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### Agro-meteorological Bulletin and Assessment for Farmers and Livestock Producers of Trinidad and Tobago for the First Dekad (1st - 10th) of May, 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 (21st -30th) of April, 2019.

On days: 21<sup>st</sup> to 26<sup>th</sup>, Trinidad experienced some useful rainfall while on days: 22<sup>nd</sup>, 26<sup>th</sup> and 29<sup>th</sup>; Tobago had some useful rainfall, that assisted both islands in moistening their soils and rejuvenating crops and vegetation. As of the 29<sup>th</sup> April, 2019, the preliminary results of rainfall amounts for Trinidad, showed that north-eastern and eastern areas had rainfall totals as follows: North Oroppouche (22.8 mm), Navet (7.4) and Sangre Grande (26.4 mm) were generally above the forecasted range of 10.0 mm to 20.0 mm. Similarly, northern areas such as Piarco (5.9 mm), Caura (0.0 mm) and St Anns (0.2 mm) had rainfall amounts mostly within the range 0.0 mm to 10.0 mm. Additionally, north-western areas of Trinidad such as Moka (7.0 mm) and Diamond Vale (4.0 mm) were within expected range of 0.0 mm to 10.0 mm.

Similarly, central areas had rainfall totals as follows: Arena (9.8 mm), Mamoral (10.2 mm), Flanagin Town (2.8 mm), Tamana

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(10.0 mm), which were mostly within the range forecasted of 0.0 mm to 10.0 mm. Similarly, southern-western areas had the following rainfall amounts: Point Fortin (5.6 mm), Barrackpore (2.8 mm) were within the range forecasted of 0.0 mm to 10.0 mm. While, south-eastern areas had the following rainfall amounts: CatsHill (5.8 mm) and Guayaguayare (17.8 mm) and Mayaro (7.4 mm) were mostly below the range forecasted of 10.0 mm to 20.0 mm.

Tobago had experienced some rainfall, western areas such as Crown Point had rainfall totals of 6.3 mm, which was within the forecasted amount of 0.0 mm to 10.0 mm for south-western Tobago.

Trinidad's temperature was generally inside of the expected range, the maximum temperature went up to  $33.3\,^{\circ}$ C, which was within the expected high range of  $32.6\,^{\circ}$ C to  $33.7\,^{\circ}$ C. At the same time Tobago's maximum got up to  $30.7\,^{\circ}$ C, below the expected high range of  $31.0\,^{\circ}$ C to  $31.9\,^{\circ}$ C. Similarly, lowest temperatures recorded were  $23.1\,^{\circ}$ C in Trinidad and  $24.5\,^{\circ}$ C in Tobago. In Trinidad's case, the minimum temperature was within the expected minimum range of  $23.4\,^{\circ}$ C to  $21.9\,^{\circ}$ C. However, the minimum temperature was above the expected minimum range of  $24.3\,^{\circ}$ C to  $22.7\,^{\circ}$ C for Tobago. The average humidity for both Trinidad and Tobago remained in the mid/upper seventies, throughout the dekad.

#### Expected Weather for First Dekad (1st - 10th) of May 2019 and Likely Impact on Agriculture.

The forecast for the first dekad of May indicates that farmers can expect similarly mix conditions as compared to the third dekad of April, 2019. Relatively wet days: on  $3^{rd}$ ,  $8^{th}$ ,  $9^{th}$  and  $10^{th}$ ; and relatively dry days:  $1^{st}$ ,  $2^{nd}$ ,  $4^{th}$ ,  $5^{th}$ ,  $6^{th}$  and  $7^{th}$ . 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 10.0 mm and 20.0 mm in Trinidad and Tobago.

The average daily temperatures across Trinidad and Tobago are likely to range between 27.7  $^{\circ}$ C and 28.2  $^{\circ}$ C. Expect the highest maximum temperature over the dekad to peak near 33.7  $^{\circ}$ C in **Trinidad**, while the lowest night to early morning minimum temperature could dip below 22.7  $^{\circ}$ 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 32.1  $^{\circ}$ C, while the lowest minimum temperature will dip below 23.3  $^{\circ}$ C, mostly during relatively cloud-free nights.

For both Trinidad and Tobago, the daytime relative humidity (RH) is likely to range between 70% and 79%. However, during relatively wet days, RH percentage values will range around 80% to 85%. At the same time, wind speeds are expected to range between 30 km/h and 55 km/h but can gust to 60 km/h. In addition, evaporation rates are expected to range between 7.0 mm/day and 15.0 mm/day.

There is also a moderate (80%) probability of visitation of Saharan dust/haze that will occasionally reduce visibility to less than 10.0 km, particularly during days:  $1^{st}$ ,  $2^{nd}$ ,  $7^{th}$  and  $8^{th}$ .

#### 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/foliage and hot temperatures, there is a high probability (90%) 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.

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# Trinidad & Tobago Meteorological Service

## TRINIDAD AND TOBAGO METEOROLOGICAL SERVICE

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

The sun is presently at latitude of 14.5 degrees' north latitude, and with this position, the day length for this dekad will be 12.4 to 12.5 hours. The intense solar irradiance will be at its highest and more frequent episodes of intense solar radiation will occur during this dekad when the sky is generally cloud free. There is high probability (80%) of heat stress on certain variety plant seedlings and young animals from direct exposure to solar radiation and high temperatures. Additionally, the new moon phase will be on the 4<sup>th</sup> of May. This may result in very low intensity moonlight over crop fields and livestock. As the sun sets in the west, planets: Mercury, Venus, Mars, Jupiter and Saturn will be seen in the evening sky.

Trinidad's Mean Daily Rainfall Forecast for the First Dekad of May (1st-10th) 2019.

#### Northern & Northwestern areas:

Moderate chance (65%) of mean daily rainfall up to 1.0 mm.

#### North-Eastern and Eastern areas:

Moderate chance (68%) of mean daily rainfall up to 1.5 mm.

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

Moderate chance (65%) of mean daily rainfall up to 1.0 mm.

#### South-Eastern areas:

Moderate chance (68%) of mean daily rainfall up to 1.7 mm.

#### Southern areas:

Moderate chance (67%) of mean daily rainfall up to 1.2 mm.

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

Moderate chance (65%) of mean daily rainfall up to 1.0 mm.

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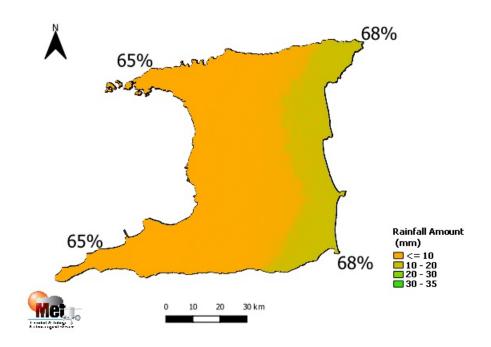


Figure 1. Rainfall Map of Trinidad showing possible rainfall totals for varying districts during first dekad of May 2019 and percentage probability of occurrence.

Tobago's Mean Daily Rainfall Forecast for the First Dekad of May (1st-10th) 2019.

#### Northeastern areas:

Moderate chance (68%) of mean daily rainfall up to 1.9 mm.

#### South-Western areas:

Moderate chance (65%) of mean daily rainfall up to 1.1 mm.

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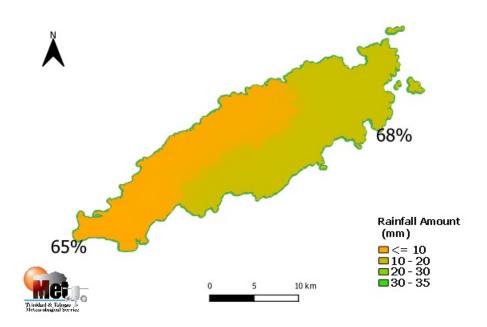


Figure 2. Rainfall Map of Tobago showing possible rainfall totals for varying districts during first dekad of May 2019 and percentage probability of occurrence.

#### **Temperatures**:

Trinidad's Temperature Forecast for the First Dekad of May (1st-10th) 2019.

Moderate chance (70%) of daily maximum temperatures to exceed 32.6 °C, peaking near 33.7 °C.

Moderate chance (70%) of daily minimum temperatures to be below 23.9 °C, dropping as low as 22.7 °C.

#### Tobago's Temperature Forecast for the First Dekad of May (1st-10th) 2019.

Moderate chance (70%) of daily maximum temperatures to exceed 31.2  $^{\rm 0}$ C, peaking near 32.1  $^{\rm 0}$ C.

Moderate chance (70%) of daily minimum temperatures to be below 24.7 °C, dropping as low as 23.3 °C.

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#### Summary:

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#### Summary

Expected Weather for First Dekad (1st – 10th) of May 2019 and Likely Impact on Agriculture. The forecast for the first dekad of May indicates that farmers can expect similarly mix conditions as compared to the third dekad of April, 2019. Relatively wet days: on 3rd, 8th, 9th and 10th; and relatively dry days: 1st, 2nd, 4th, 5th, 6th and 7th. 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 10.0 mm and 20.0 mm in Trinidad and Tobago. The average daily temperatures across Trinidad and Tobago are likely to range between 27.7 OC and 28.2 OC. Expect the highest maximum temperature over the dekad to peak near 33.7 OC in Trinidad, while the lowest night to early morning minimum temperature could dip below 22.7 OC. Especially along the foothills and valleys during relatively cloud-free nights. Likewise, during the dekad, in Tobago, the highest maximum temperature will peak near 32.1 OC, while the lowest minimum temperature will dip below 23.3 OC, mostly during relatively cloud-free nights.

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