



**ANNOUNCEMENTS**

The Caribbean Drought and Precipitation Monitoring Network has expressed concern with respect to drought in parts of the western Caribbean and northern parts of eastern chain that can impact on farming in these areas as we approach the heart of the dry season. Temperatures are likely to continue to be above normal across most of the Caribbean by up to 0.5 °C at least until April 2013. The CAMI project is now financially completed but its output and activity continues.

**REGIONAL OVERVIEW ON WEATHER AND CLIMATE FOR JANUARY 2013**

In the eastern Caribbean and Guyana, Diverse rainfall conditions were experienced during the month. Trinidad, Tobago, Grenada and St. Vincent were abnormally wet; Barbados, St. Lucia and Antigua normal; Dominica moderately dry; and Guyana ranged from normal in the west to moderately dry in the east. Jamaica was moderately dry, while conditions in Belize ranged from moderately wet in the west to normal to the north and south.

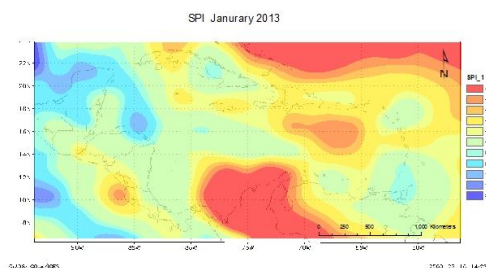


Figure 1. SPI for the Caribbean for January 2013. More information on the SPI can be viewed at <http://63.175.159.26/~cdpmn/spimonitor.html>.

Most annual cropping takes place over a period of about three months. In the eastern Caribbean and Guyana, there was a general distinction between the normal to above normal south and normal to below normal north, for the three month period. Trinidad and St. Lucia were abnormally wet;

Tobago moderately wet; Grenada normal; Barbados abnormally dry; Dominica and Antigua severely dry; and Guyana normal apart from the extreme north. Jamaica was abnormally dry in the west and moderately dry in the east, while Belize was moderately dry. See Figure 2.

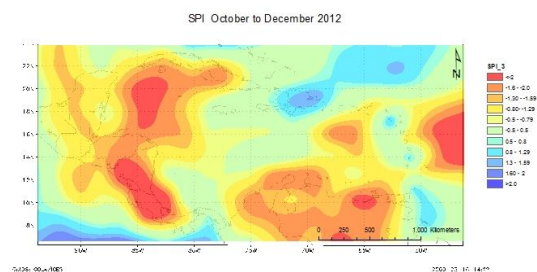


Figure 2. SPI for the Caribbean for November 2012 to January 2013. More information on the SPI can be viewed at <http://63.175.159.26/~cdpmn/spimonitor.html>

Concern about agricultural drought in the southern Caribbean, particularly in the vicinity of Grenada; was relieved to some extent during a moderate to very wet December and an abnormally wet January. However, the conditions should continue to be monitored over the coming months. Attention has continue to be focussed on the western Caribbean (including Belize), and now over the northern islands of the eastern Caribbean where conditions over the past three months have been drier than normal. With a normal to below normal dry season being predicted for these areas, this may be a cause for some concern as we approach the heart of the dry season.

Temperatures for the month were normal to above normal in the region.

## NATIONAL OVERVIEWS

### Antigua

The island had above normal rainfall during January with an average total of 75.2 mm – the second highest for the month since 2008. Notwithstanding, the period November to January (NDJ) had below normal rainfall, the 6<sup>th</sup> driest on record and the driest since 2000. The rainfall deficit for NDJ is 4.97 inches, which is considered serious. With this deficit, the country is now experiencing a [meteorological drought](#) – largely due to significantly below normal rainfall for November and December. Currently, most of the impacts of the drought, particularly to agriculture, is being masked by the absence of a [hydrological drought](#) (for those farmers with irrigation potential), which is months away, if it does occur at all. For January, at the airport, the two heavy rainfall days ( $\geq 10$  mm) were above normal. However, the nine wet days ( $\geq 1$  mm) were below normal (1981 – 2010), the second lowest since 2005.

The mean temperature of 25.3°C was near normal. Further, the mean daily maximum and minimum temperatures were below normal and above normal respectively.

The outlooks call for near normal rainfall and temperature for February and below normal rainfall and near normal temperature for the period February to April (FMA). This was a good month for field preparation and harvesting by farmers. The near record rainfall of October has become a distant memory and the anticipated drought is here. While the serious rainfall deficit is projected to ease during February, there is only a slight chance of the drought ending over the period FMA.

### Barbados

The Bermuda/Azores high pressure ridge pumped moderate to fresh east to east north-easterly trade-winds across Barbados and the eastern Caribbean during the month of January. These winds had a much welcomed, cooling effect on night time temperatures in particular.

The low-level convergence of trade-winds also brought mostly overnight and early morning showers to Barbados and these generated near normal rainfall

levels of 66.4mm which was just 3.7mm shy of the long-term total for January of 70.1mm.

Meanwhile, Golden Ridge in St. George recorded a rainfall total for January of 104.9mm and experienced 18 rain days (rain day  $\geq 1$ mm of rainfall).

With the exception of a seven-day spell between January 14<sup>th</sup> and 20<sup>th</sup>, when the maximum temperature ranged between 28.3 and 28.7°C, the daily maximum temperatures for most of the remaining days exceeded the long-term average of 29.1°C by as much as 0.6°C.

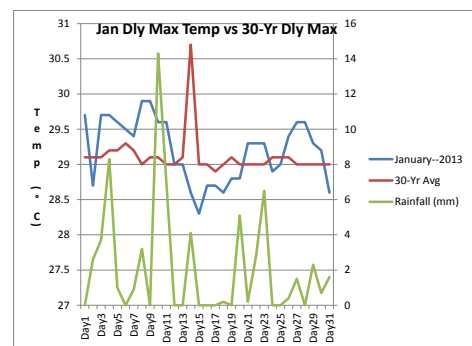


Figure 3. Temperature and rainfall at Grantley Adams for January 2013.

### February Outlook

A drier regime of weather is anticipated during February since on average, it is usually the second driest month of the year for Barbados with a long-term average monthly total rainfall of 41.3mm occurring over an average of eight rain days (rain day  $\geq 1$  mm).

### Dominica

The high pressure ridge resulted in the passage of low level clouds with some passing showers and breezy conditions.

127.8mm of rain fell at the Canefield Airport which is just about 20% above the monthly mean. 24.7mm was the highest daily total and was recorded on the 6<sup>th</sup>. Dry days were normal with 14 days being recorded, of which a 6 days dry spell occurred during mid month. An average air temperature of 26.2°C was recorded for the month, which is just 0.2°C below the monthly mean. The maximum temperature recorded was 31.8°C on the 24<sup>th</sup> while the minimum of 19.0°C was recorded on the 15<sup>th</sup>.

Gusty winds persisted throughout the month with the highest of 52km/h being recorded on the 9<sup>th</sup>.

January 2013 has mirrored the dry conditions of January 2012 at the Melville Hall Airport recording below normal rainfall. 75.5mm was measured representing about 56% of the monthly mean. The highest daily total was 8.5mm recorded on the 23<sup>rd</sup>. There were 10 dry days which is slightly below the monthly mean. Averaged air temperature was 26.1°C which is normal for January. The maximum temperature was 30.9°C recorded on the 1<sup>st</sup> while the minimum temperature was 19.4°C recorded on the 15<sup>th</sup>. Breezy conditions also existed at Melville Hall throughout the month and a maximum gust of 67km/h was recorded on the 6<sup>th</sup>.

## Guyana

Table 1 Rainfall by Administrative Regions for January 2013

Regions	Regional Average (mm)	Highest total in Region (mm)
1 (Barima Waini)	43.0	Wauna Oil Mill 62.8mm
2 (Pomeroon Supernaam)	60.7	Anna Regina 115.5mm
3 (Essequibo Islands West Demerara)	67.1	Santa Mission 158.4mm
4 (Demerara Mahaica)	60.5	Sam Atta Point 101.3mm
5 (Mahaica Berbice)	47.7	Wash Clothes 94.6mm
6 (East Berbice Corentyne)	46.1	Mibikuri 97.7mm
7 (Cuyuni Mazaruni)	113.2	Bartica 113.2mm
8 (Potaro Siparuni)	No Data Available	
9 (Upper Takutu Upper Essequibo)	3.0	Kumu 10.1mm
10 (Upper Demerara Upper Berbice)	53.5	Mabura Hill 101.1mm

The month of January, based on the rainfall data collected from the ten (10) administrative Regions, was drier than normal. Guyana had an average of 53.9 mm of rainfall with an average of 8 rainfall days. The Climatological average for January 158.8 mm with 15 rainfall days. Santa Mission in Region 3 recorded the highest monthly rainfall with 158.4 mm. The highest one day rainfall total was also recorded at this station, with a total of 68.5mm on 31st. A total of forty three (43) rainfall stations across Guyana recorded rainfall values below their climatological average, while no station has recorded values above its average, from those stations already received.

January was warmer than normal, the average maximum temperature for the month was 31.5°C when compared to the climatological maximum of 29.4°C. Lethem (Region 9) recorded the highest average monthly maximum temperature of 33.2°C. This location also recorded, the highest one day maximum temperature of 34.8°C on January, 30.

## Jamaica

During the month of January no major rainfall events were recorded. There was a significant reduction in the levels of rainfall measured across most areas.

Both Sangster International airport (Sangster) in the northwest and Norman Manley International airport (Norman Manley) in the southeast recorded well below the monthly rainfall average. The most significant weather features which affected the island during the month were Low Level Troughs, most of which developed over the north-western Atlantic and affected mainly north-eastern parishes.

During the month, Sangster in the northwest recorded 18.9 mm of rainfall, while Norman Manley in the southeast recorded 1.0 mm. There were three rainfall days reported for Sangster, while Norman Manley had only one measured rainfall day during the month. Sangster recorded approximately 23% of the 1971-2000 mean while Norman Manley recorded 4% of the 1971-2000 mean.

Table 2 Climatological Statistics for Manley and Sangster Airports for January 2013

Monthly Averages	Norman Manley	Sangster
Extreme Maximum Temperature	33.8 °C (32.7°C)	32.4 °C (31.5°C)
Lowest Minimum Temperature	21.5 °C (20.9°C)	20.5 °C (20.5°C)
Rainfall Total	1.0 mm	18.9 mm
Rainfall days (≥1mm)	1 days (4.2)	3 days (12.7)

Values in red indicate the 1992-2010(19-year) averages.

The lowest minimum temperature recorded for Sangster Airport was 20.5°C (on 4th) while 21.5°C (22nd) was reported for Norman Manley Airport.

## St Lucia

Saint Lucia experienced below average rainfall for January this year. Hewanorra recorded 70.2 mm of rainfall which represents 88 per cent of the long term mean of 79.6 mm. There were 14 rainy days and the highest daily rainfall was 9.1 mm on the 12<sup>th</sup>. Hewanorra also experienced a 5 day dry spell (from 24<sup>th</sup> to 28<sup>th</sup>).

The total rainfall recorded at George Charles was also below the mean of 113.8 mm. There were 22 rainy days with 3 of those days producing 10 mm or more. The highest daily rainfall was 11.9 mm on the 31<sup>st</sup>. The general trend of below average rainfall (in the north of the island) which started in June 2012 continued through January. The drought in the north of the island which began in September continues but appears to becoming less severe.

Table 3 January 2013 monthly averages at Hewanorra Airport

AVERAGE MONTHLY DATA FOR HEWANORRA					
Cloud Cover (oktas)	Wind Dir (o from N)	Wind Speed (kt)	Air Temp. (°C)	RH (%)	Rainfall (mm)
4	80	15	26.3	73	70.2
Temp (°C)	Min Temp (°C)	Daily Sunshine (Hrs)	Daily Evap (mm)	Soil 20 (°C)	
29.2	23.5	9.1	6.6	26.9	

Table 4 January 2013 monthly averages at George Charles Airport

AVERAGE MONTHLY DATA FOR HEWANORRA					
Cloud Cover (oktas)	Wind Dir (o from N)	Wind Speed (kt)	Air Temp. (°C)	RH (%)	Rainfall (mm)
4	90	08	26.5	73	98.6
Temp (°C)	Min Temp (°C)	Daily Sunshine (Hrs)	Daily Evap (mm)	Soil 20 (°C)	
29.0	22.9				

February is one of the driest months in Saint Lucia and monthly rainfall totals are expected to decrease as the dry season continues. Monthly rainfall figures for February range from 2.8 mm to 203 mm at Vieux-Fort and from 1.7 mm to 220 mm at George Charles.

The seasonal precipitation outlook for the February, to April period indicates near equal chances of rainfall to be in the below normal, normal or above normal categories or to range from 107 mm to 400

mm in Vieux-Fort and from 110 mm to 593 mm in Castries. Farmers should continue their water conservation practices and prepare for low rainfall amounts in the other months of the dry season.

## St Vincent and the Grenadines

Mainly light to moderate showers were experienced in St. Vincent and the Grenadines during January. At the E.T. Joshua Airport, more than 76% of total rainfall was recorded in the first twelve days. There were 22 rain-days, and a 'five-day' dry spell (14th to 18th). Rainfall records at most stations across SVG showed a similar pattern of the rainfall.

Brisk east-northeast winds exceeding gale-force strength (77.8 km/hr at E.T. Joshua Airport on the 7th), were experienced during the month. The brisk winds also agitated seas to be occasionally rough in open waters.

## Trinidad and Tobago

Climatologically, the start of Dry Season in Trinidad and Tobago is January. Rainfall totals for both islands showed that January 2013 was a wet start to the Dry Season. Rainfall recorded at Piarco International Airport, Trinidad was 89.0 mm. This amount was 33% above the long-term average (1971 to 2000). Rainfall at the A.N.R. International Airport, Crown Point, Tobago was 83.4 mm, 76% above the long-term average. There were no significant dry spells for both islands.

Between 14<sup>th</sup> to 16<sup>th</sup>, there were reports of damages to the coast and private property in parts of Tobago and Northern Trinidad. This was as a result of strong waves associated with the passage of a frontal system. There were no reports of damages to the Agricultural community.

## REGIONAL OVERVIEW ON SEASONAL CLIMATE FORECAST

### Three month Outlook

Rainfall in the Caribbean during February to April shows nearly equal chances of being above normal, normal or below normal in most places, with the possible exception of the northeastern Antilles where rainfall leans towards below normal to normal. The limited predictability of rainfall

anomalies throughout the Caribbean (and the tropics, globally) for the coming three months is mainly due to very limited signal in its drivers. Notably, ENSO conditions are neutral and Atlantic SSTs are close to average, except for being slightly above average north of the Guianas. If any signal should be picked up in the other areas, there is a slight tendency to normal or above normal over the southeastern islands and Guyana and to below normal or normal anywhere to the west.

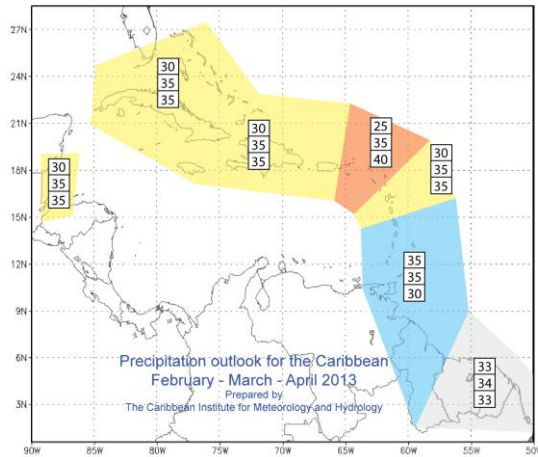


Figure 4 The February to April 2013 Rainfall Forecast

Currently, some parts of the Caribbean Sea and tropical North Atlantic show SSTs of up to 0.5°C above average, while most other areas are very close to average. Such conditions are expected to last into April. Consequently, it is expected that, unless rainfall greatly exceeds normal values, the forecast period will very likely see slightly above normal air temperatures across the Lesser Antilles and the Guianas. Moving to the northwest, chances of above normal air temperatures decrease, with a tendency towards normal over Cuba.

### ENSO Conditions

After a summer 2012 where El Niño appeared to be in place, the eastern equatorial Pacific Sea

Surface Temperatures are now very close to average. This evolution limits the predictability of rainfall and temperatures in the Caribbean. However, and contrary to previous predictions, there is a small chance that eastern equatorial Pacific SSTs decrease further to borderline La Niña within 2-3 months. It should be noted, though, that as this period ushers in spring, quick reversals and a possible evolution to either El Niño or La Niña conditions may evolve, leaving us with considerable uncertainty beyond April. Nevertheless, if the current neutral-cold ENSO conditions prevail, as forecasted by most models, we do not expect a large effect on Caribbean rainfall in this dry season, if any.

### Six month outlook

As in any six month forecast, there is considerable uncertainty as to the development of rainfall activity in the region. Although forecasting confidence could generally improve as the Caribbean enters the core of the dry season, climate conditions driving rainfall across the Caribbean on seasonal to half-year basis are showing nearly no signal. It is (at best) somewhat likely that rainfall in the south-eastern Caribbean may generally be normal to below normal, whereas eastern portions may experience normal to above normal rainfall as we approach the end of the period.

In terms of air temperatures, a highly probable pattern of warmer than average Caribbean region emerges from climate models for the next 6 months. Contrary to previous forecasts, the northwestern part may be subject to air temperatures around average in the first three months and with a probably trend to normal to above normal between May and July.

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

CAMI is funded by the European Union in partnership with the institutions that have prepared this bulletin, along with the Caribbean Agricultural Research and Development Institute and the World Meteorological Organization