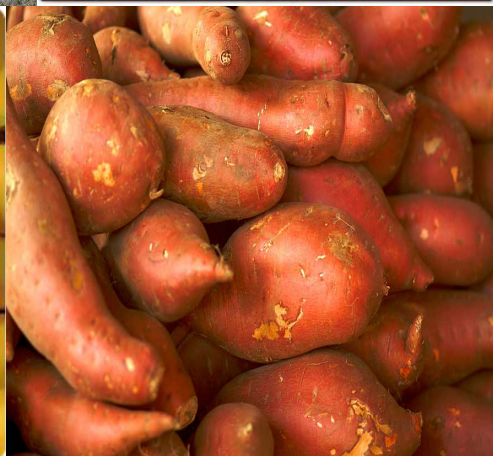


# *NATIONAL AGROMET BULLETIN*



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**March 2013**



## Highlights for March 2013

- ✚ **Below normal rainfall expected for early rainfall season.**
- ✚ **Drought conditions improve slightly over some areas.**
- ✚ **Southern parishes continue to experience below normal rainfall.**

### Weather Summary for month of March 2013

Throughout the month of March the island was impacted mainly by high pressure ridges, surface troughs as well as the occasional cold front. This resulted in an increase in the levels of rainfall mainly over northern parishes and hilly inland areas. Sangster International airport (Sangster) in the northwest received near its normal monthly average rainfall while Norman Manley International airport (Norman Manley) in the southeast remained below normal.

During the month, Sangster recorded 41.6 mm of rainfall, while Norman Manley recorded 30.6 mm. There were five rainfall days reported for Sangster, while Norman Manley had three rainfall days during the month. Sangster recorded approximately 78% of the 1971-2000 mean while Norman Manley recorded 28% above the 1971-2000 mean.

The highest maximum temperature recorded for Sangster Airport was 32.5°C (23<sup>rd</sup> March) while 32.6°C (28<sup>th</sup> March) 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**

<b>SPI Value</b>	<b>Category</b>	<b>SPI Value</b>	<b>Category</b>
<b>-0.50 to 0.50</b>	Normal	<b>-0.80 to -0.51</b>	Abnormally dry
<b>0.80 to 0.51</b>	Abnormally wet	<b>-1.30 to -0.81</b>	Moderately dry
<b>1.30 to 0.81</b>	Moderately wet	<b>-1.60 to -1.31</b>	Severely dry
<b>1.60 to 1.31</b>	Very wet	<b>-2.00 to -1.61</b>	Extremely dry
<b>2.00 to 1.61</b>	Extremely wet	<b>≤ -2.01</b>	Exceptionally dry
<b>≥ 2.01</b>	Exceptionally wet		

<b>Parish</b>	<b>Station</b>	<b>March Monthly Total (mm)</b>	<b>Percent of 30 year Mean (%)</b>	<b>SPI for March</b>
St. Thomas	Serge Island	26	34	-0.83
KSA	Langley	81	66	-0.75
St. Catherine	Tulloch	50 <sup>1</sup>	72	-0.91
Clarendon	Beckford Kraal	12	14	-1.31
Manchester	Sutton	186	180	0.87
St. Elizabeth	Y.S Estates	67	54	-0.89
Westmoreland	Sav-la-mar	n/a	n/a	-0.77
Hanover	Mount Peto	31	27	-0.73
St. James	Sangster	42	78	-0.20
Trelawny	Orange Valley	70	157	0.09
St. Ann	Cave Valley	37	54	-0.03
St. Mary	Hampstead	103	115	-0.43
Portland	Shirley Castle	514	173	0.05

<sup>1</sup> Rainfall data used for Tulloch was recorded by AWS in the absence of readings from the manual rain gauge.



## **Standardized Precipitation Index Discussion**

Ten of the thirteen stations used in the analysis are showing some level of drought however there has been a slight improvement but the worst cases remain on the south especially Savanna-la-mar in Westmoreland (abnormally dry), Tulloch in St. Catherine (moderately dry), Y.S in St. Elizabeth (abnormally dry) and Serge Island in St. Thomas (abnormally dry).

## **Precipitation Outlook – May to July 2013**

The Global Dynamic Models are forecasting that most of the Caribbean including Jamaica will be moving towards a period of near normal to above normal rainfall, as well as warmer than normal air temperatures for the period May through to July. However, the outlook from the statistical climate predictability tool (CPT) for Jamaica for the same period takes a more robust approach and shows a near normal to below normal for most stations analysis across the island.

The statistical (CPT) model is indicating a below normal rainfall season for most stations that were analyzed for the period May to July 2013. Of a total of ten stations that were examined, eight showed a below normal rainfall pattern, while two indicated above normal rainfall for the period for the same period.

The overall average for Jamaica reflects a below normal rainfall pattern for the period May through to July. However, western parishes will continue to receive above normal precipitation for the same period. Very weak model confidences as well as low signals from the sea surface temperatures (SST's) through the period continue to affect the forecast.

**Table 2. Climate Predictability Tool (CPT) Outlook MJJ 2013.**

Stations	Below (B) %	Normal (N) %	Above (A) %
Manley (Kingston)	36	34	30
Sangster (St. James)	29	32	39
Sav. (Westmoreland)	51	29	20



Beckford (Clarendon)	36	33	31
Serge Island (St. Thomas)	39	33	28
Cave Valley (St. Ann)	40	32	28
Tulloch Estate (St. Cath.)	40	32	28
Y.S. Estate (St. Elizabeth)	31	32	37
Hampstead (St. Mary)	38	32	30
Orange Valley (Trelawny)	41	32	27
<b>Jamaica</b>	<b>38</b>	<b>32</b>	<b>30</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

### Summary and Expected Agricultural Impacts

There has been a slight improvement in drought conditions although there are more stations reporting drought at this time. Southern parishes continue to experience below normal rainfall which impacts significantly on farmers in these parishes. This lack of rainfall reflects in the continued reports of drought especially from the farming sector.

The Precipitation outlook for the island is now forecasting below normal activity for the early rainfall season however the confidence is low and therefore we have to be cautious when using this prediction. Realization of the outlook however, would mean worsening drought conditions for most areas and insufficient replenishment for dams and reservoirs.