NATIONAL AGROMET BULLETIN

Issued by

Climate Branch

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April 2015

- **March 2015 and first quarter of year warmest on record.**
- **Above normal rainfall forecast for most stations for May through July.**
- **Above normal Temperature forecast to continue through July 2015.**

Weather Summary for month of April 2015

Throughout the month of April high pressure ridges were the dominant weather features affecting the island and this resulted in a sharp decrease in rainfall occurrence across most parishes. Both Manley in the Southeast and Sangster in the Northwest recorded well below their monthly rainfall means.

During the month, Sangster in the northwest recorded 20.2 mm of rainfall, while Norman Manley in the southeast received no rainfall during the period. There were three (3) rainfall days reported for Sangster while Norman Manley International airports had zero (0) rain days. Manley received 100% below the average rainfall during the period, while Sangster received about 33% of the average (1971-2000 mean).The highest maximum temperature recorded for Sangster Airport was 33.9°C (21st April) which exceeded the 20-year extreme maximum temperature average meanwhile 32.0°C (25th April) was reported for Norman Manley Airport.

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	April Monthly Total (mm)	Percent of 30 year Mean (%)	SPI for April
Hanover	Mount Peto	295	152	0.7
Westmoreland	Sav-la-mar	237	199	0.6
Westmoreland	Frome	168	112	0.2
Manchester	Sutton	No data	No data	No data
St. Elizabeth	Y.S Estates	233	111	0.2
St. Elizabeth	Potsdam	42	36	-1.6
Clarendon	Beckford Kraal	33	28	-1.4
St. Catherine	Tulloch	135	119	-0.6
Trelawny	Orange Valley	29	44	0.2
St. James	Sangster	20	33	0.3
St. Ann	Cave Valley	50	47	-1.5
St. Mary	Hampstead	100	63	1.0
Portland	Shirley Castle	95	29	-0.7
St. Thomas	Serge Island	5	6	-1.0
KSA	Langley	92	61	-0.3
KSA	Manley Airport	0	0	0.2

Standardized Precipitation Index Discussion

Eight of sixteen stations are above drought conditions up to the end of April. Seven stations are reporting varying levels of drought however the most severe case is Potsdam in St. Elizabeth which is currently in extreme drought conditions. Cave Valley in St. Ann and Beckford Kraal in Clarendon follow closely with figures corresponding to severe drought conditions. Significant deterioration in conditions occurred especially on the southern plains of St. Elizabeth due to a combination of below normal rainfall, high temperatures and strong winds.

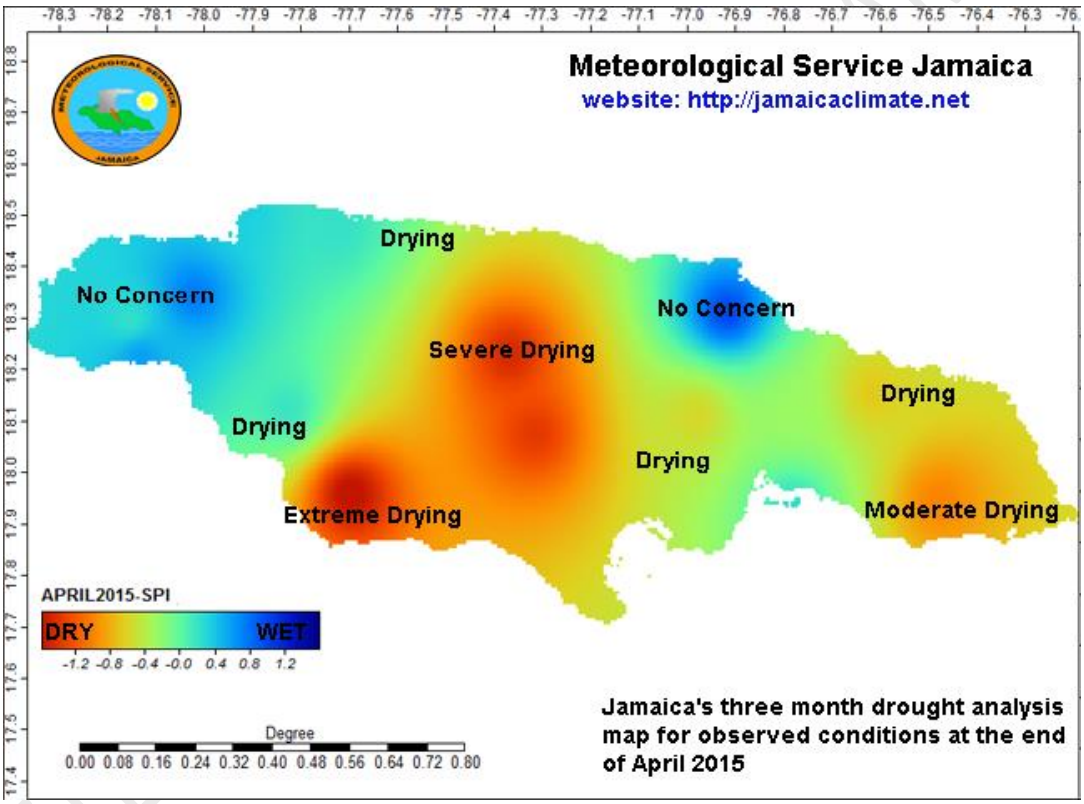

Fig.1 Station observed drought conditions for April 2015

Precipitation Forecast – May to July 2015

The rainfall outlooks for the period May to July, from the Global Dynamic Models as well as Climate Predictability Tool (CPT) are indicating warmer than normal temperatures for the Caribbean. However, the dynamic models are indicating that the Caribbean will experience near normal to below normal rainfall, while our local CPT model is predicting that most areas across Jamaica will get near normal to above normal rainfall for the period May to July.

Of the sixteen rainfall stations that were examined across the island, fourteen are likely to receive above normal rainfall, while two stations will likely received normal to below normal rainfall during the period. The parish of St Thomas is likely to experience the greatest deficit in rainfall during the period.

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

Stations	Below (B) %	Normal (N) %	Above (A) %
Manley (Kingston)	21	18	**61**
Sangster (St. James)	29	15	**56**
Sav. (Westmoreland)	28	**37**	35
Beckford (Clarendon)	24	18	**58**
Serge Island (St. Thomas)	**35**	31	34
Cave Valley (St. Ann)	24	14	**62**
Tulloch Estate (St. Cath.)	22	31	**47**
Y.S. Estate (St. Elizabeth)	26	18	**56**
Hampstead (St. Mary)	20	31	**48**
Orange Valley (Trelawny)	28	34	**38**
Langley (Kingston)	26	19	**55**

Mount Peto (Hanover)	31	34	35
Shirley Castle (Portland)	23	33	44
Suttons (Manchester)	25	9	66
Potsdam (St. Elizabeth)	25	14	61
Frome (Westmoreland)	26	34	40
Jamaica	**30**	**20**	**50**

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 – July 2015

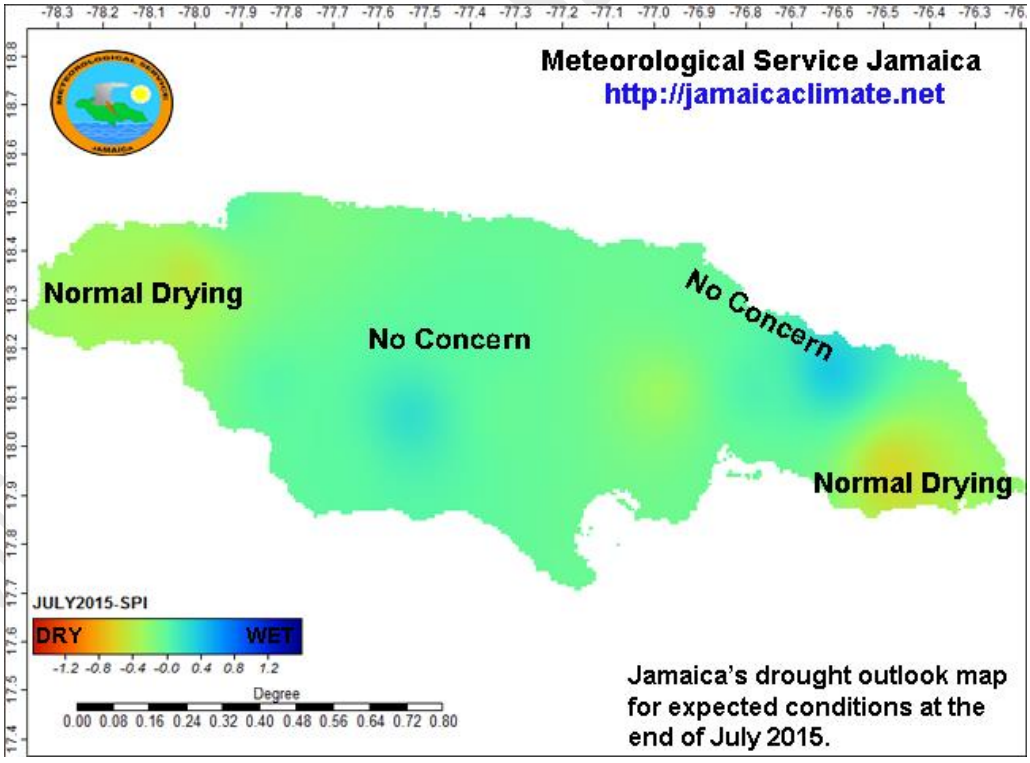

Fig.2 Expected drought conditions by end of July 2015

Temperature Forecast – May to July 2015

Location	Below (B) %	Normal (N) %	Above (A) %
Jamaica Temperature Outlook	25	20	55

Summary and Expected Agricultural Impacts

Although the larger number of stations are above drought conditions there is need for urgent response especially in the farming communities for the parishes currently report severe or extreme drought. Based on the forecast for May to July recovery for these areas is expected however for St. Thomas this might be slow in coming due to the continued below normal activity which is forecast going into July.

In addition to rainfall deficit farmers should pay attention to the continued forecast and observed conditions of above normal temperatures especially in terms of heat stress for plants and livestock. Procedures such as shading and irrigation might be necessary to prevent significant impacts on plants and livestock.