

## 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 September, 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 First Dekad (1<sup>st</sup>– 10<sup>th</sup>) of September, 2018.

Mostly relatively dry to relatively wet conditions dominated Trinidad and Tobago during the dekad, where both islands experienced patchy cloudy to cloudy conditions at times with mostly light to moderate rainfall over most areas. Specifically, on days 3<sup>rd</sup>, 5<sup>th</sup>, 6<sup>th</sup>, 7<sup>th</sup> and 8<sup>th</sup>, the rainfall was due to a Tropical Wave's journey across the islands during first half of the dekad producing light to moderate showers; followed by the indirect influence of hurricane Florence which produced moderate to heavy showers over some areas. Northeastern and eastern areas had rainfall totals as follows: Piarco (22.0 mm), Cumaca (50.1 mm), Hollis (62.4) and Sangre Grande (72.3 mm) were within the forecasted range of 50.0 mm to 100.0 mm. Similarly, central areas had rainfall totals as follows: Chaguanas (23.6 mm), Flanagin Town (38.2 mm), Navet (33.4 mm), Tamana (38.8 mm) and Plum Mitan (52.0 mm) which were within the range forecasted of 30.0 mm to 100.0 mm.

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Furthermore, southern areas had the following rainfall amounts: San Fernando (46.7 mm), Barrackpore (29.8 mm), Penal (38.2 mm) and Guayaguayare (15.6 mm) which were mostly within the range forecasted of 50.0 mm to 100.0 mm. Likewise, northern areas such as Tunapuna (42.2 mm), Caura (16.8 mm), St Anns (73.6 mm), St. Barbara (35.2 mm) had rainfall amounts mostly ranging between 40.0 mm to 80.0 mm.

On the other hand, northwestern areas of Trinidad such as Port of Spain and Carenage had rainfall amounts of 2.4 mm and 18.3 mm respectfully, and again below the expected range of 40.0 mm to 80.0 mm.

Tobago had experienced some rainfall, central areas such as Mt Moriah had 19.8 mm while western areas such as Crown Point had rainfall totals around 15.3 mm, below the forecasted amount of 30.0 mm to 40.0 mm.

Trinidad's temperature was generally within expected range, maximum temperature went up to 33.9 °C, which was within the expected range of 32.1 °C to 34.9 °C. At the same time Tobago's maximum got up to 32.4 °C, within the range expected of 30.8 °C to 32.7 °C. Similarly, lowest temperatures recorded were 22.8 °C in Trinidad and 24.7 °C in Tobago. In Trinidad's case, the minimum temperature was within the expected range of 23.7 °C to 22.0 °C. Similarly, the minimum temperature was within the range of 24.8 °C to 23.2 °C for Tobago. The average humidity for both islands remained in the upper-sixties, falling lower during hot and breezy conditions and raising during cloudy, cool and relatively wet periods. Since relatively dry to relative wet days occurred during the dekad, frequent irrigation may have been necessary.

### **Expected Weather for Second Dekad (11<sup>th</sup> – 20<sup>th</sup>) of September 2018 and Likely Impact on Agriculture.**

The forecast for the Second dekad of September indicates that farmers can expect similar conditions as compared to the first dekad of September. Relatively dry days are expected on days: 11<sup>th</sup>, 12<sup>th</sup>, 13<sup>th</sup>; with relatively wet conditions on days 14<sup>th</sup>, 15<sup>th</sup>, 16<sup>th</sup>, 17<sup>th</sup>, 18<sup>th</sup>, 19<sup>th</sup> and 20<sup>th</sup>. Particularly on days 14<sup>th</sup>, 15<sup>th</sup>, 18<sup>th</sup> and 19<sup>th</sup> expected light to moderate rainfall and possible thundershowers which may result in flash flooding and water logged soils. The ten-day period rainfall totals, forecast to range between 50.0 mm and 90.0 mm in Trinidad and 40.0 mm in Tobago.

The average daily temperatures across Trinidad and Tobago are likely to range between 27.9 °C and 28.3 °C. Expect the highest maximum temperature over the dekad to peak near 35.0 °C in **Trinidad**, while the lowest night to early morning minimum temperature could dip below 22.1 °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 23.6 °C, mostly during relatively cloud-free nights.

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For both Trinidad and Tobago, the daytime relative humidity (RH) is likely to range between 56% and 76%. However, during relatively wet days, RH percentage values will range around 77% to 100%. At the same time, wind speeds are expected to range between 16 km/h and 24 km/h but can gust to 36 km/h. In addition, evaporation rates are expected to range between 3.0 mm/day and 11.0 mm/day, but can be slightly more during warmer and windier periods and slightly less during relatively wet days. The mixed conditions of relatively dry days followed by relatively wet to wet days of the dekad, may increase the need for frequent irrigation during the dekad.

As a consequence of the position of the sun relative to our latitude, equal hours of day and night is expected for this month but more important than this, more intense solar irradiance is expected during the daytimes when the sky is generally cloud free. There is high probability of heat stress on certain variety plant seedlings and animals from direct exposure to solar radiation and hot 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 especially on days 14<sup>th</sup>, 15<sup>th</sup> 18<sup>th</sup> and 19<sup>th</sup>. There is also a moderate (65%) probability chance of frequent visitation of Saharan dust that will occasionally reduce visibility to less than 14.0 km, particularly during days: 11<sup>th</sup>, 12<sup>th</sup> and 13<sup>th</sup>.

Additionally, during the dekad, there is a moderate (65%) probability of some agricultural insects, 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 Second Dekad of September (11<sup>th</sup> – 20<sup>th</sup>) 2018.**

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

Moderate chance (64%) of mean daily rainfall up to 6.8 mm.

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

Moderate chance (65%) of mean daily rainfall up to 8.0 mm.

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

Moderate chance (63%) of mean daily rainfall up to 6.0 mm.

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

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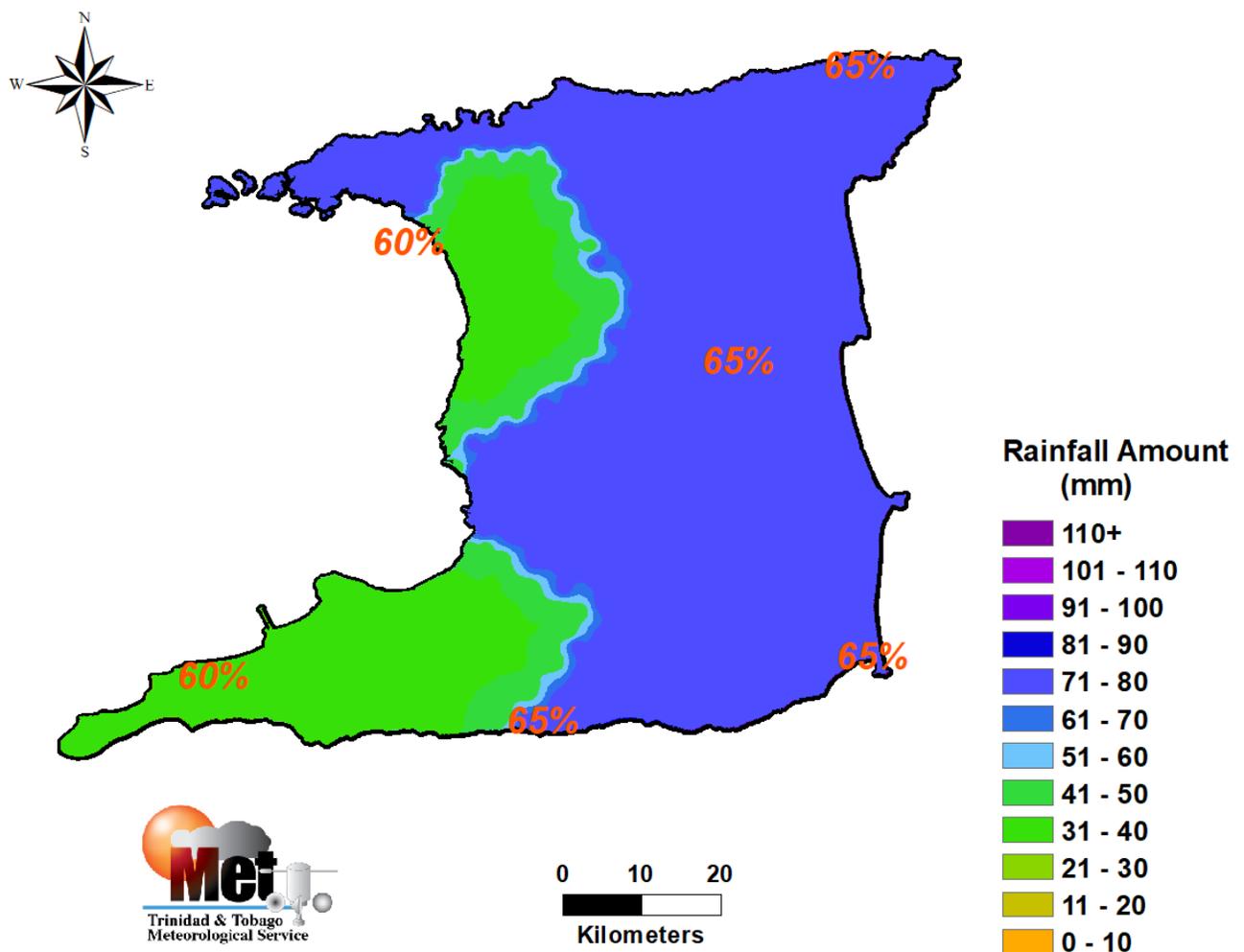
Moderate chance (65%) of mean daily rainfall up to 8.0 mm.

**Southern areas:**

Moderate chance (63%) of mean daily rainfall up to 6.3 mm.

**South-Western areas:**

Moderate chance (62%) of mean daily rainfall up to 5.4 mm.



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

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## Tobago's Mean Daily Rainfall Forecast for the Second Dekad of September (11<sup>th</sup>-20<sup>th</sup>) 2018.

### Northeastern areas:

Moderate chance (65%) of mean daily rainfall up to 4.4 mm.

### South-Western areas:

Moderate chance (65%) of mean daily rainfall up to 4.4 mm.

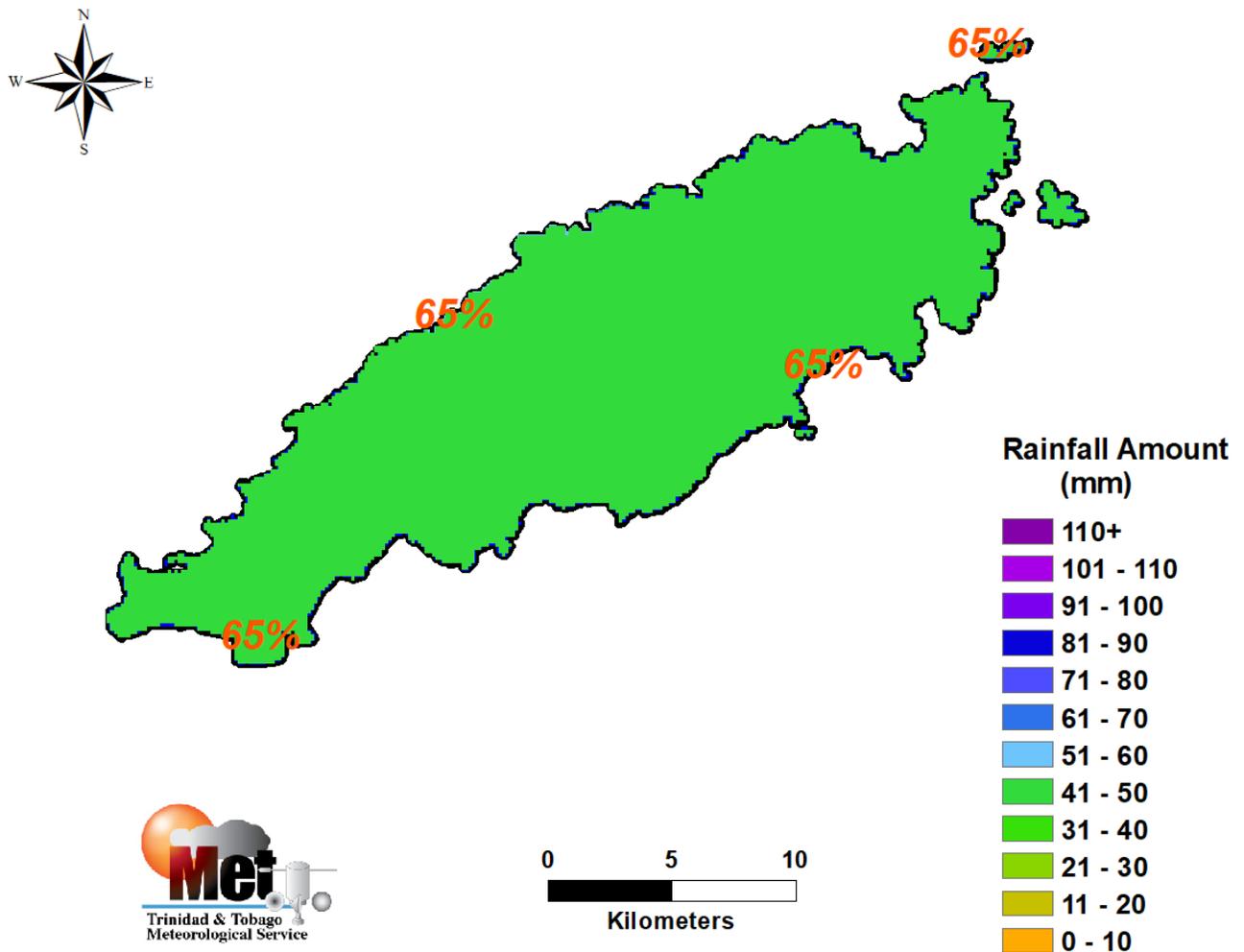


Figure 2. Rainfall Map of Tobago showing possible rainfall totals for varying districts during second dekad of September 2018 and percentage probability of occurrence.

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## Temperatures:

### Trinidad's Temperature Forecast for the second Dekad of September (11<sup>th</sup>-20<sup>th</sup>) 2018.

Moderate chance (70%) of daily maximum temperatures to exceed 32.7 °C, peaking near 35.0 °C.

Moderate chance (70%) of daily minimum temperatures to be below 23.7 °C, dropping as low as 22.1 °C.

### Tobago's Temperature Forecast for the second Dekad of September (11<sup>th</sup>-20<sup>th</sup>) 2018.

Moderate chance (70%) of daily maximum temperatures to exceed 31.3 °C, peaking near 32.8 °C.

Moderate chance (70%) of daily minimum temperatures to be below 24.6 °C, dropping as low as 23.6 °C.

## Summary:

The outlook for the Second dekad of September calls for similar conditions as compared to first dekad of September. Expect relatively dry days on days: 11<sup>th</sup>, 12<sup>th</sup>, 13<sup>th</sup> and relatively wet days on 14<sup>th</sup>, 15<sup>th</sup>, 16<sup>th</sup>, 17<sup>th</sup>, 18<sup>th</sup>, 19<sup>th</sup> and 20<sup>th</sup>, particularly on days 14<sup>th</sup>, 15<sup>th</sup>, 18<sup>th</sup> and 19<sup>th</sup> expect light to moderate rainfall and possible thundershowers. The ten-day period rainfall totals, forecast to range between 50.0 mm and 90.0 mm in Trinidad and 40.0 mm in Tobago. Overall, **average** temperatures ranging between 27.9 °C and 28.3 °C in both islands over the full dekad. The maximum temperature is likely to reach 35.0 °C in Trinidad and 32.8 °C in Tobago. While, the lowest minimum temperatures are likely to reach 22.1 °C in Trinidad and 23.6 °C in Tobago. Opportunities for water harvesting will remain constant during dekad.

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