

## Agro-meteorological Bulletin and Assessment for Farmers and Livestock Producers of Trinidad and Tobago for the Third Dekad (21<sup>st</sup> -31<sup>st</sup>) of May 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 Second Dekad (11<sup>th</sup> – 20<sup>th</sup>) of May 2018.

Mostly dry conditions dominated Trinidad and Tobago over the dekad, where both islands experienced some patchy cloudy to cloudy conditions at times on days 13<sup>th</sup>, 14<sup>th</sup>, 19<sup>th</sup>, and 20<sup>th</sup> with light to moderate rainfall over some areas. Final results showed that northeastern and eastern areas had rainfall totals similar to Piarco of 17.0 mm and were well below the forecasted range of 30.0 mm to 45.0 mm. Similarly, central areas had rainfall totals as follows: Chaguanas (3.6 mm), Freeport (1.3 mm), Preysal (2.5 mm) and Couva (3.0 mm) again which was well below the range forecasted of 10.0 mm to 20.0 mm. Additionally, southern areas had the following rainfall amounts: San Fernando (10.2 mm), Penal (0.0 mm) and Princess Town (3.8 mm) which was again well below the range forecasted of 10.0 mm to 30.0 mm.

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Likewise, northern and northwestern areas had rainfall totals as follows: Tunapuna (4.8 mm), Port of Spain (0.3 mm), West Moorings (0.3 mm) and Carenage (0.3 mm), where again below the expected amount of 10.0 mm to 30.0 mm.

In the same way, Tobago had experience some rainfall, central areas of Mount Moriah and Castara had rainfall totals ranging between 0.1mm to 6.9 mm; while western areas such as Crown Point and Buccoo had rainfall totals ranging between 8.0 mm to 11.9 mm again; well below the forecasted amount of 20.0 mm to 30.0 mm.

Trinidad's temperature was generally within expected range, maximum temperature went up to 32.5 °C, which was within the expected range of 31.8 °C to 33.3 °C. At the same time Tobago's maximum got up to 31.7 °C, within the range expected of 31.0 °C to 32.0 °C. Similarly, lowest temperatures recorded were 21.7 °C in Trinidad and 23.7 °C in Tobago. In Trinidad's case, the minimum temperature was below the expected range, of 23.0 °C to 24.5 °C. On the other hand, the minimum temperature was within the range of 23.7 °C to 24.5 °C for Tobago. The average humidity for both islands remained in the mid-sixties, falling lower during hot and breezy conditions and going up during cloudy, cool and relatively wet periods. The mostly relatively dry conditions during the dekad may not have supported crops survival and must have warranted more frequent irrigation.

### **Expected Weather for Third Dekad (21<sup>st</sup> – 31<sup>st</sup>) of May 2018 and Likely Impact on Agriculture.**

The forecast for the third dekad of May indicates that farmers can expect similar rainfall amounts as compared to the second dekad of May. During the third dekad, farmers will experience relatively wet days during days 26<sup>th</sup>, 29<sup>th</sup> and 30<sup>th</sup> dekad, while relatively dry conditions during the other days of the dekad. The ten-day period rainfall totals, forecast to range between 15.0 mm and 25.0 mm in Trinidad and between 10.0 mm to 25.0 mm in Tobago.

The average daily temperatures across Trinidad and Tobago are likely to range between 26.8 °C and 28.2 °C. Expect the highest maximum temperature over the dekad to peak near 33.0 °C in **Trinidad**, while the lowest night to early morning minimum temperature could dip below 22.8 °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 32.2 °C, while the lowest minimum temperature will be dip below 23.4 °C, mostly during relatively cloud free nights.

For both Trinidad and Tobago, the daytime relative humidity (RH) is likely to range between 48% and 70%. However, during relatively wet days, RH percentage values will range around 71% to 85%. At the same time, wind speeds are expected to range between 20 km/h and 36 km/h. In addition, evaporation rates are expected to range between 3.5 mm/day and 10.1 mm/day, but can be slightly more during warmer and windier periods and slightly less during relatively wet days.

The initial relatively dry start to the dekad, will definitely increase the need for frequent irrigation. However, during the dekad, on days 26<sup>th</sup> through 29<sup>th</sup> and 30<sup>th</sup>, expect relatively wet conditions and

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possible decrease in the frequency of irrigation. Please keep in mind that a change in season from northern hemisphere spring to summer, results in early sunrise and late sunset with longer days, shorter nights and warmer temperatures. There is medium probability of heat stress on certain variety plant seedlings and young animals from excessive exposure to solar radiation and warm temperatures. There is also a moderate chance of frequent visitation of Saharan dust that will occasionally reduce visibility to minimum of 7.5 km.

Additionally, owing to the possible mostly dry conditions during the dekad, there is a low 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 down draft 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, strong winds and high intensity rainfall may hamper some types of fertilizer, fungicide and insecticide application and crops' ability to retain flowers.

### **Trinidad's Mean Daily Rainfall Forecast for the Third Dekad of May (21<sup>st</sup>–31<sup>st</sup>) 2018.**

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

Moderate chance (67%) of mean daily rainfall up to 2.1 mm.

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

Moderate chance (68%) of mean daily rainfall up to 2.5 mm.

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

Moderate chance (66%) of mean daily rainfall up to 1.7 mm.

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

Moderate chance (68%) of mean daily rainfall up to 2.5 mm.

#### **Southern areas:**

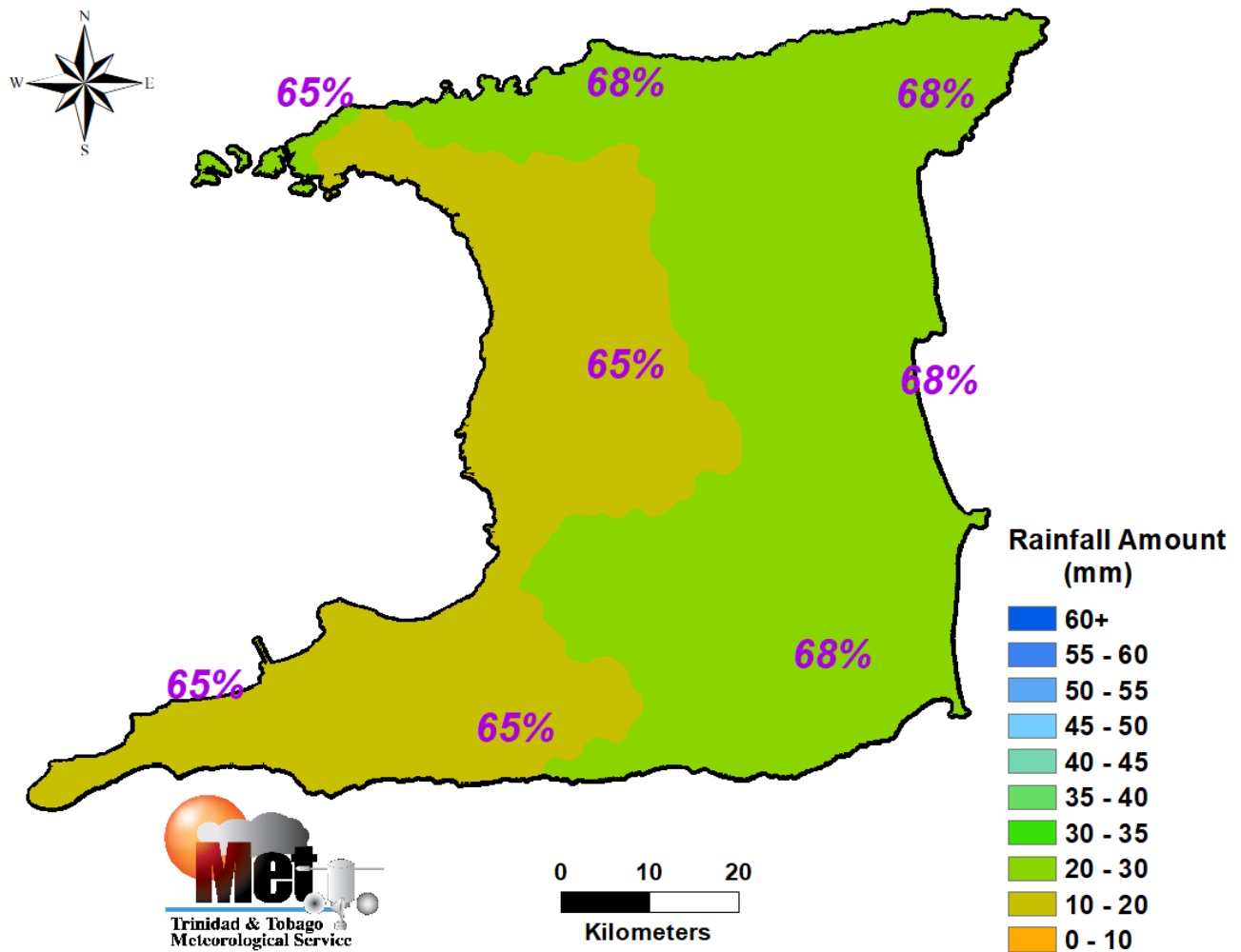
Moderate chance (67%) of mean daily rainfall up to 2.0 mm.

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

Moderate chance (66%) of mean daily rainfall up to 1.8 mm.

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

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## Tobago's Mean Daily Rainfall Forecast for the Third Dekad of May (21<sup>st</sup> - 31<sup>st</sup>) 2018.

### Northeastern areas:

Moderate chance (67%) of mean daily rainfall up to 2.1 mm.

### South-Western areas:

Moderate chance (67%) of mean daily rainfall up to 1.9 mm.

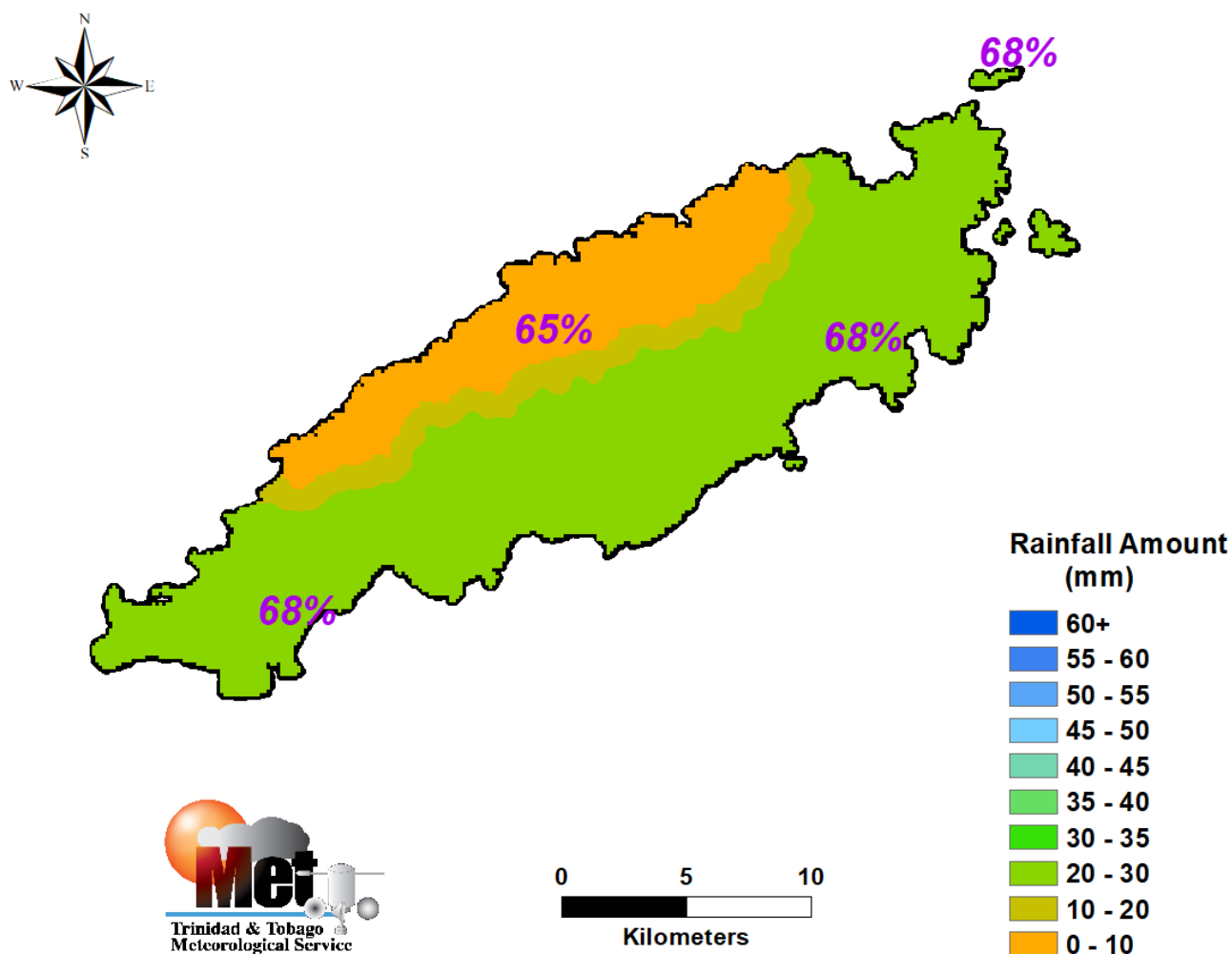


Figure 2. Rainfall Map of Tobago showing possible rainfall totals for varying districts during third dekad of May 2018 and percentage probability of occurrence.

### Temperatures:

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### Trinidad's Temperature Forecast for the Third Dekad of May (21<sup>st</sup>-31<sup>st</sup>) 2018.

Moderate chance (70%) of daily maximum temperatures to exceed 32.0<sup>0</sup>C, peaking near 33.0 <sup>0</sup>C.

Moderate chance (70%) of daily minimum temperatures to be below 24.2 <sup>0</sup>C, dropping as low as 22.8 <sup>0</sup>C.

### Tobago's Temperature Forecast for the Third Dekad of May (21<sup>st</sup>-31<sup>st</sup>) 2018.

Moderate chance (70%) of daily maximum temperatures to exceed 31.3 <sup>0</sup>C, peaking near 32.2 <sup>0</sup>C.

Moderate chance (70%) of daily minimum temperatures to be below 24.9 <sup>0</sup>C, dropping as low as 23.4 <sup>0</sup>C.

### Summary:

The outlook for the third dekad of May calls for relatively wet days during: 26<sup>th</sup>, 29<sup>th</sup> and 30<sup>th</sup> followed by relatively dry days during: 21<sup>st</sup>, 22<sup>nd</sup>, 23<sup>rd</sup>, 24<sup>th</sup>, 25<sup>th</sup>, 27<sup>th</sup>, 28<sup>th</sup> and 31<sup>st</sup> of the dekad. Overall, temperatures are warming with **average** temperatures ranging between 26.8 <sup>0</sup>C and 28.2<sup>0</sup>C in both islands over the full dekad. The highest maximum temperature is likely to reach 33.0 <sup>0</sup>C in Trinidad and 32.2 <sup>0</sup>C in Tobago. While, the lowest minimum temperatures are likely to reach 22.8 <sup>0</sup>C in Trinidad and 23.4 <sup>0</sup>C in Tobago. A gradual transitioning in the environment to wetter conditions and into the rainy season is expected. Opportunities for water harvesting will increase during the wet days, but at this time, any opportunity to harvest and store rainwater should be undertaken, while irrigation processes continue.

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