

## Agro-meteorological Bulletin and Assessment for Farmers and Livestock Producers of Trinidad and Tobago for the First Dekad (1<sup>st</sup> -10<sup>th</sup>) of August, 2018.

### 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 Third Dekad (21<sup>st</sup>– 31<sup>st</sup>) of July 2018.

Mostly relatively dry conditions dominated Trinidad and Tobago of the dekad, where both islands experienced some patchy cloudy to cloudy conditions at times with light to moderate/occasionally heavy rainfall over some areas. The lack of upper level support, together with little moisture advection gave little support to consecutive Tropical Waves (TW) during their passage across the islands. Also there were less frequent short visitation from the Inter Tropical Convergence Zone (ITCZ); which mostly affect southeastern and southern Trinidad. Northeastern and eastern areas had rainfall totals more than Piarco (27.7 mm) and were well below the forecasted range of 80.0 mm to 100.0 mm. Similarly, central areas had rainfall totals as follows: Chaguanas (13.2 mm), Freeport (16.9 mm), Carapichiamas (22.8 mm) and Couva (24.4mm) which were below the range forecasted of 30.0 mm to 40.0 mm. Furthermore, southern areas had the following rainfall amounts: San Fernando

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(13.9 mm), Princess Town (30.0 mm) and Golconda (23.4 mm) which were again, mostly below the range forecasted of 30.0 mm to 80.0 mm. Likewise, northern and northwestern areas had rainfall totals as follows: Tunapuna (24.4 mm) where just below the expected amount of 30.0 mm to 80.0 mm. Similarly, northwestern areas of Trinidad such as Port of Spain and Carenage had rainfall amounts of 7.9 mm and 36.1 mm respectfully, and again below expected range of 30.0 mm to 80.0 mm.

Tobago had experienced very little rainfall, western areas such as Crown Point and Buccoo had rainfall totals ranging between 8.4 mm to 18.9 mm, well below the forecasted amount of 10.0 mm to 40.0 mm.

Trinidad's temperature was generally within expected range, maximum temperature went up to 32.7 °C, which was within the expected range of 32.0 °C to 32.8 °C. At the same time Tobago's maximum got up to 32.7 °C, well above the range expected of 30.5 °C to 31.4 °C. Similarly, lowest temperatures recorded were 22.8 °C in Trinidad and 24.9 °C in Tobago. In Trinidad's case, the minimum temperature was below the expected range of 23.2 °C to 23.7 °C. Conversely, the minimum temperature was within the range of 24.0 °C to 25.0 °C for Tobago. The average humidity for both islands remained in the lower-seventies, falling lower during hot and breezy conditions and raising during cloudy, cool and relatively wet periods. Since mostly relatively dry days occurred in between relatively wet days during the dekad, frequent irrigation may have been necessary.

### **Expected Weather for first Dekad (1<sup>st</sup> – 10<sup>th</sup>) of August 2018 and Likely Impact on Agriculture.**

The forecast for the first dekad of August indicates that farmers can expect similar rainfall amounts as compared to the third dekad of July. Relatively wet to wet days are expected on days: 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup>, 4<sup>th</sup> and 10<sup>th</sup> but particularly on days 1<sup>st</sup> and 2<sup>nd</sup> light to moderate rainfall with thundershowers are possible. The ten-day period rainfall totals, forecast to range between 40.0 mm and 100.0 mm in Trinidad and between 20.0 mm to 50.0 mm in Tobago.

The average daily temperatures across Trinidad and Tobago are likely to range between 25.3 °C and 28.1 °C. Expect the highest maximum temperature over the dekad to peak near 33.6 °C in **Trinidad**, while the lowest night to early morning minimum temperature could dip below 22.6 °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 32.8 °C, while the lowest minimum temperature will be dip below 23.3 °C, mostly during relatively cloud free nights.

For both Trinidad and Tobago, the daytime relative humidity (RH) is likely to range between 64% and 85%. However, during relatively wet days, RH percentage values will range around 85% to 100%. At the same time, wind speeds are expected to range between 18 km/h and 32 km/h but can gust to 50 km/h. In addition, evaporation rates are expected to range between 4.2 mm/day and 10.2 mm/day, but can be slightly more during warmer and windier periods and slightly less during relatively wet days. The mix conditions of relatively wet to wet and relatively dry days of the dekad,

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will definitely decrease the need for frequent irrigation during the first half of the dekad. However, an increase in the frequency of irrigation is expected during the second half of the dekad.

In consequence of the expected weather conditions during the dekad, there is a low (30%) probability of heat stress on certain variety plant seedlings and young animals from exposure to solar radiation and warm temperatures. On the other hand, there is a moderate chance (60%) of lightning strikes, heavy down-pours, water logged soils and flash flooding in some areas, particularly on days 1<sup>st</sup> and 2<sup>nd</sup>. There is also a moderate (60%) probability chance of frequent visitation of Saharan dust that will occasionally reduce visibility to less than 10.0 km, particularly during days: 5<sup>th</sup>, 6<sup>th</sup>, 7<sup>th</sup>, 8<sup>th</sup> and 9<sup>th</sup>.

Additionally, during the dekad, there is a moderate (70%) probability of some agricultural insect pests, fungi and diseases to get a foot in and possibly develop and thrive. Moreover, the expected daytime wind speeds and specifically during down drafts from cloud clusters, together with the funneling effect of wind along narrow paths and undulating landscapes, may affect some seedlings negatively by causing seedlings' stems and leaves to be damaged. In addition, possible strong winds and high intensity rainfall may hamper some types of fertilizer, fungicide and insecticide application and retention.

### **Trinidad's Mean Daily Rainfall Forecast for the First Dekad of August (1<sup>st</sup>–10<sup>th</sup>) 2018.**

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

Moderate chance (63%) of mean daily rainfall up to 6.2 mm.

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

Moderate chance (67%) of mean daily rainfall up to 9.4 mm.

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

Moderate chance (64%) of mean daily rainfall up to 6.9 mm.

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

Moderate chance (67%) of mean daily rainfall up to 9.6 mm.

#### **Southern areas:**

Moderate chance (64%) of mean daily rainfall up to 7.5 mm.

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

Moderate chance (62%) of mean daily rainfall up to 6.2 mm.

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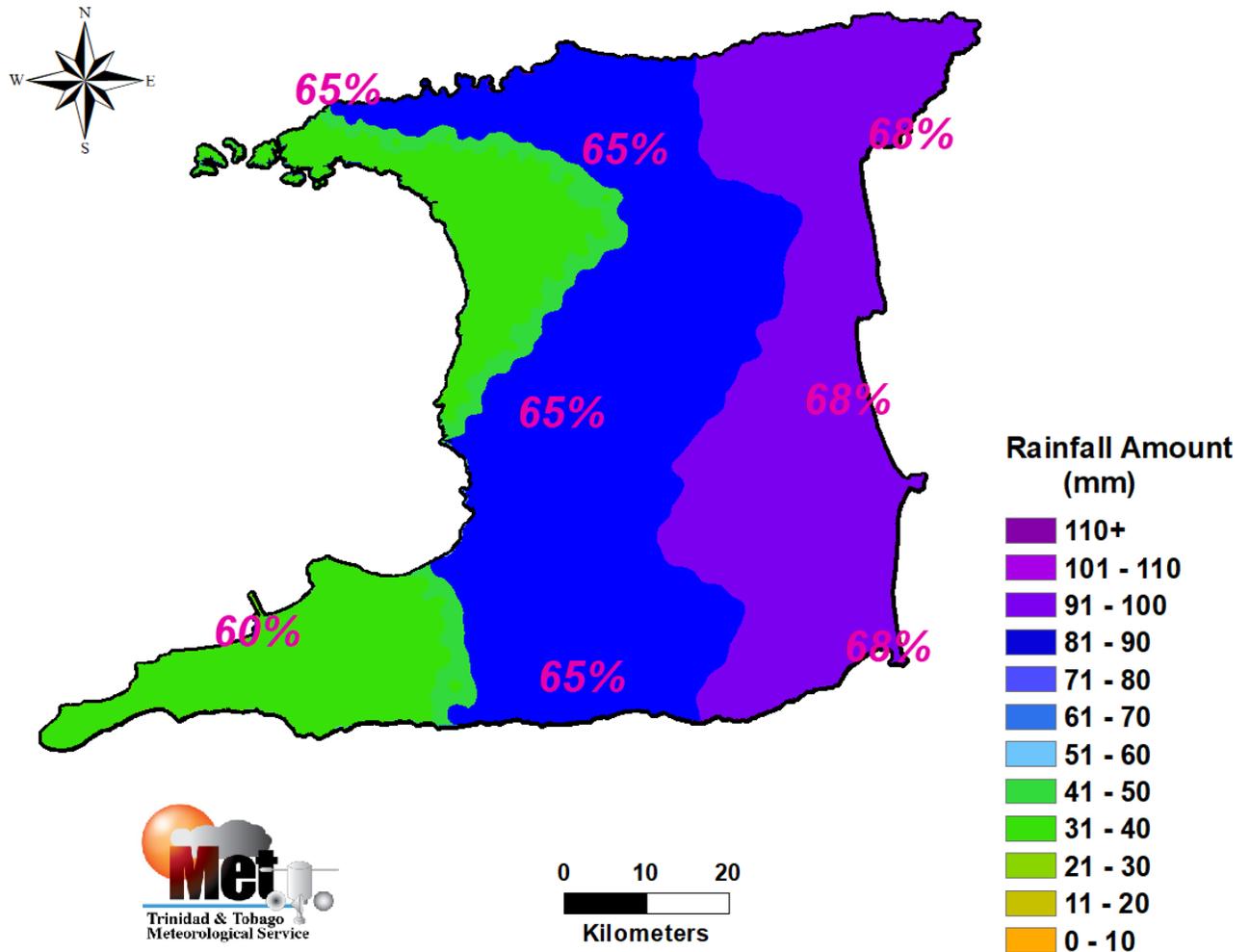


Figure 1. Rainfall Map of Trinidad showing possible rainfall totals for varying districts during first dekad of August 2018 and percentage probability of occurrence.

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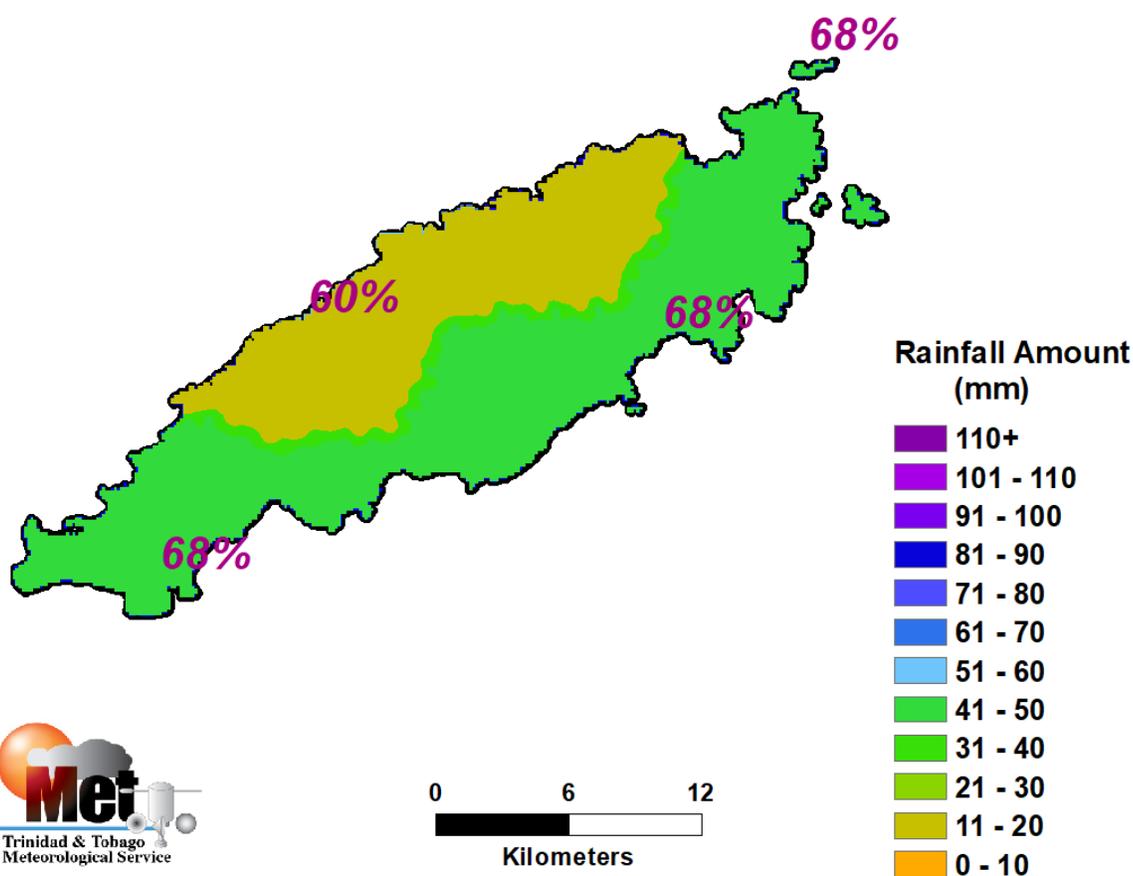
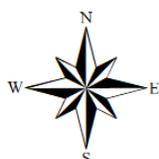
## Tobago's Mean Daily Rainfall Forecast for the First Dekad of August (1<sup>st</sup>–10<sup>th</sup>) 2018.

### Northeastern areas:

Moderate chance (66%) of mean daily rainfall up to 4.1 mm.

### South-Western areas:

Moderate chance (65%) of mean daily rainfall up to 3.7 mm.



**Figure 2. Rainfall Map of Tobago showing possible rainfall totals for varying districts during first dekad of August 2018 and percentage probability of occurrence.**

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## Temperatures:

### Trinidad's Temperature Forecast for the First Dekad of August (1<sup>st</sup>-10<sup>th</sup>) 2018.

Moderate chance (70%) of daily maximum temperatures to exceed 32.1 °C, peaking near 33.6 °C.

Moderate chance (70%) of daily minimum temperatures to be below 23.7 °C, dropping as low as 22.6 °C.

### Tobago's Temperature Forecast for the First Dekad of August (1<sup>st</sup>-10<sup>th</sup>) 2018.

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 24.5 °C, dropping as low as 23.3 °C.

## Summary:

The outlook for the first dekad of August calls for similar conditions as of third dekad of July. Expect wet days, particularly, on days 1<sup>st</sup> and 2<sup>nd</sup> of the dekad with mostly moderate to heavy showers, possible thundershowers, while relatively wet days during days: 3<sup>rd</sup>, 4<sup>th</sup> and 10<sup>th</sup> of the dekad with light to moderate showers. The ten-day period rainfall totals, forecast to range between 40.0 mm and 100.0 mm in Trinidad and between 20.0 mm to 50.0 mm in Tobago.

Overall, **average** temperatures ranging between 25.3 °C and 28.1 °C in both islands over the full dekad. The maximum temperature is likely to reach 33.6 °C in Trinidad and 31.8 °C in Tobago. While, the lowest minimum temperatures are likely to reach 22.6 °C in Trinidad and 23.3 °C in Tobago. There is high probability (60%) of flash floods and waterlogged soils on days 1<sup>st</sup> and 2<sup>nd</sup>. Opportunities for water harvesting will increase during the relatively wet to wet days.

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