



ANNOUNCEMENTS

Meteorologists and CARDI researchers meet in Barbados for a training workshop in Crop Simulation modeling from 9 to 14 January, 2012. Beginning in January 2012, CAMI will be conducting an e-discussion that will embrace the suite of issues related to weather and climate influences in agriculture in the Caribbean. 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 NMS 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 DECEMBER 2011

In December 2011, rainfall in the eastern Caribbean islands was predominantly normal with some exceptions. Tobago, Barbados, St. Vincent, St. Lucia, and Dominica were normal; Grenada abnormally dry; Antigua abnormally wet; and Trinidad normal to abnormally wet. Conditions in Guyana ranged from very wet in the north to normal further south. Further to the west, Jamaica and Belize were predominantly normal but with abnormally to moderately dry conditions in the northeast of Jamaica, and the extreme south of Belize abnormal to moderately wet.

For the three month period of October to December 2011, apart from Grenada and Trinidad that were abnormally dry, rainfall in the islands of the eastern Caribbean was normal to above normal. Tobago, St. Vincent, St. Lucia and Antigua were normal; and Barbados abnormally wet. Conditions in Guyana ranged from moderately wet in the north to normal in the south. Jamaica was normal, and Belize normal to abnormally dry.

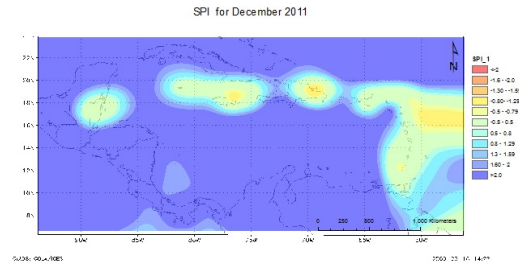


Figure 1. Standardised Precipitation Index (SPI) for the Caribbean for December. More information on the SPI can be viewed at <http://63.175.159.26/~cdpmn/spimonitor.html>.

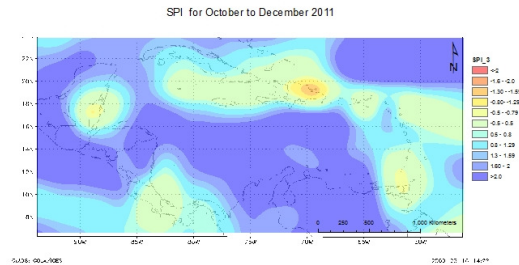


Figure 2. SPI for the Caribbean for October to December, 2011. More information on the SPI can be viewed at <http://63.175.159.26/~cdpmn/spimonitor.html>

Temperatures in the region continued to move toward normal from the above normal experienced earlier in the year. In fact, some stations recorded below normal temperatures in December.

NATIONAL OVERVIEWS

Antigua and Barbuda

Antigua experienced above normal rainfall during December. The total for the month was 131.1 mm; which was 130% of the normal total (1981 – 2010). This is the highest total for the month since 2001. The main rain-producers for December were two trough systems during the first half of the month, which were responsible for over 70% of the total. Heavy showers on December 3 resulted in minor to moderate flash floods in low lying and flood prone areas. At Coolidge, the 18 rainy days (≥ 1 mm) were well above normal and tied with 1981 for the second highest on record for the month; meanwhile, there were two heavy rainfall days (≥ 10 mm), which were near normal. The mean temperature of 25.3°C was below normal, and the mean daily maximum and minimum temp were below and near normal respectively. The outlooks call for near normal rainfall and temperature for January. Further, for January to March, near normal rainfall and below normal temp are most likely. Frustrating rainy weather continued into the first half of December. The wet weather has taken a toll on many farmers. This was quite evident in the absence of a lot of local produce from the market. The unavailability of local agricultural produce has prompted the Ministry of Agriculture to open imports for produce to minimise the impact on the populace.

Barbados

A trough system which remained anchored just east of the Lesser Antilles at the start of the month was the main rain producer during the first half of December. This system induced I.T.C.Z moisture and intermittent showers across Barbados which resulted in 46.4mm of rainfall on December 1st and accumulations of 97.6mm by mid-month. During this period, very light winds of 5 to 10 knots, strong day-time heating and an abundance of low-level moisture contributed to mostly localized showers and some flash-flooding across the island.

During the latter half of month, the High pressure ridge strengthened in the eastern Atlantic and there was a gradual return to the normal December pattern of brisk north-easterly trade winds and cool night

time temperatures. The lowest minimum temperature reached was 20.0°C on December 18th. The strong low-level north-easterlies were in the range of 20 to 25 knots (37 to 43 km per hour) with higher gusts and these contributed to above-normal sea-swells impacting the region.

However, a low to mid-level trough traversed the Lesser Antilles during the Holiday period and this feature generated another 52.3mm of rainfall during the last eight days of December.

The total December rainfall was 161.8mm or 57% above the 30-year normal. There were 16 rain days (days with ≥ 1 mm of rainfall) which was also above the 30-year normal of 12 rain days for December.

Belize

A narrow and pronounced continental high pressure ridge across the Gulf of Mexico was the dominant influence on our weather. By the morning of 8 December, a front moved across Belize before becoming stationary east of the country, bringing cool conditions.

The high pressure ridge dominated the weather situation into 12 December. The temperature at the International Airport fell to near 19°C for two consecutive days. Baldy Beacon in the Mountain Pine Ridge registered the lowest temperature with 13°C. Rainy weather prevailed across much of Belize on 17 and 18 December with almost all network stations registering rainfall amounts between 5 to 10mm and this continued into 19 December with Hershey in the Stann Creek district recording the highest rainfall of 49mm followed by Baldy Beacon in the Mountain Pine Ridge with 23mm.

At the start of 29 December a slack pressure gradient, light winds and clear skies earlier on provided conditions for thick fog which blanketed central and northern parts of the country for almost 12 hours. The fog reduced visibility at the International Airport below 1000m from midnight to 10:00am (local). Domestic flights were severely hampered by the poor flying conditions.

By midday of 31 December, showers spread to northern and central portions of the country. The

showers persisted through the afternoon and evening over northern and central Belize. Line convection fueled the development of thunderstorms over the Belize and Cayo districts, making it a rainy end to 2011.

Dominica

Rainfall and temperature at the Canefield Airport were both normal for the month of December. 101.1mm of rainfall was recorded with a maximum amount of 16.6mm on the 22nd. Averaged temperature was 26.3°C, which is 0.6° below average. The highest maximum temperature was 30.9°C recorded on the 9th, 13th and 14th and the lowest minimum temperature 20.2°C recorded on the 18th.

Melville Hall recorded 223.8mm during December. This amount was skewed towards the earlier part of the month with 170.0mm being recorded during the first 5 days. The highest rainfall amount was 60.6mm on the 2nd. Averaged air temperature was 25.5°C which is 1.1° less than normal. Highest maximum temperature was 32.0°C on the 31st and represents the highest temperature on record for that month while the lowest minimum temperature was 20.0°C recorded on the 19th.

There were days of gusty winds at both the Melville Hall and Canefield Airports which necessitated the closure of Canefield at certain times. Highest wind gusts recorded were 26kts on the 20th at Canefield and 33kts on the 22nd at Melville Hall.

Grenada

Rainfall measured at Point Salines during the month of December totalled 52.4 mm which is about 53% lower than the monthly average of 98.5 mm. During the year 2011 Grenada experienced a very unusual weather pattern which affected the agricultural sector significantly. Normally the dry season begins in January and ends in May which is characterized by some light rainfall in the early part and a distinct dry period for mid March to May. However the year 2011 was marked with a very wet dry season. The first 4 months of the year, plus the months of July, September and October can be categorized as above average rainfall months.

Guyana

Guyana wet for the Month of December. Guyana's secondary rainfall season started in November but the peak rainfall was anticipated in December as the Equatorial Trough migrates south. Low to mid-level troughs embedded in the ITCZ moved into Guyana and increased the Rainfall over most of the Northern Sections of Guyana.

The highest rainfall amount recorded for the month of December was Grove (Mahaicony) with a total of 577.0mm. The highest 24 hour rainfall total was reported at Grove (Mahaicony) with 125.2mm. Friendship (Region 4) recorded highest 24 hour total of 120.0mm, and 15 rainfall days and a monthly total of 226.0mm.

December 2011 was generally warmer than average. All synoptic stations reported Mean Air Temperatures higher than their long term averages. The highest maximum temperature recorded for the month was 34.3 °C on the December 15, 19 and 20 respectively at Ebini. The lowest minimum temperature recorded was 19.1°C which was reported on December 15 at Mabaruma.

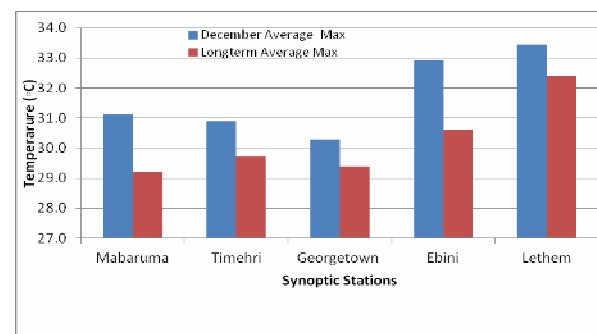


Fig 3 represents the average Maximum Temperature for December with the long-term average for December.

Although the rainfall amounts were above average, Farmers had both positive and negative impacts in terms of crops and livestock. The rice industry had a more positive influence since it was the beginning of the new crop and artificial means of irrigation was not necessary since rainfall was sufficient to carry out the necessary preparation and planting. However cash crops and livestock had more negative impacts since increased rainfall amounts caused minor flooding in some areas along the coast and livestock needed to be moved to higher locations.

Jamaica

Both Norman Manley and Sangster recorded below average rainfall for the month of December. Generally December signifies the beginning of the dry season in Jamaica. Throughout the month the island was affected mainly by **Troughs and High Pressure Ridges**. Therefore, the primary reasons for rainfall across the island during the month were as a result of prefrontal Troughs across the Central Caribbean.

During the month Sangster in the northwest recorded 69mm of rainfall, while Norman Manley in the southeast recorded 9.3mm. There were fourteen (14) rainfall days for Sangster while only two (2) rainfall days were recorded for Norman Manley.

Rainfall activity across the island showed a significant decrease below the average and radar reports and satellite images confirmed that only isolated rainfall activities occurred mainly across the northern parts of island. This was due mainly to the strong northeasterly trade winds as well as occasional low level prefrontal troughs, migrating from North America into the region.

The maximum temperatures was 31.3°C (9th December) for Sangster Airport and 33.5°C (24th December) for Norman Manley.

St Lucia

A significant reduction in rainfall occurred in the month of December in Saint Lucia. Both Hewanorra and George Charles stations recorded values well below the long term means. Hewanorra measured 72.8 mm which is 69 percent of the mean (1973-2011) of 105.4 mm, while George Charles measured only 65.0 mm - a mere 45 percent of the mean (1971-2011) of 143.3. For Hewanorra there were 16 rainfall days while George Charles had only 14. The yearly totals in both instances were significantly higher than the long term means.

Average dry bulb (26.6 C), average maximum (29.7 C) and average minimum (23.9) temperatures were all below normal at Hewanorra.

As we transition into the dry season, the lengths and frequency of dry spells over the islands are expected

to increase. The average number of dry days (<1mm) in January for Hewanorra is 19.

St Vincent and the Grenadines

The total rainfall for December 2011 was 137.3 mm. This was below the climatological average for this station. The first dekad had 32.1%; the second dekad had 45.8%, while the third dekad had 22.1% of the total rainfall. There were sixteen days with rainfall > 1mm, and fifteen days with less than 1 mm of rainfall. This balance in number of rain-days/dry-days is at the start of our climatological 'dry season'. The highest 24 hour rainfall was 32.5 mm, the second highest was 30.1 mm, recorded in the second and first dekad respectively. These were the only occasions with rainfall more than 25 mm. In the case of the latter, residents in the north of the island were blocked off due to heavy river flow and landslides as the ITCZ and a surface trough interacted.

Of interest this month was the decrease in relative humidity (49% on 18th), as well as fresh breezes that occasionally reached near gale force. During the second half of the month, large swells and high surf occurred on the northern, eastern, and western coastlines generated by a low pressure system in the vicinity and then by strong surface winds.

Extremes for December, 2011 (date of occurrences): Barometric Pressure – highest 1019.1 mb (27th), lowest 1008.7 mb (5th); Air Temperature – highest 32.1 ° C (9th), lowest 21.0 ° Celsius (1st)

Trinidad and Tobago

Rainfall recorded at the Observing station in Piarco International Airport, Trinidad was 165.9 mm. This amount was 6% above the long-term average (1971 to 2000). Rainfall at the A.N.R. International Airport, Crown Point, Tobago was 163.0 mm, 26% above the long-term average. There were no significant dry spells for both islands.

By the end of the third dekad, rainfall at Piarco was equivalent to the long-term average. While in Tobago, rainfall amounts was equivalent to the long-term average by the beginning of the third dekad. On the 20th December 2011, there was a report of a landslide in Tobago. Rainfall recorded at Crown Point, Tobago that day was 7.1 mm. There were no reports of damages to the Agricultural community.

REGIONAL OVERVIEW ON SEASONAL CLIMATE FORECASTS

The eastern Caribbean and Guyana are expected to experience above normal rainfall conditions. There is highest certainty in the region of southern portion of the chain, which includes the Windward Islands and Barbados. The anomalies are also expected to be greater the further south in the chain one goes. The Greater Antilles including Jamaica should experience normal to above normal conditions. Belize should experience near-normal rainfall.

Above normal rainfall conditions are expected in the eastern Caribbean and Guyana during the next six months, even though with decreasing certainty as the end of the period (May-June) approaches. This certainty decreases particularly in the northern portion of the eastern chain.

The region is expected to be dominated by near-normal air temperatures at 2 m and Sea Surface Temperatures (SST) for the period January to March 2012. This is expected to into May-June, 2012.

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 northern hemisphere winter (early part of the Caribbean climatological dry season) of 2012, and is likely to dissipate sometime between March and May. Atmospheric circulation anomalies are consistent with La Niña. These developments may have implications for climate conditions in the Caribbean basin.

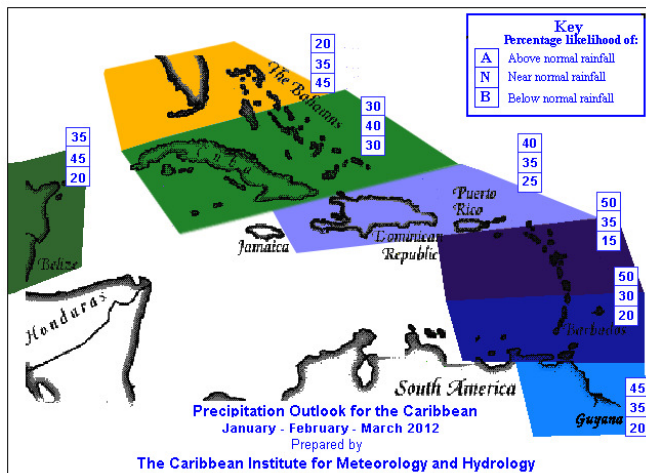


Figure 4. Precipitation Outlook for the Caribbean January–February- March, 2012

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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