



**ANNOUNCEMENTS**

A weak El Niño is now in place, and is likely to last until the June to August period. It is not likely to influence rainfall significantly, but should be monitored, since there is still some chance of delaying the onset of the 2015 rainy season. Concerns over low water availability currently exist in the western Caribbean in the vicinity of Jamaica, and in the vicinity of Dominica in the east. Some improvements likely by the end of May, but concerns can develop in other parts of the region, for example around St. Lucia.

**REGIONAL OVERVIEW ON WEATHER AND CLIMATE FOR FEBRUARY 2015**

Apart from Barbados that was moderately wet, normal to slightly dry conditions predominated in the eastern Caribbean and Guyana. Trinidad and Guyana were normal to slightly wet; Tobago, Dominica and Antigua slightly dry; Grenada, St. Vincent and St. Lucia normal. Conditions in Jamaica ranged from moderately wet in the west to normal in the east, while Belize ranged from moderately dry in the south to extremely dry in the north.

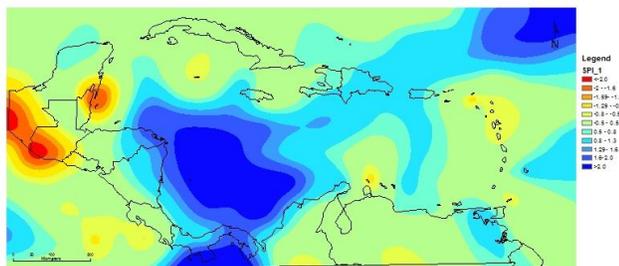


Figure 1. SPI for the Caribbean for February 2015. More information on the SPI can be viewed at <http://63.175.159.26/~cdpmn/spimonitor.html>.

Most annual cropping takes place over a period of about three months. Mixed conditions were experienced in the eastern Caribbean and Guyana. Trinidad, Tobago, Grenada, St. Vincent and Antigua

were normal; Barbados and St. Vincent slightly wet; St. Lucia severely dry; Dominica moderately dry; and Guyana predominantly normal, but slightly wet in the northwest. Conditions in Jamaica ranged from moderately wet in the west to slightly dry in the east, while Belize ranged from moderately dry in the south to moderately wet in the north.

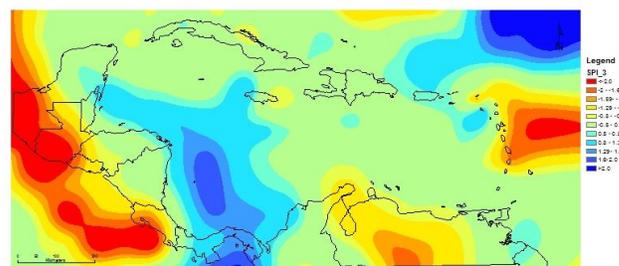


Figure 2. SPI for the Caribbean for December 2014 to February 2015. More information on the SPI can be viewed at <http://63.175.159.26/~cdpmn/spimonitor.html>

Strong winds were pushed across the eastern Caribbean by the Atlantic high pressure system which was generally centered near the Azores. Its western side was continually eroded by a number of frontal systems which frequently moved up the eastern seaboard of the U.S.A and into the north-western Atlantic. During the second half of the month, the southern end of some frontal systems dipped further south- into the eastern Caribbean, inducing a number of surface troughs, with accompanying rains.

In the west in the vicinity of Jamaica, the high pressure system was the most dominant weather feature. However, towards the middle of the month, the country was affected by a series of surface troughs and cold fronts that resulted in an increase in shower activities mainly over northern parishes.

## NATIONAL OVERVIEWS

### Antigua

February was warm and dry for most of Antigua, with record equalling high night-time temperatures. The mean daily minimum temperature for the month was 23.1°C, tying 2013 and 2007 for the record highest. Meanwhile, the mean temperature was 25.5°C; this is warmer than average, the highest since 2010 and tied with 1981 for the eighth highest on record for February. Further, the absolute maximum was well above normal, and ranked in the top five for the month. The mean maximum temperature was near normal but the highest since 2010, and the minimum temperature was 21.0°C.

The average rainfall total for the month was 37.3mm - below normal but the wettest since 2011. For the month, at the V. C. Bird International Airport, the seven wet days ( $\geq 1$  mm) were near normal. However, for the sixth consecutive year, there has been no heavy rainfall day ( $\geq 10$  mm); this is the record longest streak for the month. Water, due to the drought that started September 2013, has once again declined to moderate levels. Most surface water catchments, including ponds used by farmers continue to dwindle. However, water rationing remains minimal. Pumpkins continue to glut the market while a number of produce are scarce or low in supply.

### Barbados

Brisk east to east-northeasterly breezes of between 25 and 45km/hr dominated the weather pattern across Barbados for most of February.

Meanwhile, no significant rainfall events occurred at the Grantley Adams Airport during the first half of the month, which produced two dry spells and just 2.7mm of rainfall; one such spell occurring between

the 1<sup>st</sup> and 5<sup>th</sup>, while the second occurred between the 8<sup>th</sup> and 14<sup>th</sup>. The second half of the month produced almost all of the rainfall (40.7mm). The final rainfall total of 43.5mm over 12 rain days (rain day  $\geq 1$ mm) was marginally above the long-term (1981-2010) average of 41.4mm.

In spite of the breezy conditions experienced, temperatures at the Airport for the month were generally above-average. There were three occurrences on which the daily maximum temperature equaled the long-term average of 29.2°C, and one occasion on which it was cooler. In all other instances, the daily maximum temperature was higher than the long-term average. The highest temperature was 30.0 °C on the 18<sup>th</sup> and 19<sup>th</sup>; the lowest was 20.0°C on the 26<sup>th</sup>.

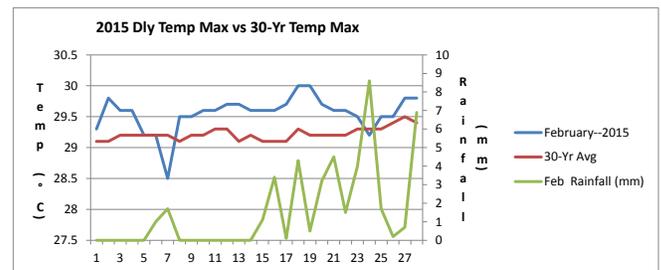


Figure 3 February 2015 rainfall and maximum temperatures, along with the 30 year average of maximum temperature at Grantley Adams Airport, Barbados.

### Dominica

Canefield Airport recorded a total of 68.1mm of rainfall, which is near-average. The month's highest daily rainfall total was 7.7mm recorded on the 25<sup>th</sup>. Rainfall days were more than average with 12 days. The longest dry spell length recorded was 7 days during the second week of the month. Below average rainfall of 60.2mm was recorded at Douglas-Charles Airport. The highest rainfall total recorded was 12.8mm on the 22<sup>nd</sup>. There were 13 rainfall days, just 2 days below the average. A 6-day dry spell also occurred during the second week.

Uneven rainfall patterns were reported by farmers with one half of the month being wet and the other dry. These however did not significantly reduce production of root crops, and vegetables are in abundance in some regions. Pumpkins were well established in the west.

A spray cycle for *Black Sigatoka* was completed during the month and preliminary data collected in the field shows a decrease in symptoms. Plant diagnostic work is ongoing for various pests and diseases such as nematodes and bacterial problems in white potatoes. In addition to this, there has been ongoing training during the month in the identification of palm weevils, a vector for the red wing disease in palms. Technicians are performing lab rearing techniques for natural enemies.

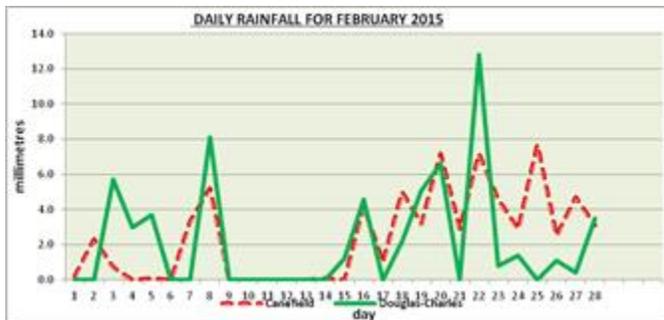


Figure 4 Daily rainfall at Canefield and Douglas-Charles Airports, Dominica during February 2015.

### Grenada

Below average rainfall was recorded for the month. Rainfall was 62.07% less than that of February 2014 measuring only 23.4mm; which was approximately 65.36% of the 30year average of 35.8mm.

Mostly fair and windy conditions prevailed during the month. There were twelve (12) days of measurable rainfall ranging from 0.1mm to 5.5mm. The highest daily total of 5.5mm occurred on the 20<sup>th</sup>. There were 8 days with a trace and also 8 days with no rainfall.

Mean daily temperature for the month was higher than 2014's by an average 0.2°C, reaching a mean of 26.9°C. The mean maximum temperature was 1.0°C higher than that of February 2014 reading 29.9°C, and 0.2°C higher than the 30year average of 29.7°C. The mean minimum temperature was 23.9°C, which was 0.8°C higher than in 2014 and 0.7°C higher than the 30-year average. The highest maximum temperature recorded was 31.2°C on the 27<sup>th</sup>, compared with 30.0°C for 2014 and 30.8°C for the 30-year average. The lowest minimum was 22.1°C recorded on the 7<sup>th</sup>, compared with 21.0°C for 2014 and 21.2°C for the 30-year average.

Strong winds generated moderate to rough seas and marine advisories were issued on the 4<sup>th</sup>, 15<sup>th</sup>-16<sup>th</sup>, 19<sup>th</sup>-24<sup>th</sup> and 27<sup>th</sup> – 28<sup>th</sup>. Fisher folks had limited number of outings as a result of the conditions, restricting them to few catches consisting mainly of Yellow fin tuna and Bow head Dolphin.

The farming community was not severely affected by the below average rainfall during the month. Some farmers have begun to improve on their existing irrigation systems while others are ordering new systems to face the dry season. Farmers continued to have good crop production in pumpkins, citrus, green peas, white sorrel, yams and sweet potatoes; while others like lettuce, tomatoes and pakchoi have begun to flood the market.

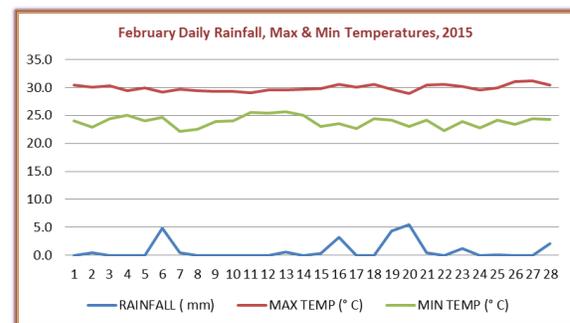


Figure 5 Daily rainfall and maximum and minimum temperatures at Maurice Bishop International Airport, Grenada for February 2015.

### Jamaica

Throughout the month of February high pressure systems were the most dominant weather features affecting the island. However, towards middle of the month the country was affected by a series of surface troughs and cold fronts, this resulted in an increase in shower activities mainly over northern parishes.

During the month, Sangster in the northwest recorded 76.4 mm of rainfall, while Norman Manley in the southeast received 12.0 mm of rainfall. There were five (5) rainfall days reported for Sangster while Norman Manley International airports had three (3) rain days. Manley received about 60% of average rainfall during the period, while Sangster received about 23% above the average (1971-2000 mean).

The lowest minimum temperature recorded for Sangster Airport was 18.2°C (13<sup>th</sup>). Meanwhile

21.6°C (16<sup>th</sup>) was reported for Norman Manley Airport.

Table 1 Climatological Statistics for Manley and Sangster Airports for February 2015.

Monthly Averages	Norman Manley	Sangster
Extreme Maximum Temperature	33.4 °C <b>(32.6 °C)</b>	31.9 °C <b>(31.6 °C)</b>
Lowest Minimum Temperature	21.6 °C <b>(21.0 °C)</b>	18.2°C <b>(19.7 °C)</b>
Rainfall Total	12.0 mm <b>(21.0)</b>	76.4 mm <b>(62.0)</b>
Rainfall days (≥1mm)	3 days <b>(3.6)</b>	5 days <b>(9.2)</b>

Values in red indicate the 1992-2011 (20-year) averages. Values in orange represent 1971-2000 mean.

### St Lucia

The first half of February was very dry. Both Hewanorra and George Charles Airports recorded two 6-day dry spells. A total of 17.6 mm of rainfall was recorded at Hewanorra while George Charles recorded 11.4 mm. The second half of the month, however, was much wetter and produced 35.8 mm and 29.7 mm at Hewanorra and George Charles respectively. The total rainfall collected for the month just exceeded the mean of 52.4 mm at Hewanorra while the total was well below the mean of 79.1 mm at George Charles.

Table 2 February 2015 monthly averages at Hewanorra Airport, St. Lucia.

Cloud Cover (oktas)	Wind Dir (o from N)	Wind Speed (kt)	Air Temp. (°C)	RH (%)	Rainfall (mm)
4	90	15	26.8	74	53.4
Max Temp (°C)	Min Temp (°C)	Daily Sunshine (Hrs)	Daily Evap (mm)	Soil 20 (°C)	
29.7	24.6	9.5	7.8	27.7	

Table 3 February 2015 monthly averages at George Charles Airport, St. Lucia.

Cloud Cover (oktas)	Wind Dir (o from N)	Wind Speed (kt)	Air Temp. (°C)	RH (%)	Rainfall (mm)
4	100	08	27.1	70	41.1
Max Temp (°C)	Min Temp (°C)	Daily Sunshine (Hrs)	Daily Evap (mm)	Soil 20 (°C)	
30.1	23.6				

March is on average the driest month at George Charles and the second driest at Hewanorra. Long dry spells are common during the month of March. The mean rainfall figures for March are 56.5 mm at Hewanorra and 73.1 mm at George Charles. On average there are 13 rainy days.

### St Vincent and the Grenadines

Brisk winds flowed predominantly from an east to east northeasterly direction, with the highest gust at E.T. Joshua Airport recorded at 57km/hr on the 22<sup>nd</sup>. These brisk winds caused sea conditions to be moderate to rough at times.

Total rainfall recorded at E. T. Joshua Airport for February 2015 was 106.6 mm. This was more than the average of 90.3 mm for this station.

February’s highest 24-hour rainfall was 22.8mm which occurred on the 6<sup>th</sup>. Rainfall distribution showed the first dekad (ten-day period) had 43.8%; the second had 22.5% and the third had ~33.7% of the total rainfall. There were 17 days with rainfall ≥1mm; this was only one day more than the average of 16 days for this station. There were 11 days with <1mm of rainfall, with 7 of those days being consecutive (8th – 14th).

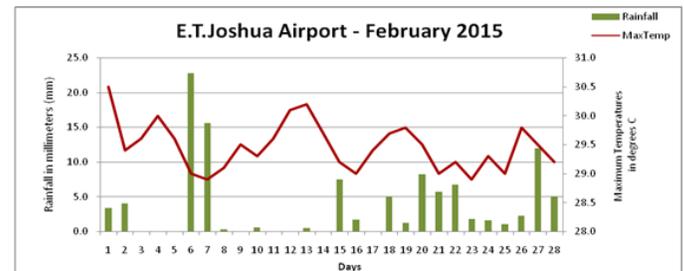


Figure 6 February 2015 rainfall and maximum temperature at E.T. Joshua Airport, St. Vincent and the Grenadines.

The average maximum temperature recorded at this station was 29.5°C, and the average minimum temperature was 23.6°C. Extreme maximum temperature was 30.5°C, which was 0.4°C more than the 30 year average, and the extreme minimum temperature was 21.1°C, matching the 30 year average for this station. Mean relative humidity was 3.0 % higher than the 30 year average of 73.5%.

### Trinidad and Tobago

February’s rainfall total at Piarco, Trinidad was 18.6mm or 37.5% of the 1981-2010 average. At

Crown Point in Tobago, February's rainfall total was 55.1 mm or 98.5% of the 1981-2010 – near average.

Dry and hot conditions once again prevailed in Trinidad and Tobago during the first ten days of February as rainfall continued to diminish and was virtually absent during the period, except for one or two brief and scanty showers on the 3<sup>rd</sup>, 4<sup>th</sup> and 5<sup>th</sup>. The ten-day rainfall total at Piarco was a meagre 0.8mm and this was similar in other areas in Trinidad. Similar conditions also existed in Tobago with only 1.0 mm rainfall observed at Crown Point over the ten days. Temperatures increased during the period as maximum temperatures averaged 31.7<sup>0</sup>C at Piarco and peaked at 32.0<sup>0</sup>C, while at Crown Point temperatures the average was 30.2<sup>0</sup>C and peaked at 30.8<sup>0</sup>C.

Dry unfavourable weather conditions continued to prevail across Trinidad and Tobago during the second ten days, with rainfall virtually absent during the period, except for the 5<sup>th</sup> and 9<sup>th</sup> in Trinidad and the 6<sup>th</sup>, 7<sup>th</sup> and 8<sup>th</sup> in Tobago when there were a few scanty showers. The ten-day rainfall total at Piarco was a meagre 1.6 mm while at Crown Point it was 2.4 mm. Conditions continued to become warmer in Trinidad as maximum temperatures peaked at 33.5<sup>0</sup>C and averaged 32.7<sup>0</sup>C at Piarco, up by 1.0<sup>0</sup>C from the previous dekad. At Crown Point in Tobago, maximum temperatures hardly changed, peaking at 30.4<sup>0</sup>C and averaging 30.2<sup>0</sup>C.

Persistent dry weather conditions continued to affect the farming community in the country during the first half of the last dekad. Rainfall was patchy and light resulting in just 0.5 mm of rainfall at Piarco in Trinidad and 2.8mm at Crown Point in Tobago. There was an increase in the average maximum and minimum temperatures, with maximum temperatures peaking at 33.6<sup>0</sup>C in Piarco and 31.5<sup>0</sup>C in Crown Point.

Weather conditions during the first and second dekad of February remained unfavourable to agriculture. The scanty rainfall provided no relief from the dry, hot conditions and little or no opportunities for water harvesting. Although much rain fell late in the third dekad, weather conditions remained unfavourable for agriculture. However, the

rainfall on day six and seven provided good opportunities for water harvesting for the dry days ahead.

### REGIONAL OVERVIEW ON SEASONAL CLIMATE FORECAST

Weak **El Niño** conditions have begun, but are unlikely to affect weather significantly through May. However these conditions and any resulting ones will be monitored closely, as there is still a small chance of a slight shift to higher probabilities for below-normal rainfall and higher temperatures south of 20°N, especially for June to August, when El Niño may postpone the onset of the wet season in the eastern Caribbean. Please note that most CariCOF statistical models still indicate an early onset of the wet season at this time.

**Caribbean Sea Surface Temperatures (SST)** are 1°C above-average north and north-east, but below average east of the Caribbean. Some cooling is expected in the coming months. **The Trade Winds** are above average at this time, and though the predictability is low, could get stronger during the forecasting period, particularly in the vicinity of the ABC Islands. The above average temperatures would cater to above normal rainfall, but this could be negated, though with low likelihood, by the weak El Niño.

#### **March to May 2015**

Better than average chance for normal to above normal rainfall in the south of eastern Caribbean chain, as well as in the north and west Caribbean over Hispaniola, Puerto Rico, The Bahamas, Cuba and Belize. There is only a slightly better than normal chance for normal to above normal rainfall in the Windward and Leeward Islands. Conversely there is only slightly better than normal chance for normal to below normal rainfall over parts of the Guianas, with little to no predictability over Guyana at this time. There is also little to no predictability over the ABC islands.

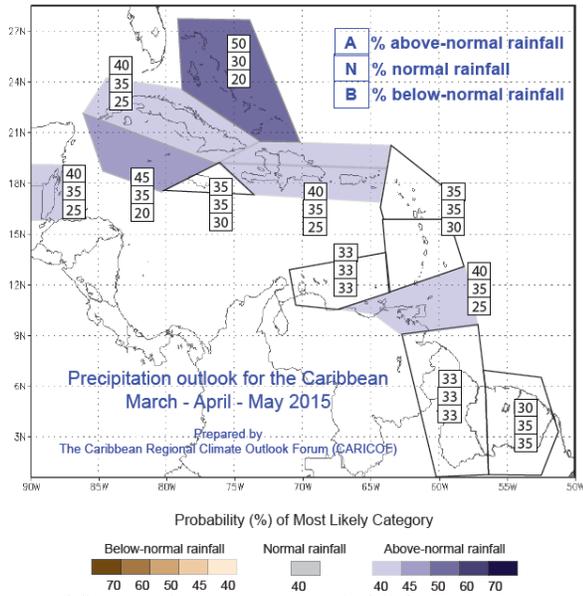


Figure 7 The March to May 2015 rainfall forecast

### June to August 2015

Most of the Caribbean with high likelihood for normal to below normal rainfall, with greatest chance of below normal. The certainty for below normal is greatest in parts of the Guianas, the ABC islands and in the west in the vicinity of Cuba and Jamaica. The only area with a greater than normal chance for normal to above normal rainfall is Belize. There is no predictability in the vicinity of The Bahamas and northern Hispaniola.

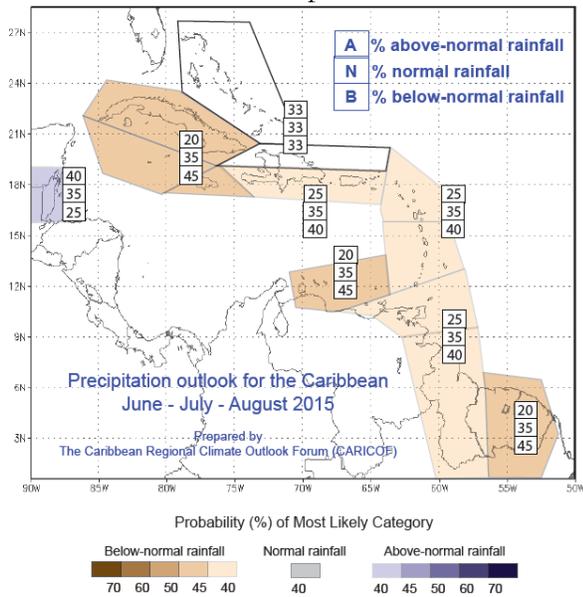


Figure 8 The June to August 2015 rainfall forecast

There are fewer areas of concern with respect to short term drought, though it must be noted that normal conditions (dry season) are below the desired water availability for crops. Drought watches should be in effect for most of the eastern Caribbean islands, the Guianas and the ABC islands through May, with even greater concern in the vicinity of St. Lucia.

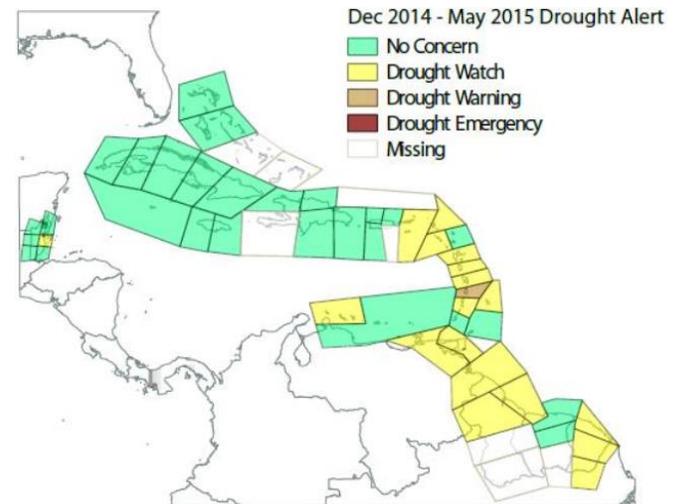


Figure 9 Drought Alert map produced in February 2015 (for the period December 2014 to May 2015).

Prepared by

Caribbean Institute for Meteorology and Hydrology (CIMH) and the National Meteorological Services of Antigua and Barbuda, Barbados, Belize, Dominica, Grenada, Guyana, Jamaica, St Lucia, St Vincent and the Grenadines and Trinidad and Tobago

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