



ANNOUNCEMENTS

Drought conditions are slowly being alleviated in the Caribbean though there are still some areas of concern until up to April/May in the western Caribbean and central and southern eastern Caribbean chain that suggests continued need to monitor for low water availability, particularly with an El Nino watch still somewhat in place. Until April 2015, drought watches exist for central and southern eastern Caribbean islands, southern Belize and parts of the Guianas.

REGIONAL OVERVIEW ON WEATHER AND CLIMATE FOR JANUARY 2015

Contrasting conditions were experienced between the northern and southern islands of the eastern Caribbean. Trinidad and St. Vincent were mildly wet; Tobago moderately wet; Grenada very wet; Barbados, St. Lucia and Dominica, normal; Antigua slightly dry. Conditions in Guyana ranged from moderately wet in the northwest to moderately dry in the east. Jamaica was moderately wet, but Belize was predominantly normal apart from its western extremities that were mildly wet.

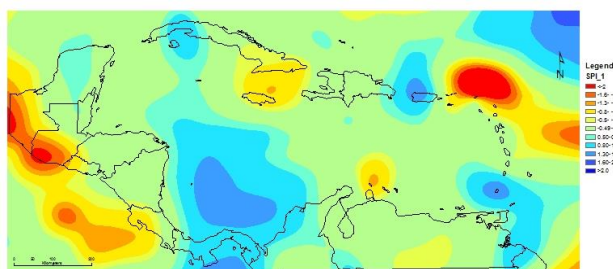


Figure 1. SPI for the Caribbean for January 2015. More information on the SPI can be viewed at <http://63.175.159.26/~cdpmn/spimonitor.html>.

Most annual cropping takes place over a period of about three months. For the three month period

November 2014 to January 2015, apart from in the vicinity of Dominica that was moderately dry, rainfall in the eastern Caribbean and Guyana was normal to above normal. Trinidad was mild to moderately wet; Tobago extremely wet; Grenada, Barbados, St. Vincent, St. Lucia and Antigua normal; and Guyana ranging from very wet in the north to normal further south. Eastern portions of Jamaica were mild to moderately dry, but the majority of the island was normal. Conditions in Belize ranged from mildly dry in the south to moderately wet in the north.

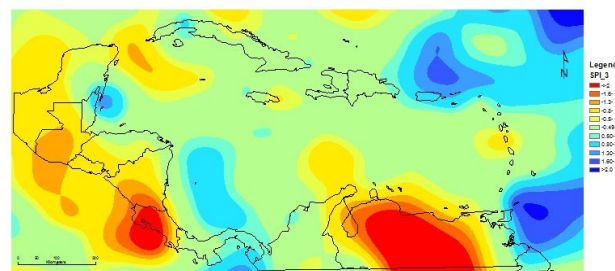


Figure 2. SPI for the Caribbean for November 2014 to January 2015. More information on the SPI can be viewed at <http://63.175.159.26/~cdpmn/spimonitor.html>

January marked the approximate start of the dry season in the eastern Caribbean. The Bermuda/Azores high pressure system dominated conditions across the eastern Caribbean during the month, as it pushed moderate to strong east-northeasterly winds of between 25 and 50km/hr into the area. The High was at times interrupted by frontal troughs which sometimes brought rainfall. Low-level convergence in the Trade-wind flow also

brought some showers particularly in the early morning. Further west, surface troughs associated with a few active frontal systems were the most dominant weather features affecting the island.

By January, most of the region was experiencing dry season conditions, as is typical at this time. Parts of the western Caribbean and the central eastern island chain would have entered the dry season drier than normal. Though normal to above normal conditions are likely to greet most of these areas, farmers and other agriculturists should be mindful that the forecasted conditions would not bring enough rainfall to support rainfed-only farming, as normal rainfall is still below what is desired at this time that is **normally dry**. Your usual dry season conservation (including soil moisture conservation) and water harvesting methods should continue.

NATIONAL OVERVIEWS

Antigua

January was extremely dry for many parts of Antigua. The rainfall total for the month, 32.3 mm, was well below average and the seventh driest on record. It was also the driest January since 2002. For the month, at the V. C. Bird International Airport, the six wet days (≥ 1 mm) were below average, and for the second year running, there were no heavy rainfall days (≥ 10 mm). The mean temperature for January was near normal - 25.5°C. However, it is the highest since 2010. Also, the mean daily maximum temperature, 28.1°C, was near average and the highest since 2010. Although lower than last January's, the mean daily minimum temperature was well above average. The absolute minimum temperature of 20.6°C was also above average; meanwhile, the absolute maximum temperature of 28.7°C was below normal.

The drought which started September 2013 and degenerated into an economic drought, eased in November and has remained at slight levels. However, it could slip back to moderate levels by the end of February. Most surface water catchments, including ponds used by farmers, are 50-100% full; however, the main catchment, Potworks Reservoir, is less than one-third full. Water rationing continues

but at a reduced level as daily production has increased with the easing of the drought. Farmers are enjoying much improved conditions over those of pre-November. However, a number of produce are still scarce or low in supply.

The outlooks for rainfall are mixed: below normal for February and for February-April and above normal for May-July. Meanwhile, above normal temperature is projected for February and below normal for February-April and May-July.

Barbados

Conditions maintained a pattern of mostly overnight and early morning showers. Ten of the twelve rain days occurred during the first half of the month with the most significant rainfall event occurring between 10th and 12th when a trough system affected the island. This system produced more than 60% of the month's final total of 67.3mm which is just shy of the long-term rainfall average for January of 70.1mm over 12 rain days (rain day ≥ 1 mm of rainfall). Shower activity was less frequent during the latter half of the month, with a 5-day dry spell being observed between the 27th and the 31st.

In spite of the brisk wind-speeds which were experienced throughout the month, daily maximum temperatures were generally above average, with temperatures on 20 days exceeding the long-term average maximum temperature of 29.1°C; the highest maximum observed was 30.0°C on the 1st and 2nd. The lowest minimum recorded at G.A.I.A was 21.9°C on the 21st

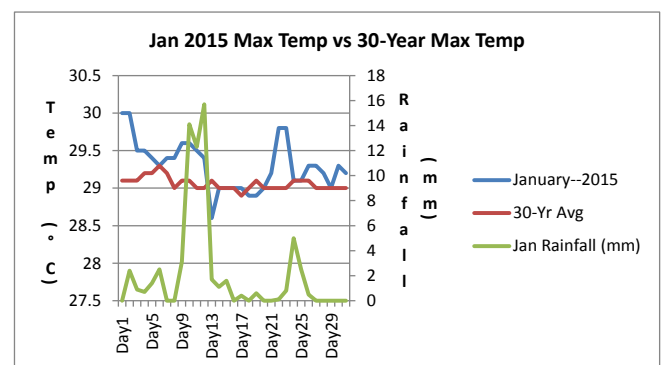


Figure 3 January rainfall and maximum temperatures, along with the 30 year average of maximum temperature at Grantley Adams Airport, Barbados.

Belize

The year began with relatively moist conditions across Belize. For the first 2 days, moist flow supported a few showers across the country. A gusty south-easterly set in on the 3rd, but moisture persisted and maintained a few showers around the country. The moisture however dried up on the 4th, but, on the 5th, the presence of a stationary front increased the moisture again. This supported a few showers around the country, which became confined to the south of the country on the 6th and 7th.

On the 8th, a cold front supported an increase in showers across the country. This front quickly dissipated late on the same day. However, the associated shear line remained over Northern Belize on the 9th. The following day, it moved to Southern Belize and then into the Gulf of Honduras. From the ninth to the 9th to 12th, this system supported showery weather across the country. Cloudy and rainy weather continued into the 14th.

From the 15th to 23rd, weather conditions improved. Moisture levels decreased and showers became generally isolated, at times none at all. This was after a cold front induced a few showers and isolated thunderstorms over some inland and northern areas on the 23rd.

On the 25th, a cold front quickly crossed the country, accompanied by a few light showers. The 27th saw cool and rainy weather after the previous day was dry. On night of the 27th, another cold front quickly crossed the country, which supported cool and dry conditions through to the 28th. Moisture levels increased on the 29th and persisted through to the end of the month. This supported showers mainly over southern Belize.

January in Belize falls in the transition period between the 'wet season' and 'dry season'. It is the coldest month of the year. Data collected this January, however, shows that minimum temperatures were above average. On the other hand, data shows that rainfall was above average. Even though three cold fronts affected the country, it is evident that the normal cool temperatures were not supported. On the other hand, the persistent moist, north-easterly flow that dominated for most of the month, supported above normal rainfall.

Dominica

Low level clouds and a low level trough system which traversed the area during the second week generated some shower activity across the island. This resulted in near average rainfall totals being recorded

The Canefield Airport recorded a total of 136.5mm of rainfall. This total is 28.2mm above the monthly mean. The month's highest daily rainfall total was 21.3mm recorded on the 2nd. Rainfall days were normal with a total of 17 days recorded. The maximum dry spell length recorded was 7 days during mid-month. The average air temperature was 26.5°C. The maximum temperature of 31.3°C was recorded on the 10th with the minimum temperature of 21.0°C on the 9th. Wind direction averaged south easterly at an average speed of 6km/hr. Brisk trade winds resulted in the month's highest wind gust of 46km/hr on the 5th.

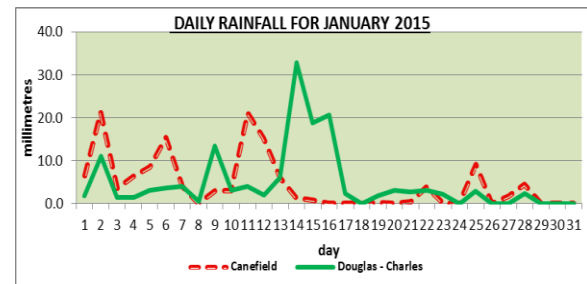


Figure 4 Daily rainfall at Canefield and Douglas-Charles Airports, Dominica during January 2015.

The Douglas-Charles Airport recorded a monthly total of 148.8mm of rainfall. This total is 12.8mm more than the monthly mean. The highest rainfall total recorded was 32.9mm on the 14th. There were 23 rainfall days, 4 days above the normal. There were no significant dry spells. The average air temperature was 26.3°C. The maximum temperature recorded was 29.2°C on the 10th and the lowest 19.1°C on the 31st. The average wind direction was east south easterly at an average speed of 15km/hr. The highest wind gust recorded was 63km/hr on the 3rd, also as a result of brisk trade wind flow.

Generally, farmers who were engaged in production reported adequate levels of rainfall for the month of January. Strong winds experienced during the earlier part of the month resulted in damages to several agricultural commodities. Vegetable supplies at the market were relatively low for the month due to high

intensity in rainfall over the past four to five months. With a decrease in night time temperature and adequate levels of rainfall, vegetable supplies should increase in the upcoming months. Root crop farmers continued the establishment of dasheen, tannia, sweet potato and yams in all seven agricultural regions. A good germination rate was reported by most Irish potato farmers. Reports suggested that tilling of the soil in the southern part of the island proved to be much more favorable than operations in the north of the island. This is primarily due to the different types of soil found in both locations. Training has been and is ongoing for Irish potato farmers in various areas to include pest and disease management and post-harvest.

Grenada

In January, 122.2mm of rainfall was recorded, making it the fifth (5th) highest total over the 30years of data collection at the Maurice Bishop Airport. Two significant 24hour rainfall period occurred on the 11th and 12th respectively in which 33.9mm and 40.4mm of rainfall was recorded. There were 19days with rainfall below 10.0mm, 8days with no rainfall at all and only 2days with a trace.

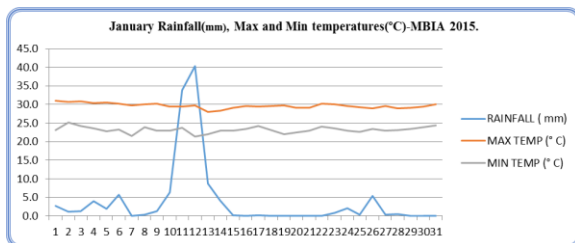


Figure 5 Daily rainfall and maximum and minimum temperatures at Maurice Bishop International Airport, Grenada for January 2015.

Mean daily temperature for the month, was 0.4°C higher than that of January 2014, reaching a mean of 26.4°C. The mean maximum and minimum temperatures were 29.7°C and 23.2°C respectively. The highest maximum temperature was 31.0°C and occurred on the first day compared with 30.3°C for January 2014 and 30.7°C for the 30year average. The minimum was 21.4°C and occurred on the 12th compared with 21.6°C for 2014 and 21.1°C for the 30year average.

Because the Caribbean was fed by fresh moderate to strong trades daily, the meteorological office at M.B.I.A. was forced to issue three marine advisories

during the month, from the 1st to 6th, on the 9th and from the 12th to 14th, as the strong trades, along with frontal systems affected the Atlantic.

Farmers were able to capitalize on the good rainfall periods. Crops like citrus pumpkins and breadfruit did well. Quite noticeable was a low yield of pigeon peas. This most likely was as a result of the high wind experienced which resulted in flower dropping.

Guyana

For the month of January Guyana averaged 198mm within 15 rain days .The highest monthly rainfall total was recorded at Capoey Lake, Region 2, with 527.3mm in 22 rain days. On average, Region 2 recorded the highest total with 361.0mm in 19 rain days. The graph below shows comparison of selected stations and long-term averages.

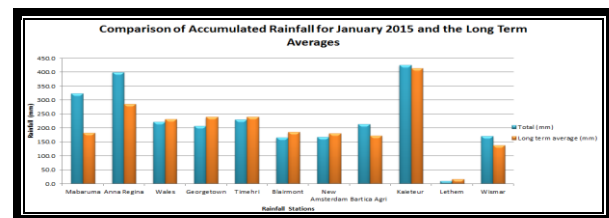


Figure 6 Monthly rainfall totals compared to their averages at select stations in Guyana for January 2015.

The highest maximum temperature was recorded at Lethem Region 9, with 34.5°C on the 17th; Lethem also recorded the highest average maximum temperature of 32.7 °C for the month. On the other hand, the lowest minimum temperature was recorded at Timehri with 18.2°C, on the 24th. Many stations recorded higher maximum temperatures than their long term averages and recorded values of their minimum temperatures below their climatological averages.

For the month, diverse rainfall conditions were experienced across the country. Flooding in agricultural and residential areas such as Hampton Court, Wisdor Castle and other surrounding villages along the Essequibo Coast was experienced on the weekend of the 16th. However, no significant impact of the weather on Agricultural production was reported, since most farmers welcomed the rain which supported their agricultural activities.

Jamaica

During the period showers affected mainly north-eastern parishes while southern parishes remained relatively dry. During the month, Sangster in the northwest recorded 17.5 mm of rainfall, while Norman Manley in the southeast received 0.2 mm of rainfall. There were three rainfall days reported for Sangster while Norman Manley International airports had zero rain days because the amount recorded fell short of the standard of a rainy day being 1mm. Manley received less than 1% of average rainfall during the period, while Sangster received about 21% of the average (1971-2000 mean).

The highest maximum temperature recorded for Sangster Airport was 31.6°C (17th), meanwhile 33.0°C (1st) was reported for Norman Manley Airport. The extreme maximum 20 year mean was exceeded at both airports however the difference was greater for Manley (0.3°C) than Sangster (0.1°C).

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

Monthly Averages	Norman Manley	Sangster
Extreme Maximum Temperature	33.0 °C (32.7 °C)	31.6 °C (31.5 °C)
Lowest Minimum Temperature	22.1 °C (20.9 °C)	21.4°C (19.7 °C)
Rainfall Total	0.2 mm (25.0)	17.5 mm (81.0)
Rainfall days (≥1mm)	0 days (4.2)	3 days (12.7)

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

St Lucia

The month of January was relatively dry. Both Hewanorra and George Charles Met. Offices recorded below average rainfall. Rainfall was poorly distributed such that more than two thirds of the monthly totals were collected during the first half of the month. Average rainfall totals for January are 80.3 mm and 112.1 mm for Hewanorra and George Charles respectively. The highest daily rainfall was 24.5 mm and 22.2 mm at Hewanorra and George Charles respectively and this was recorded on the 11th. Farmers should concentrate on water conservation practices and prepare for low rainfall amounts in the months ahead.

Table 2 January 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	16	26.8	75	71.3
Max Temp (°C)	Min Temp (°C)	Daily Sunshine (Hrs)	Daily Evap (mm)	Soil 20 (°C)	
29.5	24.5	9.5	7.5	27.4	

Table 3 January 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	10	26.9	73	70.1
Max Temp (°C)	Min Temp (°C)	Daily Sunshine (Hrs)	Daily Evap (mm)	Soil 20 (°C)	
29.3	23.6				

St Vincent and the Grenadines

Brisk easterly to east northeasterly winds were observed throughout the entire month, with maximum winds recorded at E.T. Joshua Airport - Arnos Vale as 50 km/hr. Sea conditions were moderate in open water, only a few days were agitated by strong winds to rough conditions. Total rainfall recorded at E. T. Joshua Airport for the month was 173.0mm. This was more than the average of 132.2 mm for this station.

The highest 24-hour rainfall was 36.8mm, which was approximately 21% of total rainfall. Rainfall distribution showed the first dekad (ten-day period) had 33.9%; the second had 44.9% and the third had ~21% of the total rainfall. There were 21 days with rainfall ≥ 1mm, which was also greater than the average of 19 days for this station. There were 10 days with < 1mm of rainfall. There was one noticeable dry spell; from the 16th to 20th.

The average maximum temperature recorded at this station was 29.5°C, and the average minimum temperature was 23.4°C. Extreme maximum temperature was 30.4°C, this was 0.4°C more than the 30 year average, and the extreme minimum temperature was 21.9°C, 0.6°C more than 30 year average for this station. Mean relative humidity was 75.5%, 0.3 % higher than the 30 year average.

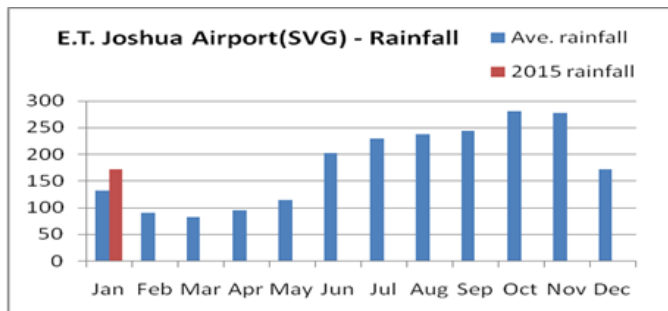


Figure 7 January 2015 rainfall and average monthly rainfall at E. T. Joshua Airport, St. Vincent and the Grenadines.

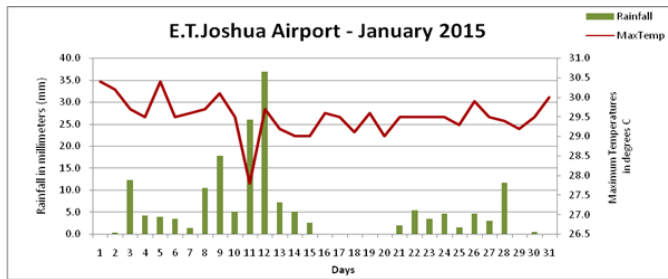


Figure 8 January 2015 daily rainfall and maximum temperature at E. T. Joshua Airport, St. Vincent and the Grenadines.

Trinidad and Tobago

January’s rainfall total at Piarco in Trinidad was 83.2mm or 107.2% of the 1981-2010 average, which is near average. At Crown Point in Tobago, the total was 105.8 mm or 152.4% of the 1981-2010, which was above average.

During the first ten days of 2015, drier conditions returned to most of the country. Ten-day rainfall total at Piarco reached 35.0mm while at Crown Point it was 12.3mm. Meanwhile, cooler conditions prevailed during the period, as the maximum temperature never surpassed 32.5°C and averaged 31.5 ° C at Piarco. Crown Point’s maximum temperature averaged 30.5°C and peaking at 31.0° C.

During the second ten days the drying trend continued with six to seven days at different locations producing scanty or no rainfall at Piarco. The ten-day rainfall total at Piarco reached only 19.1mm but this may have been higher in areas of northeast Trinidad. Across in Tobago, conditions were much more favourable for agriculture, as the ten-day rainfall in areas in the southwest of the island reached 58.9 mm. Most of the rainfall occurred during the first three days of the period with day two being the wettest, when there was 39.0mm recorded at Crown Point. Meanwhile, the cooler conditions

continued as maximum temperatures averaged 31.1°C at Piarco and peaked at 31.9°C. Crown Point’s temperatures were much cooler, where the maximum temperature averaged 29.2°C and peaked at 30.4°C.

For the third ten-day period, except for day three in Trinidad and day six in Tobago when moderate to heavy rainfall occurred, dry and hot weather prevailed across the country. The ten-day rainfall total at Piarco was a meagre 4.5 mm but this may have been slightly higher in other areas in Trinidad, while Crown Point in Tobago experienced more rainfall with 17.1 mm during the period. Meanwhile, the cooler conditions continued, as maximum temperatures averaged 31.5°C at Piarco and peaked at 31.9°C, while at Crown Point the maximum temperature averaged 30.0°C, peaking at 30.4°C.

Weather conditions remained unfavourable to agriculture in general. The rainfall, especially in Tobago, would have provided some relief from the drier conditions but would not have been sufficient to replenish the water. These conditions would have significantly increased irrigation needs and reduced most opportunities for harvesting water for rain-fed crops. At the same time, the dry and harsh conditions would have increased the potential for heat and water stress in most crops, as well as, leaf and flower drops, especially in mature and developed crops.

REGIONAL OVERVIEW ON SEASONAL CLIMATE FORECAST

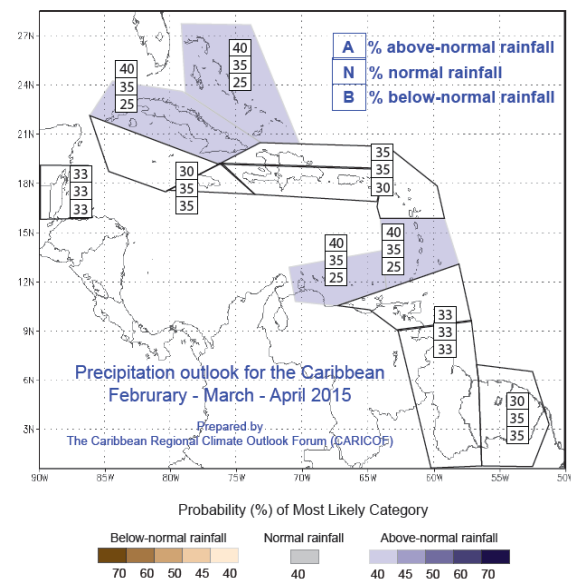
Weak **El Niño** conditions are still possible, with Sea Surface Temperatures (SSTs) of 0.9 °C above average. ENSO-neutral conditions still persist at this time, but most models suggest a maintenance of the SSTs between 0.5-1.0°C above average during the next few months and up until May 2015, initiating a weak El Niño event. This is a development the region should continue to monitor closely, as it may still have implications for rainfall for late in the 2015 dry season. Because of this there is still some chance for below-normal rainfall and above normal temperatures south of 20°N during the late dry

season, though the CariCOF models suggest above normal rainfall at this time.

Caribbean Sea Surface Temperatures (SST) are 1°C above-average north and north-east, but average east, of the Caribbean, with some cooling possible. However some cooling is expected. **The Trade Winds** are around about average at this time but could get stronger during the forecasting period, particularly in the Windward Islands and the ABC Islands. Above average temperatures would cater to above normal rainfall, but this could be negated a bit if the El Niño develops.

February to April 2015

Better than average chance for normal to above normal rainfall in the central eastern Caribbean chain and Aruba, as well as in the northwest Caribbean over The Bahamas and Cuba. There is only a slightly better than normal chance for normal to above normal rainfall in the northern Caribbean including the Leeward Islands. Conversely there is only slightly better than normal chance for normal to below normal rainfall over parts of the Guianas. There is no signal over the remainder of the region.

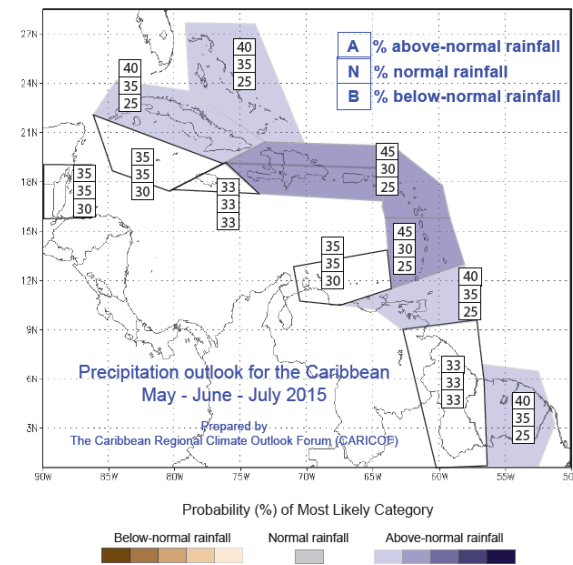


9 The February to April 2015 rainfall forecast

May to July 2015

Most of the Caribbean has a better than normal

chance for normal to above normal rainfall for this three month period, and this is with greatest certainty over the Windward and Leeward Islands and the northern Caribbean. There is greater uncertainty of this for Belize, Cayman Islands, and Aruba. There is no signal over Guyana and Jamaica.



10 The May to July 2015 rainfall forecast

There are fewer areas of concern with respect to drought. Drought watches should be in effect for the central and southern eastern Caribbean islands, southern Belize and parts of the Guianas until April.

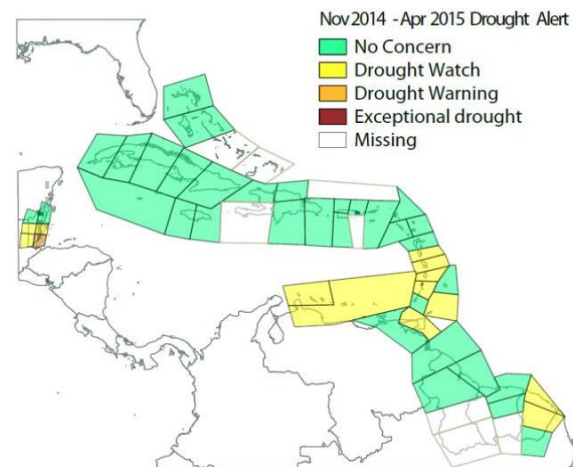


Figure 11 Drought Alert map produced in January 2015 (for the period November 2014 to April 2015).

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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