

## Agro-meteorological Bulletin and Assessment for Farmers and Livestock Producers of Trinidad and Tobago for the First Dekad (1st - 10th) of April, 2019

### Definitions used in the forecast and bulletin:

Term	Meaning	
Dekad	10 day rainfall measuring period	
Rain Day	A day with 1.0 mm or more of rainfall amount	
Wet Day	A day with 10.0 mm or more rainfall amount	
Extremely Wet Day	A day with 25.0 mm or more of rainfall amount	
Normal Rainfall	Between 75% and 125% of the average	
Below Normal Rainfall	Rainfall below 75% of the average	
Above Normal Rainfall	Rainfall in excess of 125% of the average	
Much Below Normal Rainfall	Rainfall below 50% of the average	
Much Above Normal Rainfall	Rainfall above 150% of the average	
Scanty Rainfall	Less than 1 mm	
Moderate Rainfall	1-10 mm	
Heavy Rainfall	10-50 mm	
Very Heavy Rainfall	Greater than 50 mm	
Probability of 1-30 %	Low Chance	
Probability of 30-70 %	Moderate Chance	
Probability greater than 70 %	High Chance	
Term	Amount of Rain	Type of day
Scanty Rainfall	Less than 1 mm	Relatively dry day
Moderate Rainfall	1-10 mm	Relatively wet day
Heavy Rainfall	10-50 mm	Wet day
Very Heavy Rainfall	Greater than 50 mm	Excessively wet day

### Weather Assessment for the Third Dekad (21<sup>st</sup>-31<sup>st</sup>) of March, 2019.

On days: 26<sup>th</sup> and 27<sup>th</sup>, Trinidad experienced some useful rainfall, while on days 27<sup>th</sup> and 28<sup>th</sup> Tobago had some useful rainfall, which assisted both Islands in moistening their soils. Preliminary results of rainfall amounts for Trinidad, showed that north-eastern and eastern areas had rainfall totals as follows: Piarco (1.5 mm), Cumaca (0.0 mm) and Sangre Grande (5.2 mm) were within the forecasted range of 0.0 mm to 10.0 mm. Similarly, northern areas such as Caura (2.2 mm) and St Anns (0.8 mm) had rainfall amounts within the range 0.0 mm to 10.0 mm. Likewise, north-western areas of Trinidad such as Moka (0.4 mm) and Diamond Vale (1.6 mm) were within expected range of 0.0 mm to 10.0 mm.

However, central areas had rainfall totals as follows: Flanagin Town (4.8 mm), Navet (9.4 mm), Tamana (11.4 mm), which were mostly within range forecasted of 0.0 mm to 10.0 mm. Similarly, southern areas had the following rainfall amounts:

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Point Fortin (2.4 mm), Barrackpore (0.8 mm), Penal (0.8 mm), CatsHill (1.6 mm) and Guayaguayare (0.6 mm), all within the range forecasted of 0.0 mm to 10.0 mm.

Tobago had experienced some rainfall, central areas such as Mt. Pleasant had 4.4 mm while western areas such as Crown Point had rainfall totals around 6.8 mm, within the forecasted amount of 0.0 mm to 10.0 mm.

Trinidad's temperature was generally inside of the expected range, the maximum temperature went up to 32.6 °C, which was within the expected high range of 32.2 °C to 33.3 °C. At the same time Tobago's maximum got up to 30.6 °C, below the expected high range of 30.7 °C to 31.5 °C. Similarly, lowest temperatures recorded were 21.0 °C in Trinidad and 22.7 °C in Tobago. In Trinidad's case, the minimum temperature was within the expected minimum range of 23.6 °C to 21.0 °C. Similarly, the minimum temperature was within the expected minimum range of 23.5 °C to 22.2 °C for Tobago. The average humidity for both islands remained in the sixties to upper seventies throughout the dekad.

### **Expected Weather for Second Dekad (11<sup>th</sup> – 20<sup>th</sup>) of March 2019 and Likely Impact on Agriculture.**

The forecast for the first dekad of April indicates that farmers can expect similarly dry conditions as compared to the third dekad of March 2019. But relatively wet days: on 4<sup>th</sup>, 5<sup>th</sup>, 6<sup>th</sup> and 7<sup>th</sup>; with relatively dry days: 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup>, 8<sup>th</sup>, 9<sup>th</sup> and 10<sup>th</sup>. During relatively wet days, expect during early morning or late afternoon patchy cloudiness with light rainfall over some areas; while during relatively dry days, expect few cloudy patches. The ten-day period rainfall totals, forecast to range between 5.0 mm and 10.0 mm in Trinidad and Tobago.

The average daily temperatures across Trinidad and Tobago are likely to range between 26.8 °C and 27.6 °C. Expect the highest maximum temperature over the dekad to peak near 33.5 °C in **Trinidad**, while the lowest night to early morning minimum temperature could dip below 21.5 °C. Especially along the foothills and valleys during relatively cloud-free nights. Likewise, during the dekad, in **Tobago**, the highest maximum temperature will peak near 31.8 °C, while the lowest minimum temperature will dip below 22.6 °C, mostly during relatively cloud-free nights.

For both Trinidad and Tobago, the daytime relative humidity (RH) is likely to range between 62% and 67%. However, during relatively wet days, RH percentage values will range around 67% to 78%. At the same time, wind speeds are expected to range between 30km/h and 46 km/h but can gust to 60 km/h. In addition, evaporation rates are expected to range between 8.0 mm/day and 14.0 mm/day.

There is also a moderate (70%) probability of visitation of Saharan dust/haze that will occasionally reduce visibility to less than 12.0 km, particularly during days: 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup>, 8<sup>th</sup>, 9<sup>th</sup> and 10<sup>th</sup>.

### **Impacts on Agriculture:**

Due to the existing conditions (dry season) at the is time, more frequent irrigation may be warranted during the dekad. Additionally, the combination of winds, dry vegetation/foilage and hot conditions, there is a high probability (80%) of an increase frequency of bush and forest fires at this time. Farmer should be more vigilant to protect, crops, livestock and property at this time.

### **Sun, Moon and bright objects in the sky:**

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The sun is presently at a latitude approximately 3 degrees' north latitude, and with this position, the day length for this dekad will be 12.1 to 12.2 hours. The intense solar irradiance episodes will start becoming frequent during this dekad when the sky is generally cloud free. There is medium probability (40%) of heat stress on certain variety plant seedlings and animals from direct exposure to solar radiation and high temperatures. Additionally, the new moon phase will be on the 5<sup>th</sup>. This may result in very low illumination over crop fields and livestock. As the sun sets in the west, planets, Venus, Mars, Jupiter and Saturn will be seen in the evening sky.

### **Trinidad's Mean Daily Rainfall Forecast for the First Dekad of April (1<sup>st</sup>–10<sup>th</sup>) 2019.**

#### **Northern & Northwestern areas:**

Moderate chance (60%) of mean daily rainfall up to 0.5 mm.

#### **North-Eastern and Eastern areas:**

Moderate chance (68%) of mean daily rainfall up to 0.6 mm.

#### **Central, West-Central and inland areas:**

Moderate chance (60%) of mean daily rainfall up to 0.5 mm.

#### **South-Eastern areas:**

Moderate chance (68%) of mean daily rainfall up to 0.7 mm.

#### **Southern areas:**

Moderate chance (60%) of mean daily rainfall up to 0.5 mm.

#### **South-Western areas:**

Moderate chance (60%) of mean daily rainfall up to 0.5 mm.

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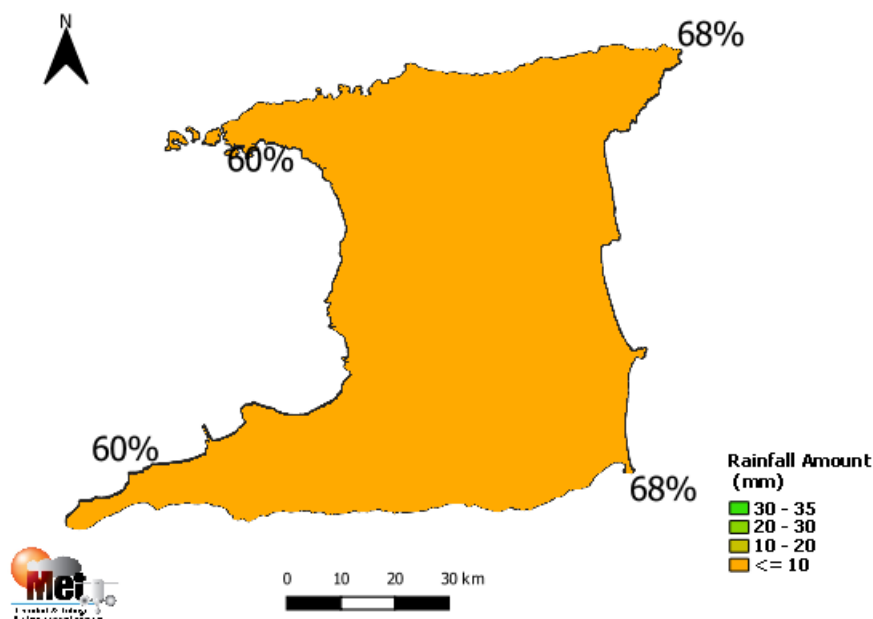


Figure 1. Rainfall Map of Trinidad showing possible rainfall totals for varying districts during first dekad of April 2019 and percentage probability of occurrence.

## Tobago's Mean Daily Rainfall Forecast for the First Dekad of April (1<sup>st</sup>–10<sup>th</sup>) 2019

### Northeastern areas:

Moderate chance (65%) of mean daily rainfall up to 0.5 mm.

### South-Western areas:

Moderate chance (68%) of mean daily rainfall up to 0.9 mm.

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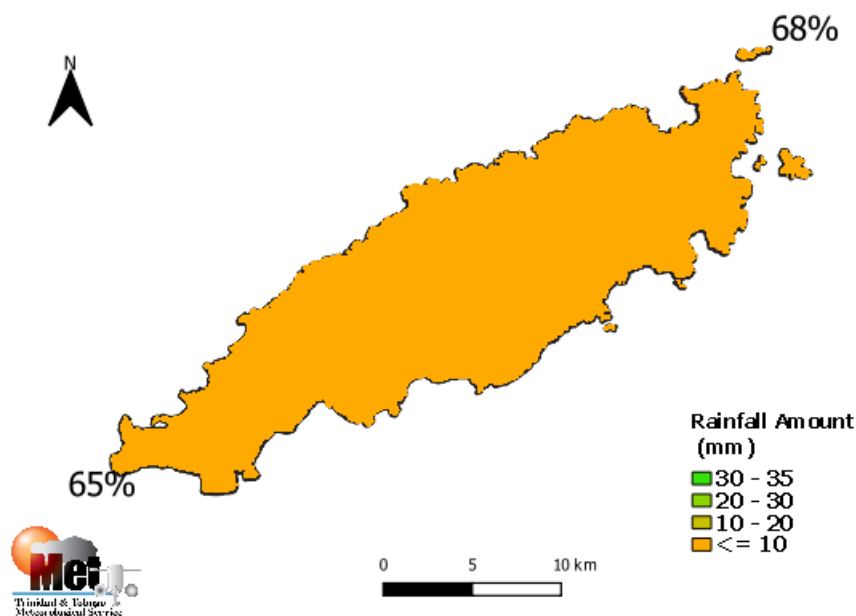


Figure 2. Rainfall Map of Tobago showing possible rainfall totals for varying districts during first dekad of April 2019 and percentage probability of occurrence.

### Temperatures:

#### Trinidad's Temperature Forecast for the First Dekad of April (1<sup>st</sup>–10<sup>th</sup>) 2019.

Moderate chance (70%) of daily maximum temperatures to exceed 32.4 °C, peaking near 33.5 °C.

Moderate chance (70%) of daily minimum temperatures to be below 22.9 °C, dropping as low as 21.5 °C.

#### Tobago's Temperature Forecast for the First Dekad of April (1<sup>st</sup>–10<sup>th</sup>) 2019

Moderate chance (70%) of daily maximum temperatures to exceed 30.9 °C, peaking near 31.8 °C.

Moderate chance (70%) of daily minimum temperatures to be below 24.0 °C, dropping as low as 22.6 °C.

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#### Summary:

The forecast for the first dekad of April indicates that farmers can expect similarly dry conditions as compared to the third dekad of March 2019. But relatively wet days: on 4<sup>th</sup>, 5<sup>th</sup>, 6<sup>th</sup> and 7<sup>th</sup>; with relatively dry days: 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup>, 8<sup>th</sup>, 9<sup>th</sup> and 10<sup>th</sup>. During relatively wet days, expect during early morning or late afternoon patchy cloudiness with light rainfall over some areas; while during relatively dry days, expect few cloudy patches. The ten-day period rainfall totals, forecast to range between 5.0 mm and 10.0 mm in Trinidad and Tobago.

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