mean (%)	SPI for January
Hanover	Mount Peto	119	139	0.44
Westmoreland	Sav-La-Mar	73	99	-0.42
Westmoreland	Frome	76	116	0.14
Manchester	Sutton	30	52	0.89
St. Elizabeth	Y.S. Estates	55	65	-0.12
St. Elizabeth	Potsdam	16	28	-0.58
Clarendon	Beckford Kraal	102	167	0.93
St. Catherine	Tulloch	16	23	-0.01
St. Catherine	Worthy Park	13	18	-0.45
Trelawny	Orange Valley	60	75	-0.86
St. James	Sangster	28	34	-1.01
St. Ann	Cave Valley	13	24	-0.44
St. Mary	Hampstead	295	166	0.96
Portland	Shirley Castle	187	41	-0.71
St. Thomas	Serge Island	48	54	0.79
KSA	Langley	37	19	-1.52
KSA	Manley Airport	9	34	-0.72

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Standardized Precipitation Index Discussion

One station, Langley in KSA reported severe drought while, two other stations reported moderate drought at the end of January. Three other stations were showing abnormally dry conditions. In contrast three stations namely, Suttons in Manchester, Beckford Kraal in Clarendon and Hampstead in St. Mary were showing moderately wet conditions. January represents the early part of the dry season however, the island received above normal rainfall activity especially over sections of some southern parishes, as shown in figure 1 (see below).

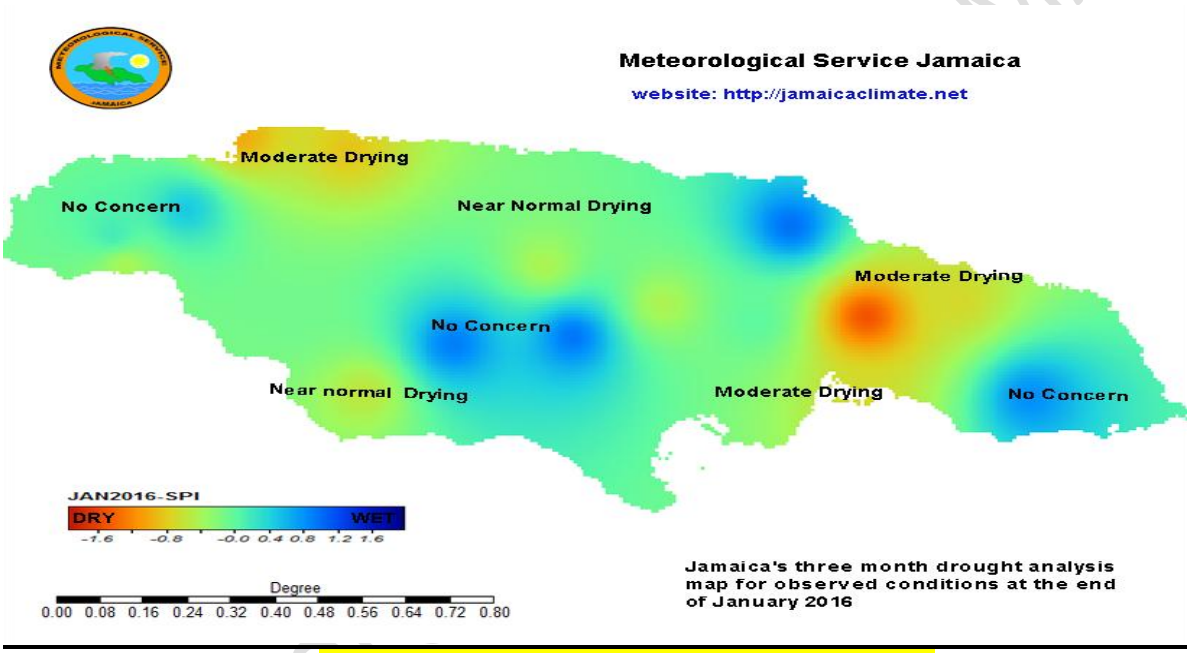

Fig.1 Station drought condition for January 2016

Precipitation Outlook – February to April 2016

The rainfall outlook for the period February to April 2016, from the Global Dynamic Models as well as the Climate Predictability Tool (CPT) are indicating drier than normal conditions with warmer than normal temperatures. This means that we should expect less rainfall than that which is normal.

Of the seventeen rainfall stations that were examined across the island, twelve are likely to experience below normal to near normal rainfall. The most recent forecast from our computer models indicate sections of eastern and some western parishes could receive below normal

rainfall, especially drought affected parishes of St. Mary and KSA. Rainfall deficits could continue to affect sections of the parishes of Portland, St Thomas, St Elizabeth, St. James and Trelawny.

Table 2. Climate Predictability Tool (CPT) Outlook FMA 2016.

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

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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

Drought Forecast – April 2016

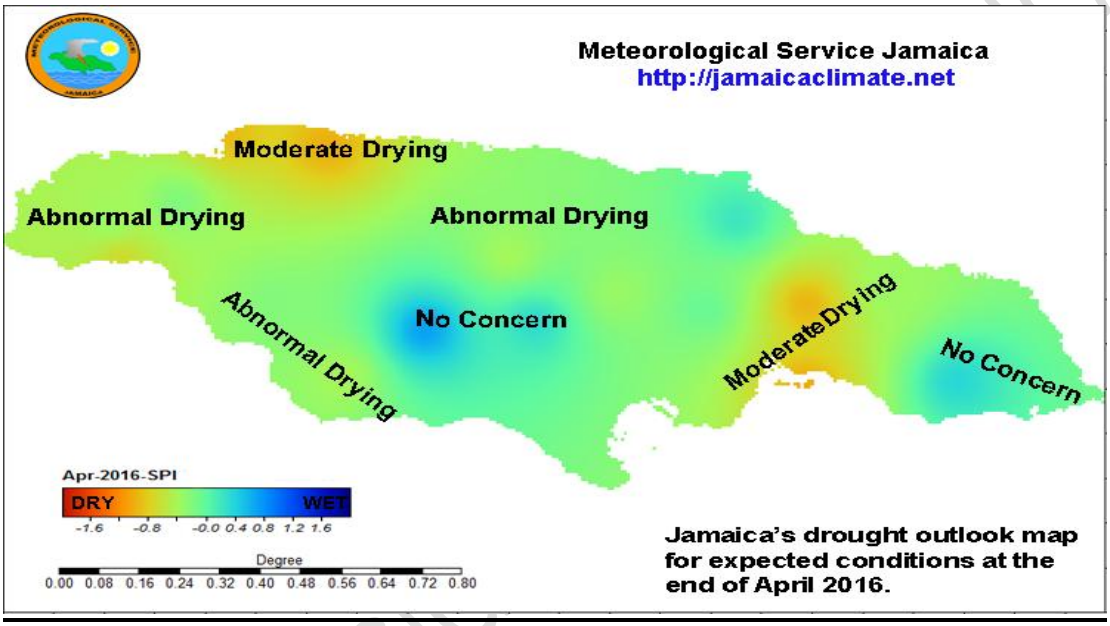

Fig.2 Expected drought conditions by end of April 2016

Temperature Forecast – February to April 2016

Location	Below (B) %	Normal (N) %	Above (A) %
Jamaica Temperature Outlook	10	15	75

Summary and Expected Agricultural Impacts

As Jamaica goes the dry season, the precipitation forecast through April shows below normal to near normal levels for most stations, with sections of eastern and western parishes to be impacted the most.

El Nino which is the driving force for the drought which Jamaica experienced in 2015, is still expected to continue throughout the dry season (Dec 2015 - Mar 2016). However, for the early rainfall season (April/May) conditions should improve over most parishes once the El Nino weakens, as is being predicted by the models.

With the island receiving below normal rainfall for the greater portion of last year which resulted in extreme drought conditions over some areas and a deficit in rainfall which has carried over into 2016, constant drought monitoring will therefore be important especially for eastern and western parishes to ensure that our critical and sensitive sectors such as agriculture which depends heavily on rainfall can plan accordingly. This is to ensure that whatever situation unfolds in the next three (3) months can be efficiently and effectively managed.

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