



**ANNOUNCEMENTS**

CAMI will be conducting an e-discussion that will embrace the suite of issues related to weather and climate influences on agriculture in the Caribbean, particularly issues that would have been raised in last years farmers’ forums. If interested in joining the discussion send an e-mail to [atrotman@cimh.edu.bb](mailto:atrotman@cimh.edu.bb). CAMI continues to urge the National Meteorological Services to maintain regular contact with their farmers and extension services. The formation of tripartite (meteorologists, farmers and extension officers) committees to sustain activities at the national level have been recommended and are being pursued. CAMI encourages and will assist its meteorological services in developing their own national bulletins. CAMI collaborators continue to encourage feedback from farmers and the wider agricultural community on this bulletin.

**REGIONAL OVERVIEW ON WEATHER AND CLIMATE FOR JANUARY 2012**

In January 2012, the majority of the eastern Caribbean and Guyana were normal to above normal except for St. Vincent that was moderately dry and Dominica severely dry. St. Lucia was normal; Trinidad, Tobago, and Antigua abnormally wet; Grenada very wet; and Guyana ranged from extremely wet in the west to moderately wet in the east. Jamaica was abnormally dry and conditions in Belize ranged from normal in the south to moderately wet in the north.

Most annual cropping takes place over a period of about three months or just over. For the three month period of November 2011 to January 2012, rainfall conditions in the eastern Caribbean and Guyana were normal to above normal, apart from Trinidad that was abnormally dry to normal. Tobago, Grenada and St. Vincent were normal; St. Lucia abnormally wet; Barbados and Dominica moderately wet; Grenada and Antigua very wet; and Guyana extremely wet in the north to normal in the south. Jamaica was abnormally dry in the west and moderately dry in the east, while conditions in Belize ranged from normal in the south to moderately dry in the north.

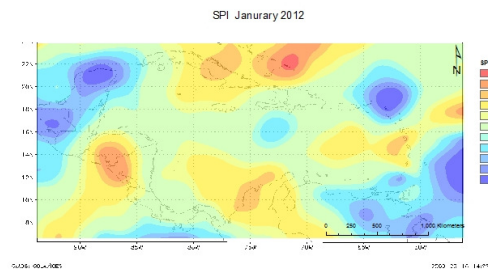


Figure 1. Standardised Precipitation Index (SPI) for the Caribbean for January. More information on the SPI can be viewed at <http://63.175.159.26/~cdpmm/spimonitor.html>.

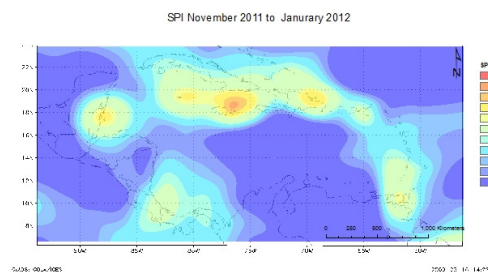


Figure 2. SPI for the Caribbean for November 2011 to December, 2012. More information on the SPI can be viewed at <http://63.175.159.26/~cdpmm/spimonitor.html>

Temperatures in the region were near normal for the most part.

## NATIONAL OVERVIEWS

### Antigua and Barbuda

Antigua experienced above normal rainfall during January. The total for the month was 76.2 mm; this was 111% of the normal total (1981 – 2010). This is the highest total for the month since 2008. Moisture advection in association with fresh to strong low level winds was responsible for about 75% of the rainfall. At Coolidge, the 11 rainy days ( $\geq 1$  mm) were near normal; meanwhile, there were two heavy rainfall days ( $\geq 10$  mm), which were above normal. The mean temperature (temp) of 25.2°C was near normal and the mean daily maximum and minimum temps were below and near normal respectively. The outlooks call for near normal rainfall and temperature for February. Further, for February to April, near normal rainfall and below normal temp are most likely. For much of the month, conditions were conducive for land preparation, planting and harvesting. However, some farmers are still feeling the impacts of the excess rainfall of last year; overall crop production is still down, and there were still some areas where general farming activities remain challenging on account of waterlogged soil.

### Barbados

The significant synoptic feature was a very strong high pressure ridge which dominated conditions across the eastern Caribbean for most of the month. This system generated moderate to strong easterly trade winds ranging between 37 and 46 km/hour with higher gusts. It also generated above-normal sea-conditions with swells peaking near 3.5m.

However, a low to mid-level shear-line maintained some instability and showers across Barbados during the first five days of the year. As a result, some 34.8mm or 51% of the final January total of 68.4mm occurred during that first five day period. The most significant rainfall event occurred on the 5<sup>th</sup> when 12.4mm of rainfall was recorded. There were 15 rain days ( $\geq 1$ mm) in total but only two of these occurred during the last ten days of the month. The January total of 68.4mm was just shy of the long-term average (1981-2010) of 70.1mm.

The highest maximum temperature of 29.6°C was 0.5°C above the long-term average and occurred on 1<sup>st</sup> the lowest minimum observed was 21.1°C on the 19<sup>th</sup>.

### Belize

A cold front affected the country during the early days of the month at times causing heavy showers, particularly over northern Belize. On 4<sup>th</sup> January the minimum temperature recorded at the International Airport was 16°C and these cool temperatures continued until 6<sup>th</sup>.

At the start of the second week in January it was mostly sunny weather across the country. A dry southeasterly surface flow was the driving force behind two consecutive days of warm and mostly dry weather.

Another cold front entered Belize on 14<sup>th</sup> January producing showers over many parts of Belize until 16<sup>th</sup> when the intensity decreased. Rainfall amounts recorded on 15<sup>th</sup> included 40mm at La Democracia, 26mm at the International Airport and 23mm at Baldy Beacon in the Mountain Pine Ridge. Surface winds were quite gusty. With the moving front, showers by 16<sup>th</sup> were mainly along the southern coast.

On 25<sup>th</sup> January surface winds ahead of a front were gusty enough to warrant a small craft caution for coastal waters of Belize. Instability created ahead of the front produced afternoon showers and thunderstorms over western Belize. On 27<sup>th</sup>, Belize radar detected showers over northern and western Belize which dissipated by the end of the day. The weather was quite cloudy and rainy for southern Belize at the start of 29<sup>th</sup>. Showers, accompanied by isolated thunderstorms spread to central and other coastal areas during the course of the morning. Melinda Forest Station along southern coastal Belize recorded 85mm, followed by the International Airport and La Democracia with 26mm and 25mm respectively.

Some showery outbursts were again experienced on the final two days of January especially along southern and coastal parts of the country. The stations registering above normal rainfall were the coastal stations of the International Airport and Melinda. Belmopan, La Democracia and Chaa Creek

representative of central and western Belize also registered rainfall totals above normal.

**Dominica**

63.0mm of rainfall was recorded at the Canefield Airport in the south-west. This is about 58% of the normal rainfall for that month. Maximum rainfall amount was 16.1mm recorded on the 12<sup>th</sup>. There were 11 rainfall days. Mean temperature was 26.3°C which is normal. The highest temperature for the month was 30.7°C recorded on the 4<sup>th</sup> while the lowest was 20.0°C recorded on the 10<sup>th</sup>.

At Melville Hall, on the north-east coast, 66.0mm of rainfall was measured which is 47% of the normal rainfall. Maximum daily rainfall was 17.7mm recorded on the 4<sup>th</sup>. There were 13 rainfall days. Average air temperature for the month was 25.9°C, which is normal for the area. The highest temperature recorded was 30.5°C on the 17<sup>th</sup> and the lowest was 19.5°C recorded on the 20<sup>th</sup>.

It was a breezy month at both stations due to the dominance of a strong ridge in the North Atlantic. Canefield recorded a maximum gust of 53.7km/hour while Melville Hall recorded a maximum of 64.8km/hour on the 27<sup>th</sup> and 30<sup>th</sup> respectively.

**Grenada**

Rainfall for the month of January, 2012 at the Maurice Bishop International Airport (MBIA) Grenada was 126.5 mm which is more than twice the average of 58.4 mm and the fourth highest for the 27 years of data collection at MBIA.

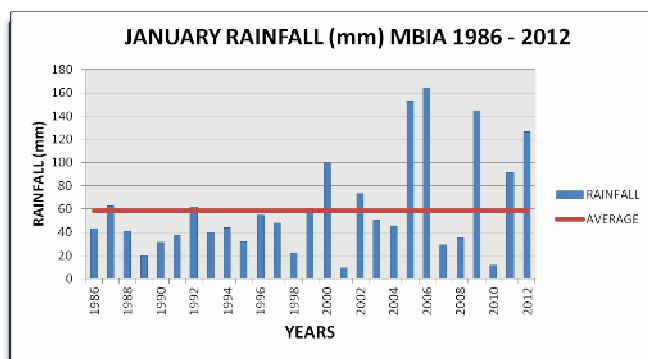


Figure 3 Total rainfall for January verses its average over the 27 years

There were two significant rainfall days of 36.1 mm and 37.7 mm on the 3<sup>rd</sup> and 4<sup>th</sup> respectively. On the

14<sup>th</sup> and 15<sup>th</sup> there were rainfall amounts measuring 8.8 mm and 14.6 mm respectively. There were 20 days with rainfall of 0.1 mm or more which were welcomed by farmers for the start of the “dry” season. Significant amounts of moisture were notable in the lower levels of the atmosphere over the Tropical Atlantic. A few perturbations in the Easterly Trade winds further contributed towards the favorable rainfall conditions during January.

January’s highest maximum temperature was 30.5 °C, while the lowest minimum temperature was 20.7 °C. The low temperatures have not gone unnoticed by the public as the nights have been cold from a Grenadian standpoint. An Official from the Ministry of Fisheries was quoted as saying that there was a notable drop in fish catch for January and attributed it to the drop in the sea temperatures.

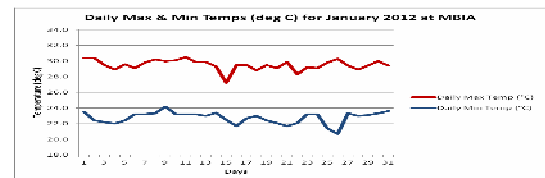


Figure 4 Daily Maximum and Minimum Temperatures for January 2012, 27 years

**Guyana**

January 2012 can be classified as wet to extremely wet for most of Guyana. Periods of wet and cloudy weather were persistent at the beginning and end of the month separated by short spells of dry, sunny and windy conditions during mid- month. The most significant rainfall was over the coastal and near inland areas.

There were many rain days (i.e. rainfall ≥ 1.0mm) during this month and rainfall totals exceeded the normal over most locations. With the exception of Jan 2005, data indicates that rainfall recorded for Jan 2012 along coastal location is ranked among the highest in last 20 years.

Of the 40 stations represented in Figure 5, 7 had rainfall between 300 and 400% of the long term average, 23 had between 200 and 300%, 7 had 100-200 % while the remaining 3 had between 50-100 % of the long term average at the station.

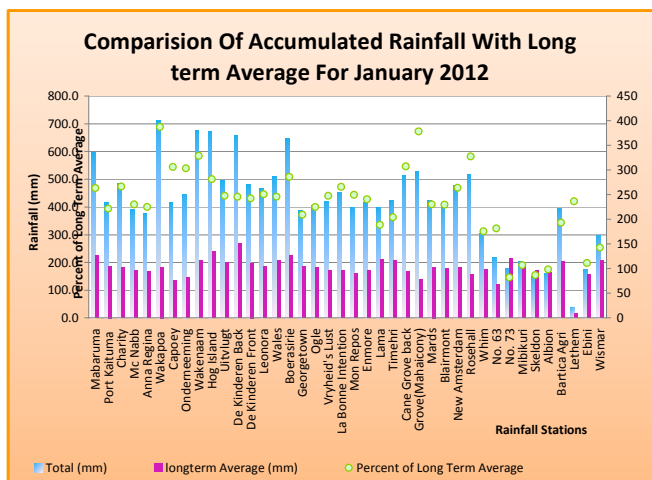


Figure 5 January 2012 rainfall compared with the long term average

From rainfall distribution, the average rainfall recorded across Guyana was 395.1mm with an average of 19 rain days. The highest rainfall total of 844.8mm was recorded at Supernaam in Region 2, with this location also recording the highest one day total of 255.5mm on the 30th . Other rainfall highs were St. Denny Mission, Wakapoa and Good Success, all of which recorded rainfall totals above 700mm. Most of the rainfall experienced was over Northern Guyana, which was as a result of the presence of the axis of the Inter Tropical Convergence Zone (ITCZ) supported by low to mid level troughs over the Guianas. Data available indicates that St. Ignatius in Region 9 recorded the lowest rainfall total for the month .

**Jamaica**

Despite several surface troughs affecting the island during the month of January, the two main synoptic stations (Norman Manley and Sangster) recorded well below average rainfall for the month. January is considered to be one of Jamaica’s driest months. Nevertheless, the island generally receives occasional outbreaks of showers from migrating cold fronts and associated troughs, especially from North America and Canada. During the month, trade winds associated with these weather systems remained fairly dry especially over the central Caribbean. Therefore, the island experienced significantly less rainfall activity for the month of January. Sangster in the northwest recorded 20.1mm (25% of mean) of rainfall, while Norman Manley in the southeast recorded 2.7mm (11% of mean). There were eight (8) rainfall days for Sangster while only two (2)

rainfall days were recorded for Norman Manley. Both stations recorded below average amount of rainfall.

Although, rainfall activities across the island was below the average, radar reports and Satellite images confirmed that isolated rainfall activities occurred across the northern parts of island, especially over the parishes of St. Mary, Portland and St Ann. This was due mainly to the strong, cool and dry northeasterly trade winds as well as frequent migratory troughs across the region.

Several parishes were reporting drought conditions in December and the deficit in January might mean a worsening of conditions especially as it relates to the agricultural sector. Measures should therefore be put in place for irrigation which might become necessary if this trend continues.

The highest maximum temperatures was 32.2°C (11<sup>th</sup> January) for Sangster Airport and 32.6°C (1<sup>st</sup> January) for Norman Manley.

Table 1 Extreme temperatures as well as rainfall totals for Norman Manley and Sangster International Airport.

Monthly Averages	Norman Manley	Sangster
Maximum Temperature	32.6 °C	32.2 °C
Minimum Temperature	20.1 °C	20.5 °C
Rainfall	2.7 mm (30- year mean = 25mm)	20.1 mm (30-year mean= 81mm)
Rainfall days (>0.25mm)	2 days	8 days

**St Lucia**

January this year in Saint Lucia was relatively dry. Both Hewanorra and George Charles stations recorded values below the long term means. Hewanorra measured 60.3 mm which is 75.5 percent of the mean (1973-2012) of 79.9 mm, while George Charles measured only 69.8 mm or 61.2 percent of the mean (1971-2012) of 114.1 mm. For Hewanorra there were 13 rainfall days with the highest value of 11.1 mm occurring on the 13<sup>th</sup>. George Charles had only 9 rainfall days and the highest was 22.6 mm on the 1<sup>st</sup> day of the month.

Average dry bulb (26.5°C), average maximum (29.2°C) and average minimum (24.0°C) temperatures were all above normal for Hewanorra.

February which is usually drier than January has on average 10 rainfall days and average maximum and minimum temperatures of 28.9°C and 23.3°C respectively.

**St Vincent and the Grenadines**

The total rainfall for January 2012 was 75.4 millimeters. This was below the climatological average (130.5mm) for this station. The first dekad had 41.5%; the second dekad had 47.1%, while the third dekad had 11.4% of the total rainfall. There were fifteen days with rainfall >1mm. The longest dry spell lasted six days. The highest 24 hour rainfall was 22.7 mm which was approximately 30%

Extremes for December, 2011 (date of occurrences): Barometric Pressure – highest 1019.2 mb (15th), lowest 1012.6 mb (23rd); Air Temperature – highest 29.9°C (4 th,6 th,9th,16th), lowest 21.4°C (19th); Relative Humidity – highest 90 % (3rd), lowest 48 % (28th)

**Trinidad and Tobago**

Climatologically, the start of Dry Season in Trinidad and Tobago is January. Rainfall totals for both islands showed that January 2012 was a wet start to the Dry Season. Rainfall recorded at the Observing station in Piarco International Airport, Trinidad was 104.7 mm. This amount was 156% above the long-term average (1971 to 2000). Rainfall at the A.N.R. International Airport, Crown Point, Tobago was 90.2 mm, 184% above the long-term average. There were no significant dry spells for both islands.

At Piarco, by the beginning of the third dekad, rainfall amounts were above the long-term average. While in Tobago, rainfall amounts was equivalent to the long-term average by the end of the second dekad. On the 21<sup>st</sup> January 2012, there was an induced surface trough which pushed rainfall totals above the long-term averages. There were no reports of damages to the Agricultural community.

**REGIONAL OVERVIEW ON SEASONAL CLIMATE FORECASTS**

Rainfall in the eastern Caribbean and Guyana are expected to be above normal, with the highest certainty in the vicinity of the southern portion of the chain. Contrastingly, the northwestern Caribbean is expected to be drier than normal. Rainfall in the area between these contrasting zones are expected to be normal to above normal (including Jamaica) and normal to below normal (southern Cuba and southern Bahamas). Belize rainfall is expected to be near-normal for the period.

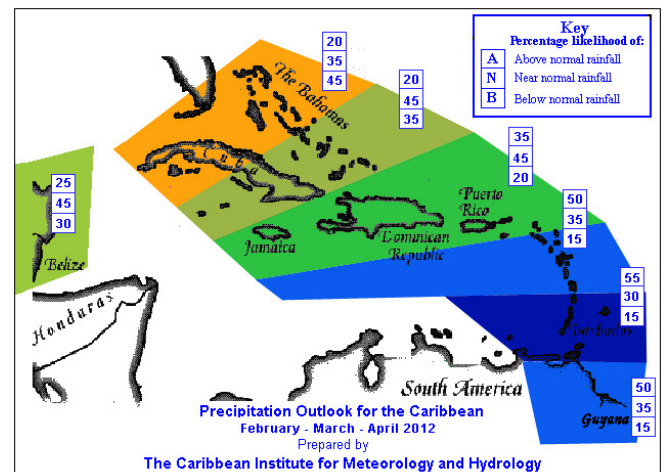


Figure 6. Precipitation Outlook for the Caribbean February- March- April, 2012

Above normal rainfall conditions are expected in the eastern Caribbean and Guyana at least until May-June when the certainty decreases. By this time Guyana rainfall is expected to become closer to normal up to July. The sharp contrasts in rainfall anomalies between the northwest and southeast continues until about May. Most of the Greater Antilles and Belize are expected to experience near-normal rainfall during the six month period.

Cooler than normal 2 m air temperatures are expected in the vicinity of the Greater Antilles. Near-normal temperatures are expected in the remainder of the region, which includes the eastern

Caribbean and Guyana. The region of cooler than normal 2 m air temperatures expected in the Greater Antilles during the first half of the period diminishes in intensity and extent, with the entire Caribbean basin becoming near-normal by the end of the period.

SSTs are expected to be near normal across the entire basin at least until July.

### **ENSO Conditions:**

Weak to moderate La Niña conditions are present across the equatorial Pacific. La Niña is expected to continue with weak-to-moderate strength during the remainder of the northern hemisphere winter (early part of the Caribbean climatological dry season) of 2012, and is likely to dissipate sometime between April and May. Atmospheric circulation anomalies are consistent with La Niña. These developments may have implications for climate conditions in the Caribbean basin, driving the contrast in rainfall between the Lesser Antilles and Guyana, and the Greater Antilles.

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