

# NATIONAL AGROMET BULLETIN



Issued by

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**November 2014**



## Highlights for November 2014

- ✚ **Most stations reporting improved drought conditions for the month of November.**
- ✚ **Below normal rainfall forecast to continue into January over some southern as well as western parishes.**
- ✚ **Above normal Temperature forecast to continue for December through February 2015.**

### Weather Summary for month of November 2014

Cold fronts and troughs were the main weather features for the month with High pressure systems making appearances for less than 25% of the times. This however was not reflected in the rainfall amounts as both airports recorded well below their 30-year mean figures. Sangster International airport (Sangster) in the northwest recorded 56% of its 30 year monthly mean while Norman Manley International airport (Norman Manley) in the southeast received 39% of its 30 year mean rainfall. It was also noted that although the 20-year rain day average was exceeded for Manley the rainfall amount was very insignificant thus resulting in below mean value. During the month, Sangster recorded 57 mm of rainfall, while Norman Manley recorded 33 mm. There were ten rainfall days reported for Sangster, while Norman Manley had nine rainfall days during the month.

Sangster Airport recorded 33.1°C (27<sup>th</sup> November) which exceeded the 20-year mean for extreme maximum for the station, while 33.7°C (18<sup>th</sup> November) 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-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.

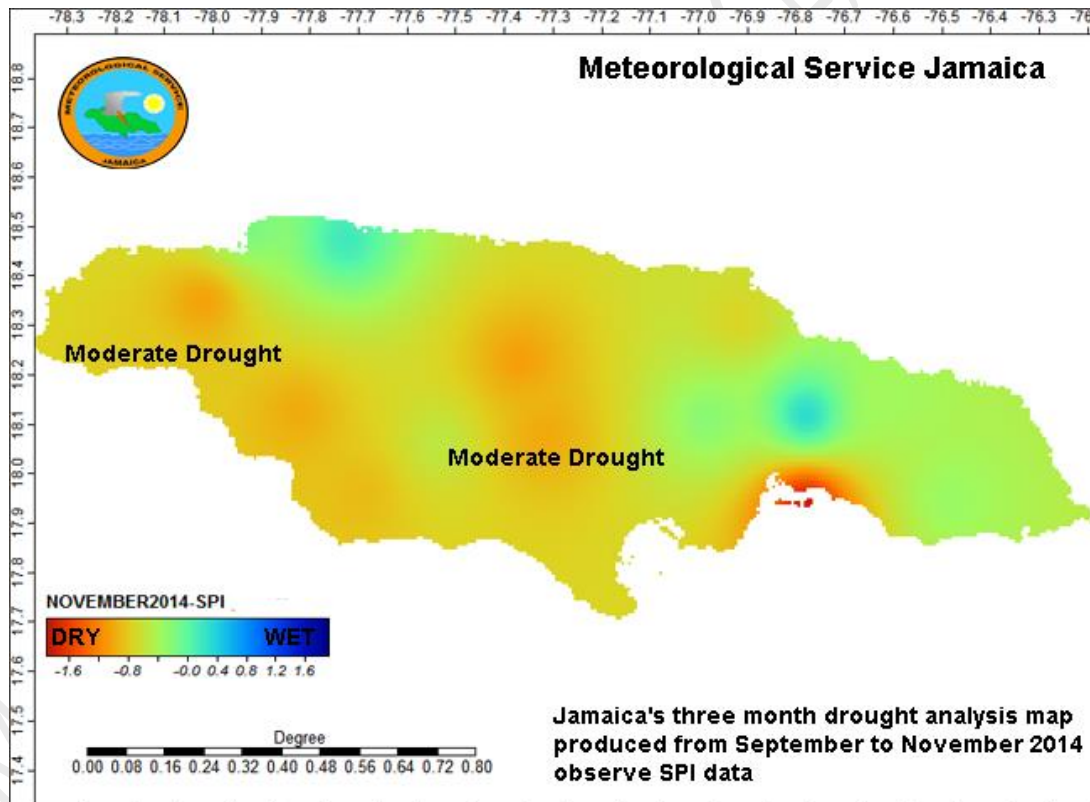
### KEY

SPI Value	Category	SPI Value	Category
0 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)

Parish	Station	November Monthly Total (mm)	Percent of 30 year Mean (%)	SPI for November
Hanover	Mount Peto	153	121	-1.0
Westmoreland	Sav-la-mar	68	50	-0.8
Manchester	Sutton	228	170	-0.6
St. Elizabeth	Y.S Estates	155	98	-1.0
St. Elizabeth	Potsdam	105	101	-0.9
Clarendon	Beckford Kraal	187	149	-1.0
St. Catherine	Tulloch	304	195	-0.3
Trelawny	Orange Valley	89	79	0.2
St. James	Sangster	57	56	-0.2
St. Ann	Cave Valley	61	50	-1.1
St. Mary	Hampstead	352	147	-0.7
Portland	Shirley Castle	682	111	-0.4
St. Thomas	Serge Island	191	87	-0.3
KSA	Langley	366	126	0.3
KSA	Manley Airport	33	39	-1.8

**Standardized Precipitation Index Discussion**

Six of fifteen stations were showing moderate drought conditions while Norman Manley is reporting extreme drought conditions. This is however is not representative because Norman Manley is a coastal station and tends to be drier than the inland stations (a comparison can be made with Langley which is reporting normal wetness). Rainfall which has occurred during the month of December would have resulted in improvement in conditions especially in the eastern section of the island and this will be reported for the following month. As we go into the dry season however we will now have to move our focus to the southern and western parishes which have not received significant rainfall so far in December and are forecast to experience below normal rainfall going into February 2015.



**Fig.1 Station observed drought conditions for November 2014**



### **Precipitation Forecast – December 2014 to February 2015**

During the period, both the forecasts from the Global Dynamic Models as well as Climate Predictability Tool (CPT) indicate below normal rainfall with warmer than normal temperatures likely to continue across the most of the region including Jamaica.

Although, findings from the CPT indicates most areas are likely to experience below normal rainfall, the parishes of Portland and St Mary are likely to continue receiving normal to above normal rainfall.

Fifteen rainfall stations were examined across the island, of which thirteen are likely to receive near normal to below normal rainfall, while two stations are likely to have above normal rainfall during the period. Stations across southern Clarendon and St Thomas are likely to experience the greatest deficit in rainfall.

**Table 2. Climate Predictability Tool (CPT) Outlook DJF 2014/15.**

Stations	Below (B) %	Normal (N) %	Above (A) %
Manley (Kingston)	62	23	15
Sangster (St. James)	72	19	9
Sav. (Westmoreland)	73	17	10
Beckford (Clarendon)	77	17	6
Serge Island (St. Thomas)	84	12	4
Cave Valley (St. Ann)	73	19	8
Tulloch Estate (St. Cath.)	74	19	7
Y.S. Estate (St. Elizabeth)	67	21	12
Hampstead (St. Mary)	39	17	44
Orange Valley (Trelawny)	69	21	10
Langley (Kingston)	58	27	15
Mount Peto (Hanover)	66	14	20

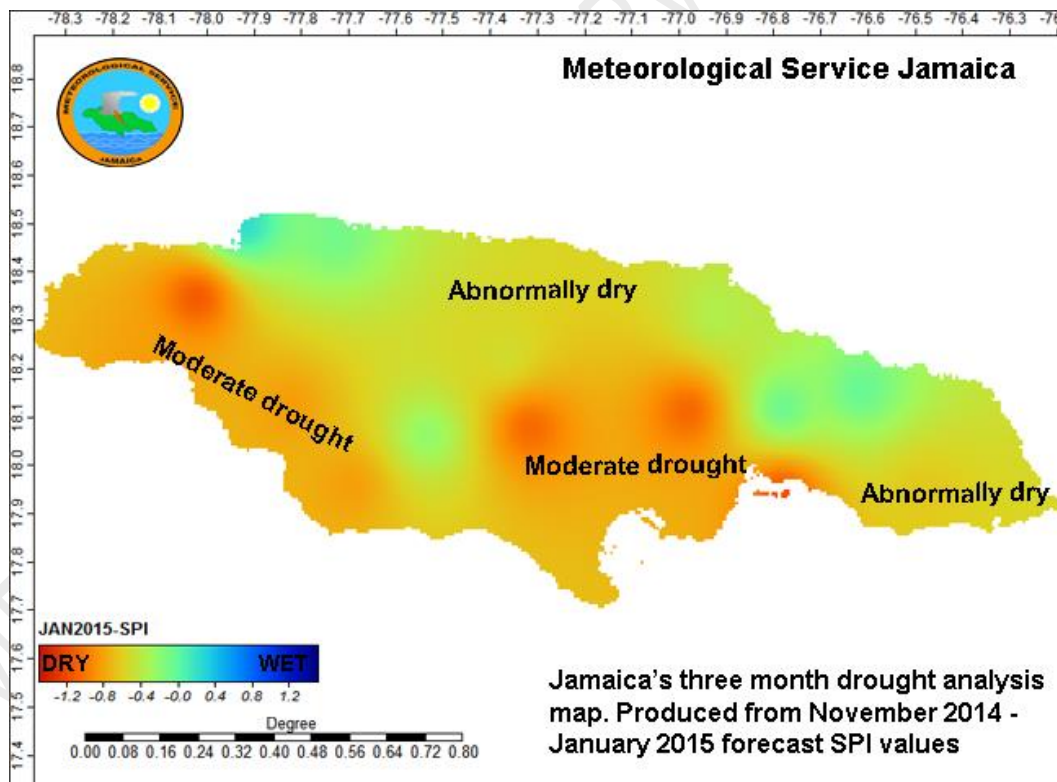


Shirley Castle (Portland)	31	30	39
Suttons (Manchester)	57	25	18
Potsdam (St. Elizabeth)	64	23	13
<b>Jamaica</b>	<b>65</b>	<b>20</b>	<b>15</b>

**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 2015(looking back three months)**



**Fig.2 Expected drought conditions by end of January 2015**



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

### Summary and Expected Agricultural Impacts

There has been improvement in drought conditions for the month of November and this is shown on the table 1 which has green arrows which represent improvement in SPI (drought index) since October while red arrows indicate a worsening situation. The models are predicting on average below normal activity for the island but specific areas in the east are expected to have above normal rainfall while southern and western parishes are forecast to get normal to below normal rainfall. This situation will require close monitoring because a below normal forecast in the dry season can result in significant drying especially over agricultural areas.