



**ANNOUNCEMENTS**

Predictability of rainfall remains low at this time, with most of the predictability over the northwest Caribbean and the Guianas. However, temperatures continue to be predicted as normal to above normal all the way to July. The coming months approach the heart of the dry season, and with predictability of rainfall being low, preparation should exemplify what is typical for the period.

**REGIONAL OVERVIEW ON WEATHER AND CLIMATE FOR JANUARY 2014**

For January 2014, in the eastern Caribbean and Guyana, the north was generally normal to below normal, and the south (including Guyana) normal to above normal. Trinidad was abnormal to moderately wet; Tobago, St. Vincent and Antigua; Grenada, Barbados and St. Lucia moderately wet; Dominica abnormally dry; and Guyana ranging from moderately wet in the west to normal in the east. Jamaica was normal. While rainfall totals in Belize ranged from moderately wet in the west to abnormally wet in the south and normal in the north.

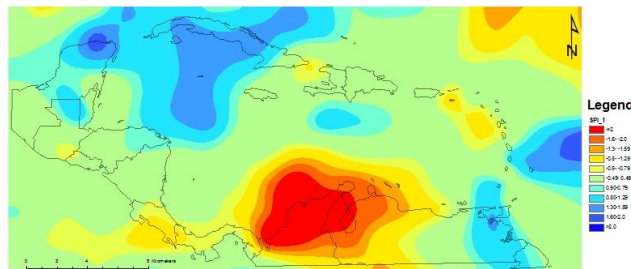


Figure 1. SPI for the Caribbean for January 2014. More information on the SPI can be viewed at <http://63.175.159.26/~cdpmn/spimonitor.html>.

Most annual cropping takes place over a period of about three months. Apart from Dominica that was abnormally dry, the eastern Caribbean and Guyana

were normal to above normal for the three month period. Trinidad was moderate to very wet; Tobago, Barbados, St. Vincent and Antigua normal; Grenada and St. Lucia moderately wet; and Guyana very wet in the west to abnormally wet in the east. Jamaica was normal, but Belize ranged from extremely wet in the west to moderately wet in the south and north

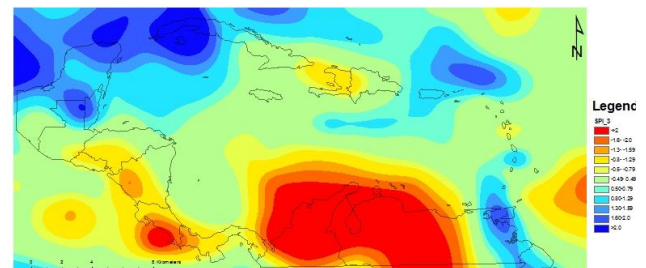


Figure 2. SPI for the Caribbean for November 2013 to January 2014. More information on the SPI can be viewed at <http://63.175.159.26/~cdpmn/spimonitor.html>

The Atlantic High-pressure Ridge was the most dominant weather feature. However, a number of quick-moving frontal systems traversed the far northern Atlantic during the month of January. The southern portions of these systems were generally stationary across the Florida Panhandle while the movement of the northern portions of the said frontal systems on the pole-ward side of the Atlantic Ridge contributed to a tightened pressure gradient, with stronger winds. Cold-air advection and the associated low-level convergence of trade-winds on the southern side of the ridge resulted in a pattern of mostly overnight and early morning showers.

**NATIONAL OVERVIEWS**

**Antigua**

Dry and stable conditions prevailed throughout the month of January; with periods of cloudiness and showers resulting from small pockets of moisture being transported by the trade winds across the islands. The average rainfall for the island was near normal with 62.2 mm; the driest on record for January. In total there were twenty-one (21) measurable precipitation days ( $\geq 0.1$  mm), with the highest 24hr rainfall recorded on the 31<sup>st</sup> with 6.2 mm. The average rainfall amount for January is 68.58 mm (1981-2010).

The month's average air temperature recorded at the V.C Bird Int'l Airport was near average at 25.4°C. The highest maximum of 28.9°C was recorded on the 6<sup>th</sup>, while the lowest minimum temperature of 21.7°C was on the 16<sup>th</sup>.

According to the Ministry of Agriculture, many farmers at this time of the year are engaging in land preparation activities. Although the rainfall amount was near average, farmers in certain parts of the island could not utilize their irrigation systems as a result of the rainfall amount in these areas. Crops which were planted throughout the month include: corn, sweet pepper, pumpkin and onions; while those being harvested consist of onions, tomatoes, sweet pepper and carrots. There is an abundance of sweet potato and pumpkin while okra on the other hand is scarce. Farmers at this time of the year are also fighting agricultural pests such as leaf miner on egg plants and tomatoes and thrips on onions.

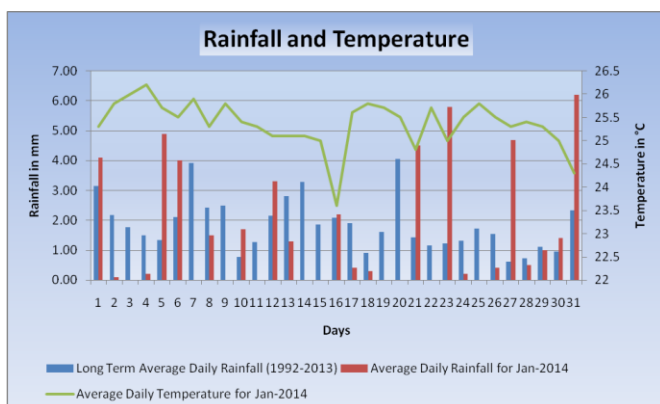


Figure 3 January 2014 daily rainfall and temperature in Antigua

Table 1 January 2014 weather summary

<b>Weather Summary for January at V.C Bird Int'l Airport</b>	
<b>Temperature</b>	
Absolute Maximum	28.7°C
Mean Daily Maximum	27.8°C
Mean Daily	25.4°C
Mean Daily Minimum	23.2°C
Absolute Minimum	21.7°C
Warmest Day	26.2°C
Coolest Day	23.6°C
<b>Rainfall</b>	
Total	48.7 mm
Rainiest Day	6.2 mm
Measurable Rainfall Day (rainfall $\geq 0.1$ mm)	21
Days $\geq 1.0$ mm	13
Days $\geq 10.0$ mm	0
Days $\geq 20.0$ mm	0

**Barbados**

Moderate to strong easterly to east-northeasterly breezes (ranging between 25 and 40 km/h) impacted Barbados and the eastern Caribbean throughout the month.

Some 76.6mm of rainfall was recorded at the G.A.I.A in January. This was 6.5mm more than the long-term average of 70.1mm. Meanwhile, Golden Ridge in St. George recorded a rainfall total of 71.1mm for January and experienced 18 rain days (rain day  $\geq 1$ mm of rainfall).

Relatively cool temperatures also characterized the weather pattern across Barbados during the month of January. Apart from the first five days of the month, during which the long-term average maximum temperature of 29.1°C was equaled or exceeded, the maximum temperature for the remaining days ranged between 28.2° and 28.9°C; the highest maximum observed was 29.2°C on day three. The lowest minimum recorded at G.A.I.A was 21.8°C on 27<sup>th</sup>.

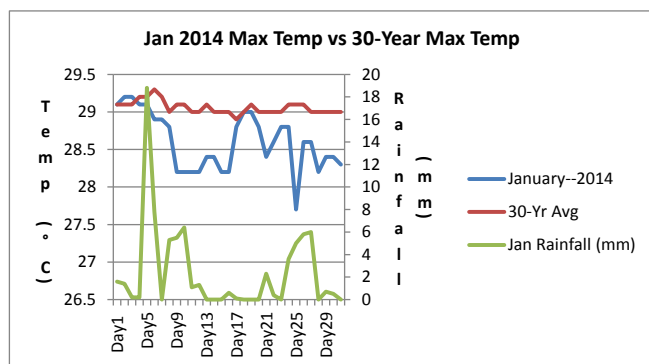


Figure 4 January 2014 daily rainfall and maximum temperature (compared with the average) at Grantley Adams Airport.

**Belize**

Showers occurred over northern and central Belize during the first 2 days of the month. On 3<sup>rd</sup> an advancing cold front produced a northerly to northwesterly surface flow. Skies remained cloudy on 4<sup>th</sup>, as the front became stationary from the Bahamas across central Cuba to the coast of Belize. The front eventually crossed northern and coastal Belize.

Weather on 6<sup>th</sup> continued cool and windy especially during the night. Windy and rainy weather prevailed on 7<sup>th</sup> morning. San Pedro, Ambergris Cay reported gusts to 59.3 km/hr, while Cay Caulker recorded gusts to near 51.9 km/hr. Skies remained cloudy to overcast into the morning of 8th. Light rain occurred over central, southern and coastal areas. Eventually manifesting itself as light rain over coastal areas.

On the 14<sup>th</sup>, overcast skies and gusty surface winds prevailed during the morning due to an approaching cold front. During the afternoon, extended periods of rain showers occurred over coastal, central and southern portions of the country. A secondary cold front reached northern Belize morning of the 16<sup>th</sup> producing some of the coldest temperatures during that morning. Light rain occurred over the sea during 18<sup>th</sup>. Towards sunset some of the showers reached some coastal areas. The following day, cloudy skies and light showers persisted for some coastal areas.

Another approaching front made sure that the weather remained generally cloudy and cool until 22<sup>nd</sup>. The tail end of the front caused quite a few showers over northern Belize. Much more rainfall occurred the following day, with abundant moisture over western Caribbean, Belize and Central America aiding the significantly higher rainfall for central,

coastal and southern Belize during the afternoon and evening.

At the start of the final weekend in January, showers occurred over several portions of central and coastal Belize during the afternoon (25<sup>th</sup>), including the International Airport. However, weather turned out mostly sunny at the start of the final week in January. On the 29<sup>th</sup>, a few showers occurred over southern and central coastal Belize. Savannah (SVH) in the Stann Creek district recorded 35.3mm of rainfall. During the afternoon cloudiness and moderate to intense showers were experienced over central Belize, but by the following day, the weather turned out cloudy and cool with very few showers observed. On 31<sup>st</sup>, though light showers occurred over the northern and inland areas in the afternoon as a result of a weak surface trough, the day turned out mainly sunny.

Table 2 Rainfall and Temperature Summary for January 2014 for stations in Belize

Station	Liber tad	Zoo	PGIA	Belmopan	Central Farm	Savannah
Elevation (m)	12	30	5	90	90	13
<b>Rainfall (mm)</b>	<b>36.5</b>	<b>174.2</b>	<b>123.5</b>	<b>173.1</b>	<b>188.2</b>	<b>174.1</b>
Mean.	56.7	134.2	152.9	129.2	120.1	132.8
Max	8.8	55.6	33.2	37.8	37.4	35.3
Rain days	7.4	9.4	11.7	13.6	11.2	11.1
<b>Temp (°C)</b>	<b>8</b>	<b>8</b>	<b>11</b>	<b>13</b>	<b>17</b>	<b>14</b>
Mean Min.						
Mean	18.2	18.6	20.2	19.2	18.9	19.8
Lowest Min.	17.6	18.4	20.0	18.1	18.1	20.2
Mean Max.	10.4	12.5	15.9	12.1	13.0	16.2
Mean	27.0	27.5	26.4	26.3	26.7	28.0
Highest Max.	29.0	28.1	27.7	28.0	28.4	26.9

Rainfall values in Green represent amounts above the monthly average; Temperature values in Red represent means above the monthly average; Temperature values in Blue represent means below the monthly average

**Dominica**

Rainfall total for January 2014 at the Canefield Airport was almost twice the monthly mean. 214.1mm of rainfall was recorded. More than half of this rainfall occurred during the first 10 days of the month. The maximum daily total was 76.3mm recorded on the 4<sup>th</sup>. The middle of the month was mostly dry with 9 consecutive dry days being recorded from the 12<sup>th</sup> to the 20<sup>th</sup>. Averaged air temperature was 26.1°C which is 0.3°C below the mean. The highest daily temperature recorded was

30.7°C from the 18<sup>th</sup> to the 20<sup>th</sup> and 22<sup>nd</sup> while the lowest was 20.2°C recorded on the 15<sup>th</sup>. Winds were gusty throughout the month as the Atlantic ridge was the most dominant weather feature. The average wind direction and speed was east south easterly (110°) at 6km/hr. The highest wind gust was 48km/hr recorded on the 4<sup>th</sup>, 5<sup>th</sup> and 12<sup>th</sup>.

Rainfall total was normal at Melville Hall for the month with 102.8mm recorded. The maximum daily total of 15.1mm was recorded on the 24<sup>th</sup>. 8 of the 11 dry days occurred during the second dekad with a dry spell of 5 days. The average air temperature recorded was 26.3°C and that is 0.2°C above average. The highest temperature recorded was 29.3°C on the 2<sup>nd</sup> while the lowest temperature recorded was 21.1°C on the 30<sup>th</sup>. Melville Hall also experienced gusty winds. This month's average wind direction and speed was east south east (110°) at 17km/hr. The highest wind gust recorded was 63km/hr on the 30<sup>th</sup> of the month.

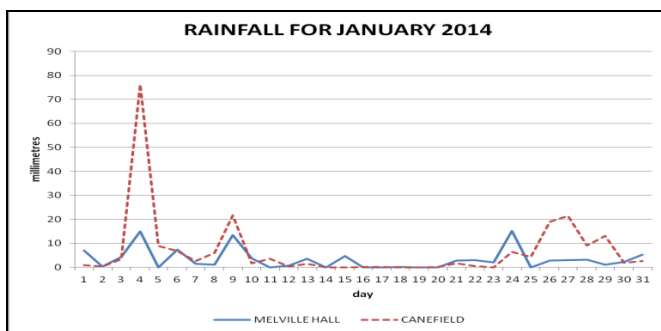


Figure 5 January 2014 daily rainfall at Melville Hall and Caanefield.

### Grenada

The first month of the official dry season in Grenada produced above average rainfall. The month's total of 87.8 mm was 26.1mm more than the long term average. There were two occasions when the rainfall was over 10.0mm; on the 5<sup>th</sup> and 6<sup>th</sup> with 15.3mm and 14.8mm respectively. That was due to a mid to upper level trough which generated much convective activity. There were four other 24 hour periods with significant rainfall amounts. On the 1<sup>st</sup> and 27<sup>th</sup> there was 8.9 mm each, on the 3<sup>rd</sup> and 25<sup>th</sup>, 7.9mm and 7.4mm respectively. There were six (6) days with no rainfall and three (3) days with only a trace (unmeasurable amount) during the month.

The month's maximum temperature ranged from 28.0°C on the 10<sup>th</sup> to 30.3°C on the 23<sup>rd</sup>. The average maximum of 29.0°C was the second lowest on record. The lowest minimum temperature was 21.6°C and occurred on two occasion, the 9<sup>th</sup> and 28<sup>th</sup>. The highest minimum temperature was 25.0°C on the 19<sup>th</sup> while the average minimum 22.9°C.

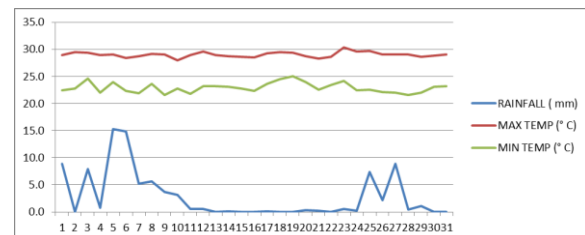


Figure 6 Daily rainfall and maximum and minimum temperature at Maurice Bishop International Airport during January 2014.

The Bermuda /Azores High was the most dominating feature of the region's weather during the month of January, peaking to a high of 1042mb on the 25<sup>th</sup> of the month. In Grenada, strong winds persisted for most of the month and as a result there were very rough seas at times which made it difficult for the Fishing industry.

The farming community continued to enjoy a bumper season with citrus crops. Pigeon peas did better than last month and there was even a late crop of Sorrel.

### Jamaica

During the month of January one major rainfall event was recorded, which resulted in several parishes over the northern side of the island being affected. The parishes mostly affected were Portland and St Mary in the northeast where several days of flooding were reported.

During the month, Sangster in the northwest recorded 90.0 mm of rainfall, while Norman Manley in the southeast recorded 12.1 mm. There were eight rainfall days reported for Sangster, while Norman Manley had only three measured rainfall days during the month. When compared to the 30 year average, Sangster recorded approximately 11% above the 1971-2000 average while Norman Manley recorded 48% of the 1971-2000 mean



Sangster Airport recorded a minimum temperature of 20.1°C (31<sup>st</sup> January), while 22.3°C (12<sup>th</sup> January) was reported for Norman Manley Airport.

Table 3 Climatological Statistics for Manley and Sangster Airports for January 2014.

Monthly Averages	Norman Manley	Sangster
Extreme Maximum Temperature	32.2 °C <b>(32.7 °C)</b>	31.8 °C <b>(31.5 °C)</b>
Lowest Minimum Temperature	22.3 °C <b>(20.9 °C)</b>	20.1 °C <b>(19.7 °C)</b>
Rainfall Total	12.1 mm <b>(25.0)</b>	90.0 mm <b>(81.0)</b>
Rainfall days (≥1mm)	3 days <b>(4.2)</b>	8 days <b>(12.7)</b>

Values in red indicate the 1992-2010(19-year) averages. 30-year (values in green) mean (1971-2000) is used for Rainfall.

### St Vincent and the Grenadines

Brisk easterly winds were observed throughout the entire month. Maximum winds recorded at E.T. Joshua Airport was 55.3 km/hr.

Total rainfall recorded at E. T. Joshua Airport for January 2014 was 126.4 mm. This was lower than the average (132.2 mm) for this station.

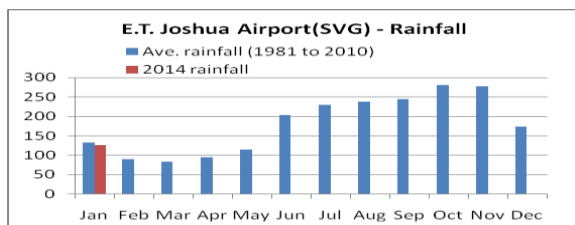


Figure 7 Daily rainfall and maximum temperature at E.T. Joshua Airport during January 2014.

The highest 24 hour rainfall was 45.0 mm, which was approximately 36% of total rainfall. Rainfall distribution showed the first dekad (ten-day period) had 57.8%; the second had 18.2% and the third had ~24% of the total rainfall. There were 17days with rainfall > 1mm, which was also lower than the average (19 days) for this station. There were 14 days with < 1mm of rainfall. There were two noticeable dry spell periods; four-day (13th – 16th) and seven-day (18th to 24th).

The average maximum temperature was 29.0°C, and the average minimum temperature was 24.4°C. The

extreme maximum temperature recorded was 30.1°C, and the extreme minimum was 21.7°C.

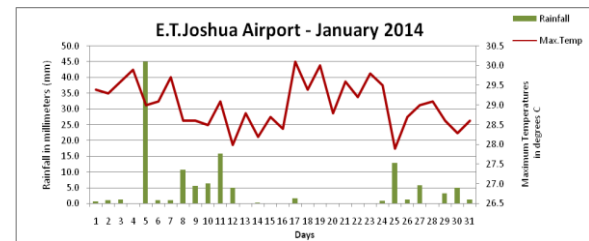


Figure 8 January 2014 daily rainfall and temperature at ET Joshua Airport..

### Trinidad and Tobago

Rainfall during January 2014 turned out to be wetter than average in Trinidad while being below average in Tobago. At Piarco, total rainfall recorded was 102.5mm or 132% of the 1981-2010 average while at ANR Robinson in Tobago it was 44.7mm or 67% of the average. There were four days at Piarco when rainfall exceeded 10.0 mm with the maximum 24 hour rainfall being 18.3 mm, while the wettest day at ANR Robinson Airport was 8.3mm. Accompanying these conditions were warmer than normal mean temperatures, with a mean monthly temperature at Piarco of 26.1<sup>0</sup>C compared to the 1981-2010 average of 25.5<sup>0</sup>C, while the mean monthly temperature was 25.9<sup>0</sup>C at ANR Robinson..

During the first ten days, rainfall was mostly scanty to moderate in both islands and occurred generally in confined areas; however Tobago experienced drier conditions. Overall, there were 6 and 5 days with moderate rainfall in Trinidad and Tobago respectively. Ten-day rainfall totaled 58.5 mm in Trinidad, but reached just about half that amount in Tobago. During the period, maximum temperatures topped off at 32.0 °C in Trinidad and 30.5 °C in Tobago, while wind speeds were mostly moderate in strength in both islands. When the winds were strong, evapo-transpiration rates would have increased in crops and plants and at times would have hampered the application of pesticides.

Trinidad and Tobago experienced mixed conditions during second ten days. Apart from one moderately wet day, which yielded 11.4 mm of rainfall at Piarco, whenever rainfall occurred it was mostly scanty. Tobago was considerably drier than Trinidad with 8 dry days resulting in a 10-day rainfall total of 3.1mm compared to Trinidad where there were 6 dry days and a 10-day rainfall a total of 18.5 mm.

Accompanying these dry conditions were relatively mild temperatures, as maximum temperatures reached 32.0 °C in Trinidad, while it topped off at 30.7 °C in Tobago. Wind speeds continued to be mostly moderate in strength in both islands, while pan evaporation rates were moderate.

During the third ten-days there were at least seven days when rainfall was scanty resulting in relatively meager 10-day rainfall amounts of 25.5 mm at Piarco and 12.1 mm at ANR Robinson. The wettest day in Trinidad accounted for 8.8 mm while in Tobago it accounted for 5.6 mm of the rainfall. In Tobago, maximum temperatures were not as warm, having reached 31.0 °C once during the dekad, whereas it crossed 32.0 °C once in Trinidad, topping off at 32.5 °C. Wind speeds continued to be mostly moderate in strength in both islands overall, even though stronger gusty winds occurred in bursts during moderate showers.

The rainfall in Trinidad provided beneficial moisture for crop development but would not have been sufficient to fully cushion the interspersed warm and dry conditions in both islands. The warm and dry conditions would have reduced the moisture levels needed for agriculture and produced some degree of heat and moisture stresses in plants and animals. Along with the moderate wind speeds, the warm conditions would have aided increases in evapotranspiration and reduced the water available for agriculture purposes. This would have caused the need for irrigation to be increased. The strong winds would have also affected the application of the application of pesticides.

**REGIONAL OVERVIEW ON SEASONAL CLIMATE FORECAST**

**February to April 2014**

Rainfall continues to be hardly predictable in the Caribbean. For the period February to April 2014, there is some predictability over Cuba in the west, with forecast suggesting a better than average chance of being above normal. In the remainder of the west there is a slightly better than normal chance for normal to below normal rainfall. The other region of predictability is in the southeast over Suriname and

French Guiana where there is better than normal chance of being above normal for the period. In the remainder of the east, there is only a slightly better than normal chance of normal to above normal rainfall over the Leeward Islands and Guyana, and a slightly better than normal chance of being normal to below normal over the Windward Islands and Trinidad and Tobago. In the remainder of the region there is no predictability.

As far as temperature is concerned, the region is forecasted to be normal to above normal for the period, with the greatest confidence of this occurring over the ABC Islands, Barbados, Leeward Islands, Trinidad and Tobago, Guianas, and Belize.

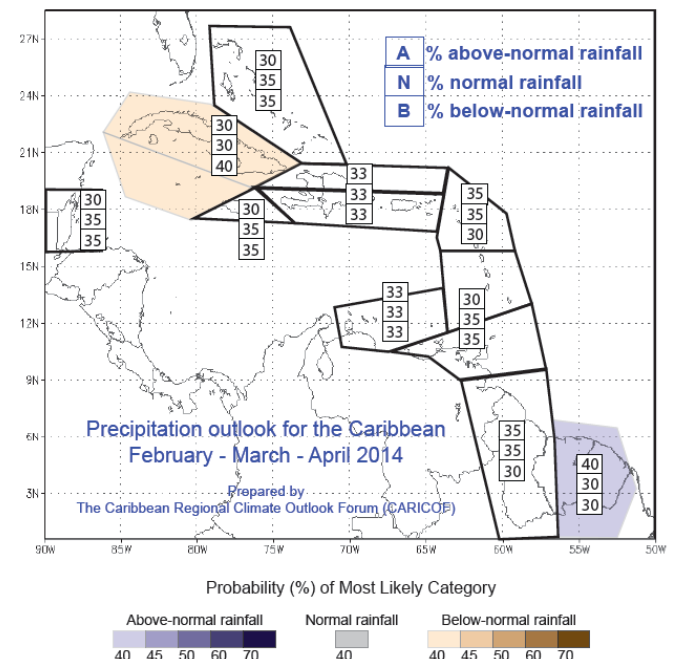


Figure 9 The February to April 2014 rainfall forecast

**ENSO Conditions**

ENSO-neutral conditions persist, with Eastern Pacific equatorial Sea Surface Temperature (SST) hovering just below average (i.e. deviation of 0°C to -0.5°C) and with high confidence is predicted to continue for the February to April 2014 period. Predictions, even though continuing to suggest ENSO-neutral conditions, albeit with lower confidence, indicate that the May to July period SST will be average to slightly above average. The influence of ENSO on rainfall and temperature is expected to be very little, with only a marginal shift to above-normal rainfall in the northwest for May to

July. In the southeast of the region there is likely to be a delay in the onset of the wet season.

Little impact is expected on Caribbean rainfall and temperatures from ENSO.

**Conditions in the Tropical North Atlantic and Caribbean**

Recent conditions in this region were of SSTs about 0.5-1°C above average, with slightly stronger than average trade winds and atmospheric moisture above average. SSTs are forecasted to increase into April and lasting until July. The atmosphere is expected to contain little moisture in the early dry season (February to April), but increasing as of May. The trade winds are expected to possibly remain stronger than average. There is likely to be an increase in rainfall. If anything, the only influence from the Tropical Atlantic will be to increase the rainfall.

**May to July 2014**

Apart from in the extreme northwest (over The Bahamas and Turks and Caicos Islands) where there is a better than average chance of rainfall being above normal, the very limited predictability continues for the period May to July. From the Greater Antilles across to the Leeward Islands show only a slightly better than average chance of being normal to above normal. At the same time, the south east in the vicinity of Suriname and French Guiana show slightly better than average chance of being normal to below normal. There is currently no predictability in the remainder of the region.

Temperatures are expected to be normal to above normal for the May to July period, with the highest confidence over the Antilles and the Guianas.

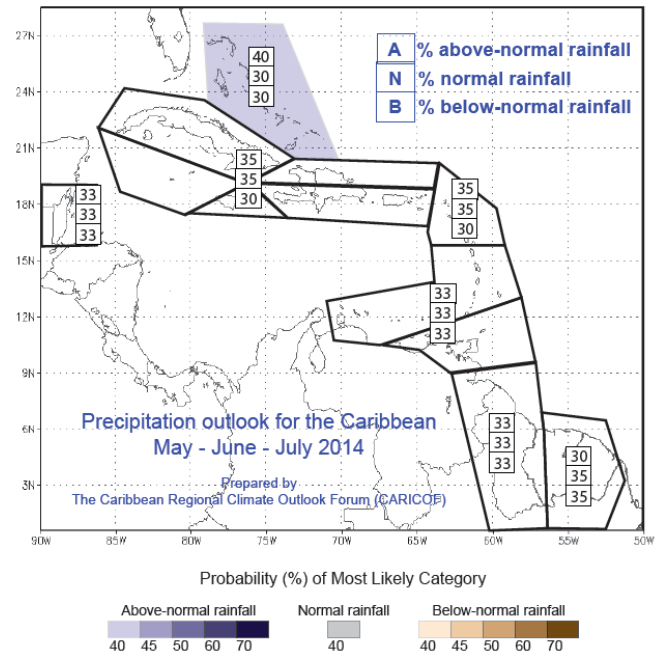


Figure 10 The May to July 2014 rainfall forecast

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