NATIONAL AGROMET BULLETIN

Issued by

Climate Branch

Meteorological Service, Jamaica

65 ¾ Half Way Tree Road

Kingston 10

Telephone: 929-3700/3706

Email: datarequest@metservice.gov.jm

January 2015

- **Moderate drought conditions being reported for Potsdam.**
- **Above normal rainfall forecast for Portland, St. Mary, St. Ann and Manchester through April however normal to below normal activity expected for remaining parishes.**
- **Above normal Temperature forecast to continue for January through April 2015.**

Weather Summary for month of January 2015

Throughout the month of January surface troughs associated with a few active frontal systems were the most dominant weather features affecting the island. During the period showers affected mainly north-eastern parishes while southern parishes remained relatively dry.

During the month, Sangster in the northwest recorded 17.5 mm of rainfall, while Norman Manley in the southeast received 0.2 mm of rainfall. There were three rainfall days reported for Sangster while Norman Manley International airports had zero rain days because the amount recorded fell short of the standard of a rainy day being 1mm. Manley received less than 1% of average rainfall during the period, while Sangster received about 21% above the average (1971-2000 mean).

The highest maximum temperature recorded for Sangster Airport was 31.6°C (17th January) meanwhile 33.0°C (1st January) was reported for Norman Manley Airport. The extreme maximum 20 year mean was exceeded at both airports however the difference was greater for Manley (0.3°**C)** than Sangster (0.1°**C)**.

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-monrth, 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 to -0.4	Normal drought		**0 to 0.4**	Normal Wetness
-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 Analysis for Selected Stations

Parish	Station	January Monthly Total (mm)	Percent of 30 year Mean (%)	SPI for January
Hanover	Mount Peto	79	92	0.4
Westmoreland	Sav-la-mar	45	60	-0.4
Manchester	Sutton	115	196	1.5
St. Elizabeth	Y.S Estates	130	154	0.5
St. Elizabeth	Potsdam	38	65	-0.9
Clarendon	Beckford Kraal	46	75	0.6
St. Catherine	Tulloch	43	64	1.0
Trelawny	Orange Valley	79	99	0.4
St. James	Sangster	18	22	0.4
St. Ann	Cave Valley	65	113	0.1
St. Mary	Hampstead	122	68	1.5
Portland	Shirley Castle	223	49	0.4
St. Thomas	Serge Island	27	31	0.3
KSA	Langley	104	55	0.0
KSA	Manley Airport	0	1	-0.8

Standardized Precipitation Index Discussion

Three of fifteen stations were showing some level of drought however the concern is for Potsdam which is showing moderate drought conditions. The dry season continues up to the end of March and the forecast is for below normal activity for this area through the dry period. It is therefore important for agricultural interests in this area to closely monitor soil moisture and water availability for plants or other activities during this time so that response can be taken if necessary.

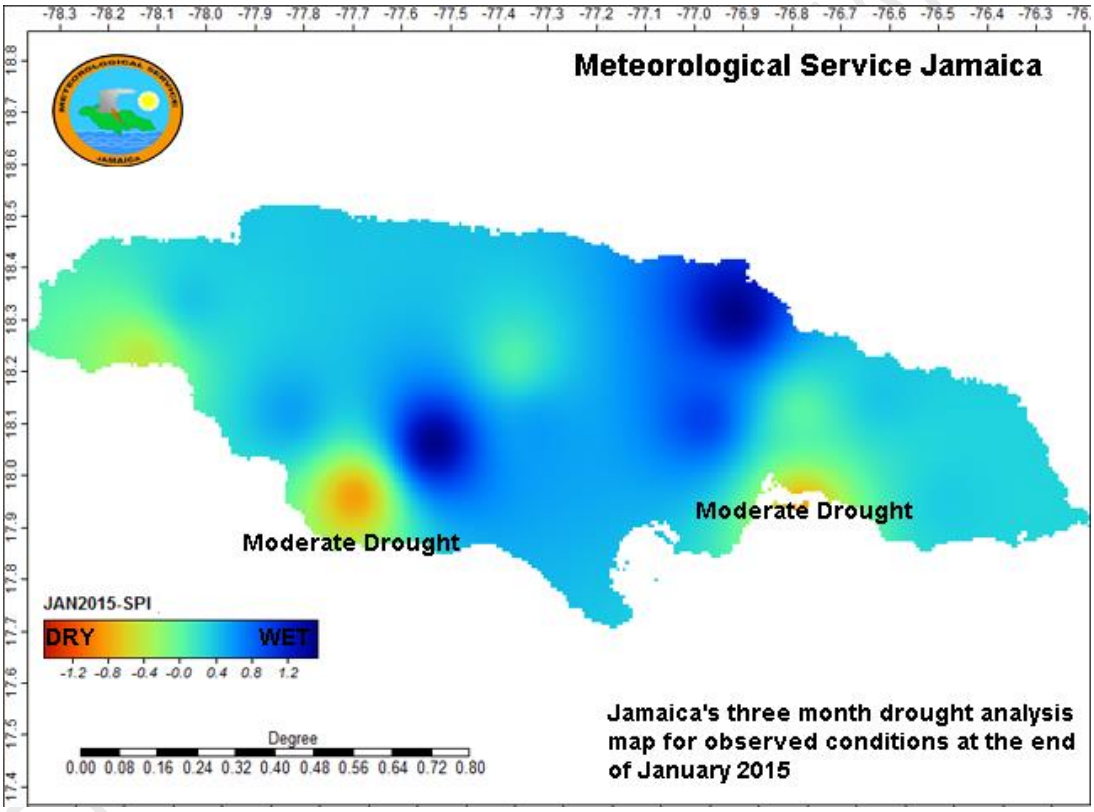

Fig.1 Station observed drought conditions for January 2015

Precipitation Forecast – February to April 2015

The rainfall outlook for the period February to April, both from the Global Dynamic Models as well as Climate Predictability Tool (CPT), indicate near normal to below normal rainfall with warmer than normal temperatures likely to continue across most areas of the Caribbean, including Jamaica.

The findings from the CPT indicates most areas are likely to experience near normal to below normal rainfall, however sections of Manchester, Portland, St Ann and St Mary are likely to continue receiving normal to above normal rainfall.

Of the fifteen rainfall stations that were examined across the island, eleven are likely to receive near normal to below normal rainfall, while four stations are likely to have above normal rainfall during the period. The parishes of St Thomas and Trelawny are likely to experience the greatest deficit in rainfall during the period.

Table 2. Climate Predictability Tool (CPT) Outlook FMA 2015.

Stations	Below (B) %	Normal (N) %	Above (A) %
Manley (Kingston)	48	30	22
Sangster (St. James)	40	36	24
Sav. (Westmoreland)	40	32	28
Beckford (Clarendon)	46	31	23
Serge Island (St. Thomas)	57	26	17
Cave Valley (St. Ann)	40	18	42
Tulloch Estate (St. Cath.)	47	33	20
Y.S. Estate (St. Elizabeth)	44	15	41
Hampstead (St. Mary)	36	19	45
Orange Valley (Trelawny)	50	32	18
Langley (Kingston)	37	35	28

Mount Peto (Hanover)	44	33	23
Shirley Castle (Portland)	32	33	35
Suttons (Manchester)	31	30	39
Potsdam (St. Elizabeth)	38	34	28
Jamaica	**43**	**29**	**28**

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 2015

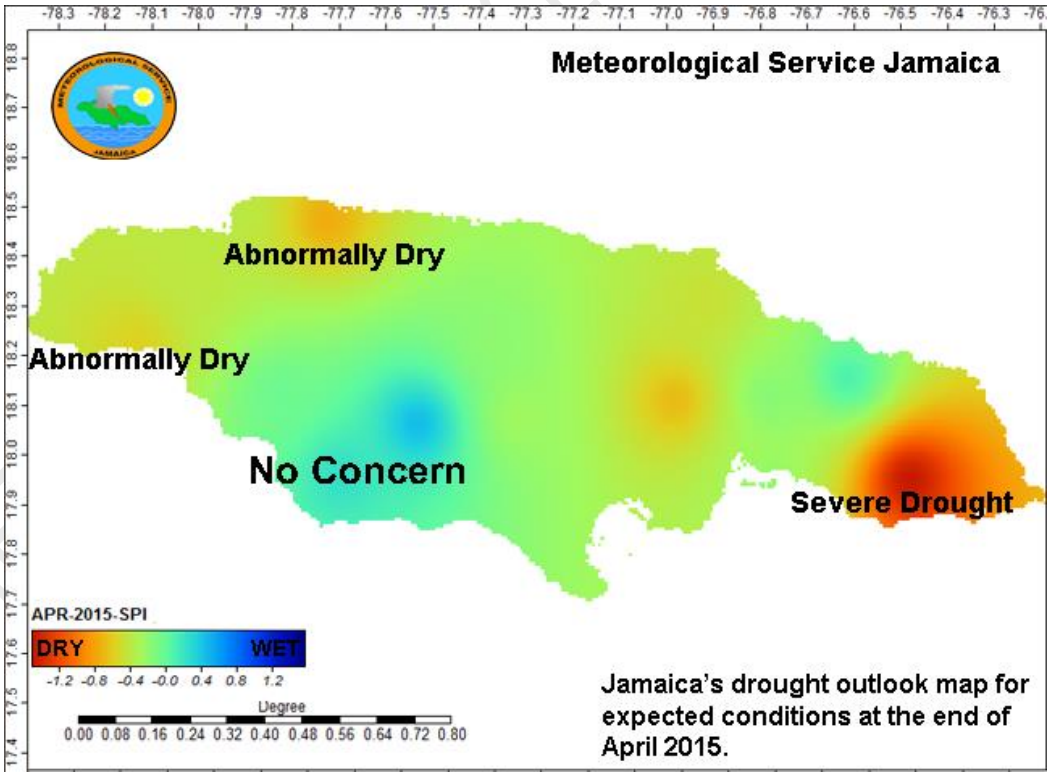

Fig.2 Expected drought conditions by end of April 2015

Location	Below (B) %	Normal (N) %	Above (A) %
Jamaica Temperature Outlook	22	14	64

Summary and Expected Agricultural Impacts

Most sections of the island are currently above drought conditions however some concerns exist especially over southwestern areas. This situation is of importance in light of the forecast for these areas being below normal through April 2015. Serge Island in St. Thomas which is currently showing above drought conditions is also forecast to go into drought due to below normal rainfall expected for that area. The situation could likely be exacerbated by the above normal temperatures forecast for this period. Close monitoring is therefore recommended to ensure the availability of water throughout the dry season especially for agricultural interests in these areas.