

## Agro-meteorological Bulletin and Assessment for Farmers and Livestock Producers of Trinidad and Tobago for the Second Dekad (11<sup>th</sup> -20<sup>th</sup>) of October 2019.

Definitions used in the forecast and bulletin:

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

### Weather Assessment for the First Dekad (1<sup>st</sup>– 10<sup>th</sup>) of October 2019.

Wet days occurred on the 3<sup>rd</sup>, 5<sup>th</sup>, 6<sup>th</sup>, 8<sup>th</sup>, 9<sup>th</sup> and 10<sup>th</sup> October in both Trinidad and Tobago. These wet days were due to the interactions between Tropical Waves (TW) and Inter-Tropical Converge Zone (ITCZ) in the vicinity of Trinidad and Tobago. Relative dry to relatively wet days occurred during the 1<sup>st</sup>, 2<sup>nd</sup>, 4<sup>th</sup> and 7<sup>th</sup> of the dekad in Trinidad and Tobago. During relatively dry days, warm temperatures of above 33.2 °C had been experienced in Trinidad and above 32.8 °C in Tobago. As of the 9<sup>th</sup> of October, preliminary rainfall totals are seen in Table. 1 below.

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**Table 1. Rainfall totals for varying districts across Trinidad and Tobago during period 1<sup>st</sup> to 9<sup>th</sup> October 2019.**

<b>Northeastern areas of Trinidad</b>	<b>Rainfall totals/mm</b>
Piarco	41.5 mm
North Oropouche	76.6 mm
Cumaca	76.4 mm
Hollis	85.1 mm
Sangre Grande	109.2 mm
<b>Northwestern areas of Trinidad</b>	<b>Rainfall totals/mm</b>
St Anns	43.7 mm
Moka	74.6 mm
Diego Martin	37.0 mm
<b>Central areas of Trinidad</b>	<b>Rainfall totals/mm</b>
Flanagin Town	45.0 mm
Tamana	112.6 mm
Plum Mitan	91.6 mm
Navet	78.0 mm
<b>Southwestern, Southern and Southeastern areas of Trinidad</b>	<b>Rainfall totals/mm</b>
Granville	21.6 mm
Barrackpore	25.0 mm
Penal	48.4

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Cats Hill	33.0 mm
Guayaguayare	112.6 mm
<b>Southwestern areas of Tobago</b>	<b>Rainfall totals/mm</b>
Crown Point	92.2 mm

Trinidad's temperature was within expected range, maximum temperature went up to 33.2 °C, which was below the expected range of 33.7 °C to 34.5 °C. While Tobago's maximum got up to 32.8 °C, within the range expected of 32.7 °C to 33.5 °C. Similarly, lowest temperatures of 22.9°C were recorded in Trinidad which was slightly below the expected range of 23.9 °C to 23.0 °C. While Tobago's minimum temperature got down to 23.7 °C and within the expected range of 24.3 °C to 23.5 °C. The average humidity for Trinidad ranged between 77% to 91% while Tobago's average humidity range between 73% to 84%.

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

The forecast for the second dekad of October indicates that farmers can expect similar conditions as compared to the first dekad of October. Expect relatively wet days on days 11<sup>th</sup>, 12<sup>th</sup>, 13<sup>th</sup>, 15<sup>th</sup>, 16<sup>th</sup> and wet days on days 14<sup>th</sup>, 17<sup>th</sup>, 18<sup>th</sup>, 19<sup>th</sup>, 20<sup>th</sup>. On relatively wet days, there is a high probability of isolated thundershowers along the western coast of both islands, especially over urban areas of Trinidad during the dekad. On wet days, a possible visitation of an active Tropical wave (TW) in conjunction with the Inter Tropical Convergence Zone (ITCZ) will produce widespread cloudy periods with scattered showers and thundershowers over Trinidad and Tobago. The forecasted ten-day period rainfall totals to range between 100.0 mm and 120.0 mm in Trinidad and Tobago.

The average daily temperatures across Trinidad and Tobago are likely to range between 26.4 °C and 28.5 °C. Expect the highest maximum temperature over the first dekad to peak near 34.3 °C in **Trinidad**, while the lowest night to early morning minimum temperature could fall below 22.6 °C. While during the second dekad in **Tobago**, the highest maximum temperature will peak near 32.8 °C, while the lowest minimum temperature will be fall below 23.6 °C.

For both Trinidad and Tobago, the daytime relative humidity (RH) is likely to range between 70% and 78%. However, during wet days, RH percentage values will range around 79% to 94%. At the

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same time, expect wind speeds to range between 16 km/h and 24 km/h but can gust to 45 km/h in heavy showers or thundershowers. In addition, expect evaporation rates to range between 4.0 mm/day and 10.0 mm/day.

There is also a moderate (60%) probability of frequent visitation of Saharan dust that will occasionally reduce visibility to less than 11.0 km, particularly during the 11<sup>th</sup>, 12<sup>th</sup>, 13<sup>th</sup>, 15<sup>th</sup>, 16<sup>th</sup>.

### **Impacts on Agriculture:**

As a result of the mixed conditions that occurred during the first dekad of October, the soils are damp and some cases waterlogged. Vegetation/foilage growth rates will decrease or even stop in waterlogged soils. During the second dekad of October, soils moisture will continue to be high, with possible water logged soils. Rivers will replenish their waters from flooding and ground water runoff, while shrubs and grass growth will continue at a steady pace. The expected relatively wet-to-wet conditions of the second dekad of October may decrease the need for irrigation during the dekad. Additionally, with the expected high mean temperatures and high relative humidity, there is a high (70%) probability of some agricultural insects, pests, fungi and diseases get a foot in and possibly develop and thrive.

### **Sun and Moon positions in the sky:**

The sun is presently at latitude of approximately 6.5 degrees' south latitude, and with this position, the day length for this dekad will be 11.7 hours. A moderate probability (62%) of frequent episodes of intense solar radiation will occur during the second dekad of October when the sky is generally cloud free. There is moderate probability (62%) of heat stress on certain variety plant seedlings and young/sick/elderly animals from direct exposure to solar radiation and high temperatures. Additionally, the moon's full moon phase will be on the 13<sup>th</sup> and as a result, there will be medium to high moon illumination over crop fields and livestock at night during the dekad.

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## Trinidad's Mean Daily Rainfall Forecast for the Second Dekad of October (11<sup>th</sup>–20<sup>th</sup>) 2019.

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

Moderate chance (68%) of mean daily rainfall up to 11.5 mm.

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

Moderate chance (68%) of mean daily rainfall up to 11.2 mm.

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

Moderate chance (65%) of mean daily rainfall up to 10.1 mm.

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

Moderate chance (68%) of mean daily rainfall up to 11.3 mm.

### **Southern areas:**

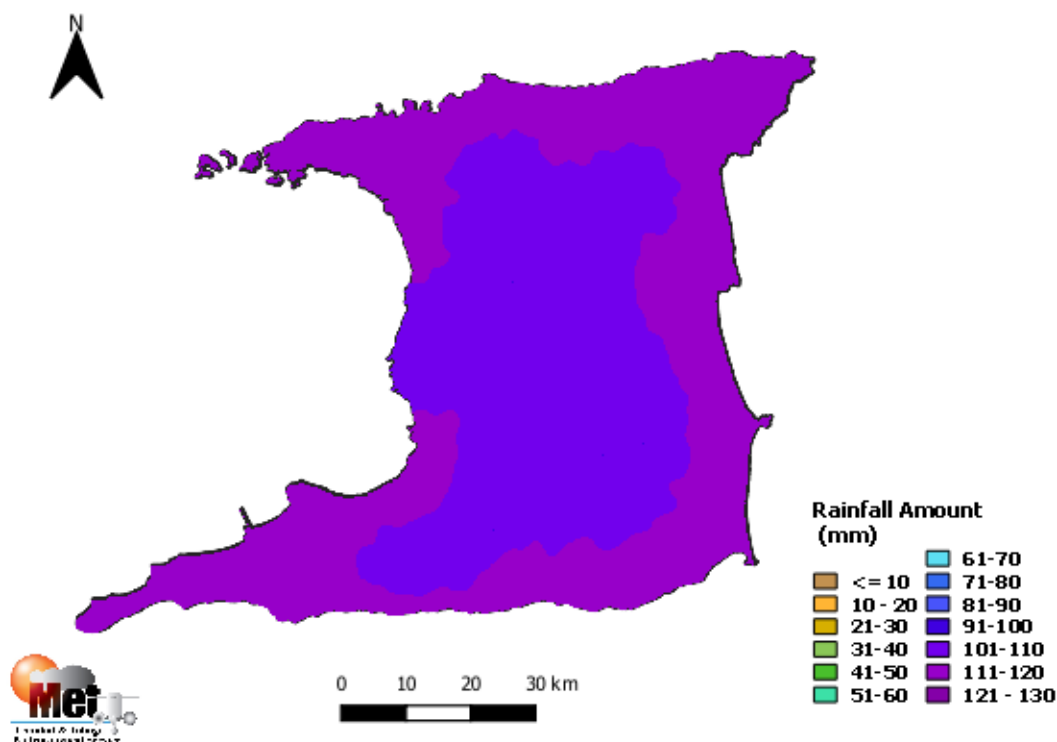
Moderate chance (68%) of mean daily rainfall up to 11.3 mm.

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

Moderate chance (68%) of mean daily rainfall up to 11.3 mm.

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

## **Tobago's Mean Daily Rainfall Forecast for the Second Dekad of October (11<sup>th</sup>–20<sup>th</sup>) 2019.**

### **Northeastern areas:**

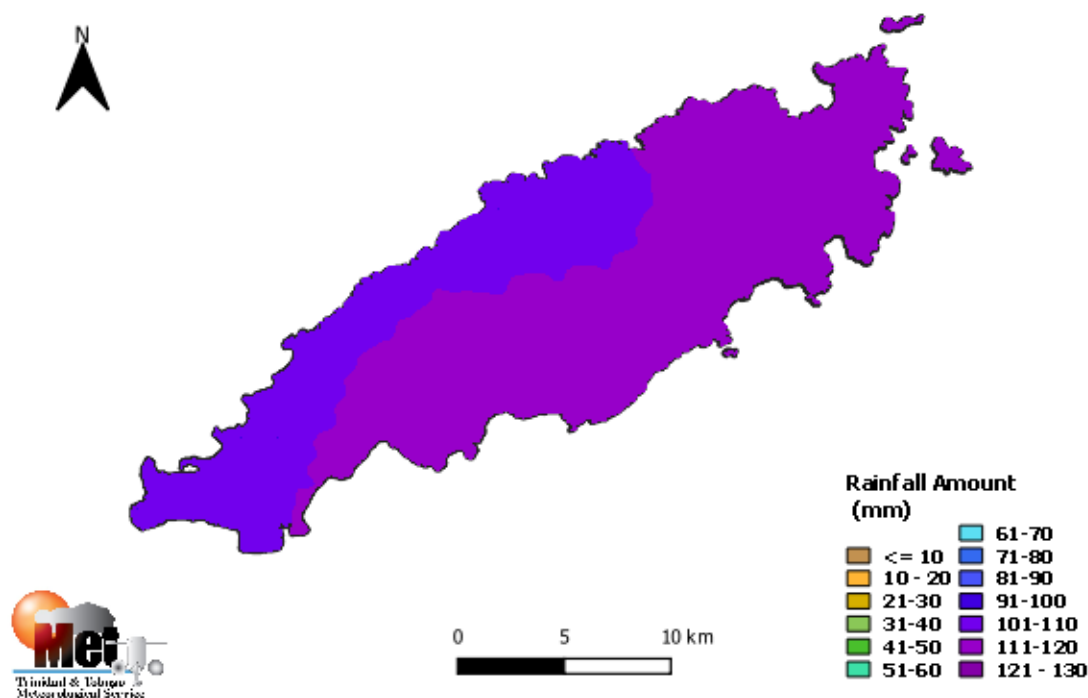
Moderate chance (68%) of mean daily rainfall up to 11.9 mm.

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

Moderate chance (65%) of mean daily rainfall up to 10.7 mm.

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

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## Temperatures:

### Trinidad's Temperature Forecast for the Second Dekad of October (11<sup>th</sup>–20<sup>th</sup>) 2019.

Moderate chance (70%) of daily maximum temperatures to exceed 32.2 °C, peaking near 34.3 °C.

Moderate chance (70%) of daily minimum temperatures to be below 23.5 °C, dropping as low as 22.6 °C.

### Tobago's Temperature Forecast for the Second Dekad of October (11<sup>th</sup>–20<sup>th</sup>) 2019.

Moderate chance (70%) of daily maximum temperatures to exceed 30.9 °C, peaking near 32.8 °C.

Moderate chance (70%) of daily minimum temperatures to be below 24.3 °C, dropping as low as 23.6 °C.

## Summary:

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

The forecast for the second dekad of October indicates that farmers can expect similar conditions as compared to the first dekad of October. Expect relatively wet days on days 11<sup>th</sup>, 12<sup>th</sup>, 13<sup>th</sup>, 15<sup>th</sup>, 16<sup>th</sup> and wet days on days 14<sup>th</sup>, 17<sup>th</sup>, 18<sup>th</sup>, 19<sup>th</sup>, 20<sup>th</sup>. On relatively wet days, there is a high probability of isolated thundershowers along the western coast of both islands, especially over urban areas of Trinidad during the dekad. On wet days, a possible visitation of an active Tropical wave (TW) in conjunction with the Inter Tropical Convergence Zone (ITCZ) will produce widespread cloudy periods with scattered showers and thundershowers over Trinidad and Tobago. The forecasted ten-day period rainfall totals to range between 100.0 mm and 120.0 mm in Trinidad and Tobago.

The average daily temperatures across Trinidad and Tobago are likely to range between 26.4 °C and 28.5 °C. Expect the highest maximum temperature over the first dekad to peak near 34.3 °C in **Trinidad**, while the lowest night to early morning minimum temperature could fall below 22.6 °C. While during the second dekad in **Tobago**, the highest maximum temperature will peak near 32.8 °C, while the lowest minimum temperature will be fall below 23.6 °C.

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