NATIONAL AGROMET BULLETIN

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

October 2015

Highlights for October 2015

- **Extreme drought conditions reported for some eastern and central stations.**
- **Below normal rainfall is forecast for stations over eastern and some northern parishes for November through January.**
- **Above normal temperatures forecast to continue through January 2016.**

Weather Summary for the month of October 2015

Throughout the month of October troughs were the dominant weather features affecting the island. Rainfall activity during the month was mainly over western parishes and hilly and inland areas of central and eastern parishes, with most parishes receiving below normal rainfall.

During the month, Sangster in the northwest recorded 262 mm of rainfall, while Norman Manley in the southeast recorded 152 mm of rainfall. There were fourteen (14) rainfall days reported for Sangster while Norman Manley had six (6) rainfall days. Both Manley and Sangster Airports received above average rainfall in October. Manley received approximately 131% of the 30 year mean rainfall, while Sangster received approximately 162% of its 30 year rainfall mean.

The highest maximum temperature recorded for Norman Manley Airport was 35.1°C (9th October). This temperature ranks second (2nd) for the highest daily temperature for October since 1992. Meanwhile Sangster Airport reported a highest maximum temperature of 34.0°C (14th October).

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	October Monthly Total (mm)	Percent of 30 year Mean (%)	SPI for October
Hanover	Mount Peto	406	115	0.00
Westmoreland	Sav-La-Mar	148	62	-1.02
Westmoreland	Frome	217	87	-0.88
Manchester	Sutton	422	166	0.60
St. Elizabeth	Y.S. Estates	256	86	-0.13
St. Elizabeth	Potsdam	126	51	-1.56
Clarendon	Beckford Kraal	86	32	-1.88
St. Catherine	Tulloch	157	66	-1.67
St. Catherine	Worthy Park	108	48	-1.96
Trelawny	Orange Valley	69	47	-2.10
St. James	Sangster	262	162	0.07
St. Ann	Cave Valley	337	169	0.85
St. Mary	Hampstead	149	107	-0.44
Portland	Shirley Castle	182	46	-2.01
St. Thomas	Serge Island	358	135	-0.34
KSA	Langley	318	89	-1.17
KSA	Manley Airport	152	131	-1.09

Standardized Precipitation Index Discussion

Ten of the seventeen reporting stations were showing varying levels of drought, with two stations namely, Orange Valley in Trelawny and Shirley Castle in Portland showing exceptional drought, which represents the lowest level on the SPI scale (see Key above). Jamaica is in the primary rainfall season however, the island continues to have below normal rainfall activity especially over some eastern and central parishes, as shown in figure 1 (see below).

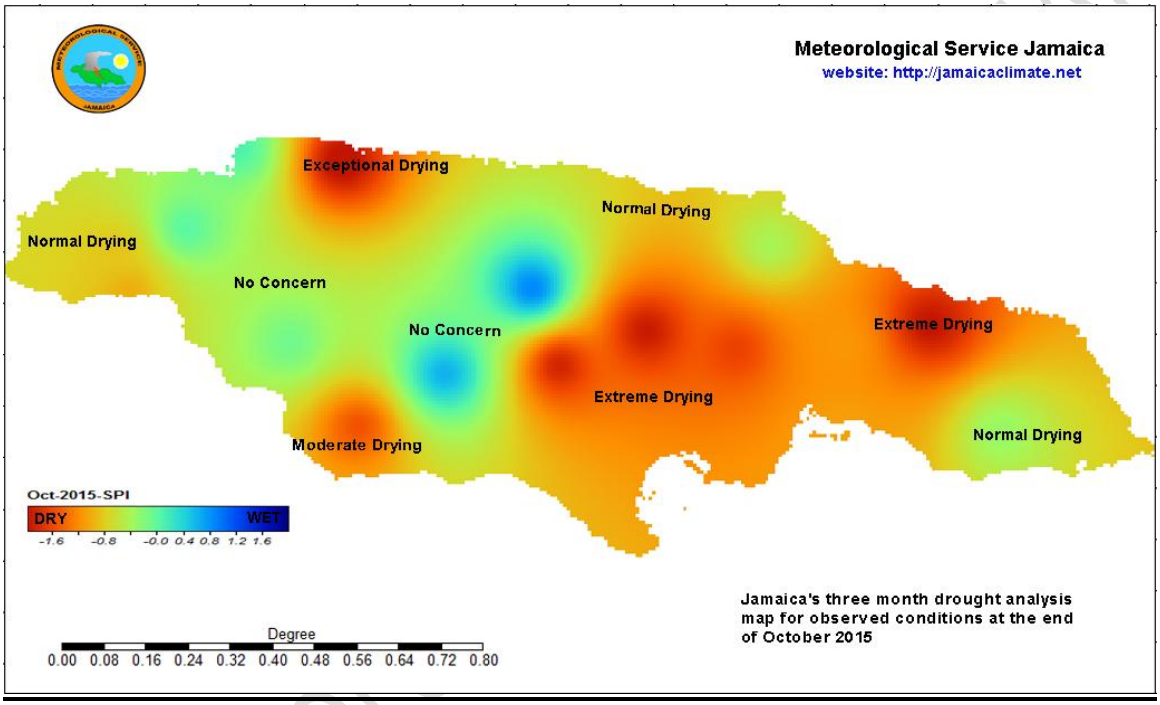

Fig.1 Station drought condition for October 2015

Precipitation Outlook – November 2015 to January 2016

The rainfall outlooks for the period November to January, from the Global Dynamic Models as well as the Climate Predictability Tool (CPT) are indicating warmer than normal temperatures with below normal rainfall for most stations across the island.

Of the seventeen rainfall stations that were examined across the island, stations in the eastern section of the island and some northern stations are likely to continue receiving below normal rainfall. However, most southern and western areas are likely to receive normal to above normal

rainfall. The forecast period reflects the transition period between seasons and therefore forecast confidence at this time remains low. Our most recent forecast indicates that sections of eastern parishes especially Portland, St Thomas and Kingston are likely to experience the greatest deficit in rainfall during the next three months.

Table 2. Climate Predictability Tool (CPT) Outlook ND/J 2015/6.

Stations	Below (B) %	Normal (N) %	Above (A)%
Manley Airport (KSA)	40	25	35
Sangster Airport (St. James)	45	25	30
Sav-La-Mar (Westmoreland)	45	25	30
Beckford Kraal (Clarendon)	35	25	40
Serge Island (St. Thomas)	40	25	35
Cave Valley (St. Ann)	40	25	35
Tulloch Estate (St. Catherine)	40	25	35
Y.S. Estate (St. Elizabeth)	30	25	45
Hampstead (St. Mary)	60	10	30
Orange Valley (Trelawny)	50	15	35
Langley (KSA)	35	25	40
Mount Peto (Hanover)	35	25	40
Shirley Castle (Portland)	45	25	30
Sutton (Manchester)	35	25	40
Potsdam (St. Elizabeth)	30	20	50
Frome (Westmoreland)	25	20	55
Worthy Park (St. Catherine)	45	25	30
JAMAICA	**40**	**25**	**35**

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 – January 2016

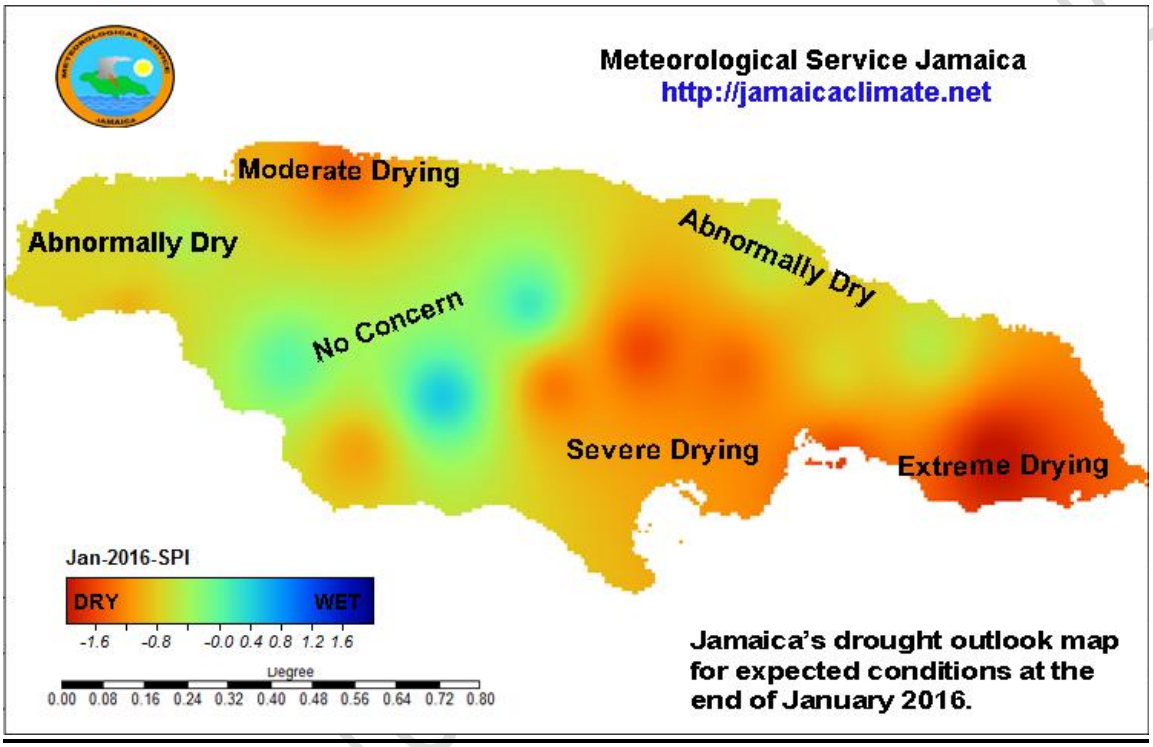

Fig.2 Expected drought conditions by end of January 2016

Temperature Forecast – November 2015 to January 2016

Location	Below (B) %	Normal (N) %	Above (A) %
Jamaica Temperature Outlook	20	10	70

Summary and Expected Agricultural Impacts

Precipitation forecast through January remains below normal for most stations with the highest deficits expected for sections of eastern and some central parishes. As Jamaica goes through the transition period between seasons, rainfall during the next three (3) month is expected to be insufficient to break the prolonged drought affecting sections of the island.

El Nino continues to be the driving force for the drought being experienced and it is now expected to continue into the dry season (Dec 2015 - Mar 2016). The impact of this would be very severe especially for farming communities and other water users.

Plans should be nearing completion for the remainder of this year as well as early 2016 which could include the early rainfall season (April/May 2016). This will ensure that whatever situation unfolds can be properly managed.