

**Agro-meteorological Bulletin and Assessment for Farmers and Livestock  
Producers of Trinidad and Tobago for the First Dekad (11<sup>th</sup> -20<sup>th</sup>) of  
December, 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 December, 2018.**

Mostly dry weather, dominated Trinidad and Tobago during the dekad, where both islands experienced some patchy cloudy conditions at times during the dekad, with mostly light rainfall over some areas. At the later part of the dekad, Trinidad and Tobago experienced mostly relatively dry conditions. Preliminary results of rainfall amounts are as follows, North-eastern and eastern areas had rainfall totals as follows: Piarco (15.0 mm), Cumaca (28.0mm) and Sangre Grande (38.8 mm) were within the forecasted range of 10.0 mm to 50.0 mm. Similarly, central areas had rainfall totals as follows: Chaguanas (6.6 mm), Flanagin Town (16.6 mm), Navet (8.6 mm), Tamana (37.0 mm), which were within range forecasted of 10.0 mm to 50.0 mm.

Furthermore, southern areas had the following rainfall amounts: Point Fortin (15.2 mm), Barrackpore (14.6 mm), Penal (22.8 mm), Princes Town (7.4 mm), CatsHill (14.8 mm) and Guayaguayare (20.6

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mm), all within the range forecasted of 10.0 mm to 50.0 mm. Likewise, northern areas such as Caura (14.8 mm), Tunupuna (10.7 mm) and St Anns (12.8 mm) had rainfall amounts within the range 10.0 mm to 50.0 mm.

Furthermore, north-western areas of Trinidad such as Moka (9.2 mm) and Diamond Vale (8.8 mm) were within expected range of 10.0 mm to 50.0 mm.

Tobago had experienced some rainfall, central areas such as Mt. Pleasant had 7.9 mm while western areas such as Crown Point had rainfall totals around 15.0 mm, below the forecasted amount of 10.0 mm to 30.0 mm.

Trinidad's temperature was generally within expected range, maximum temperature went up to 31.9 °C, which was within the expected range of 31.5 °C to 32.6 °C. At the same time Tobago's maximum got up to 30.7 °C, within the range expected of 30.3 °C to 31.1 °C. Similarly, lowest temperatures recorded were 20.8 °C in Trinidad and 22.9 °C in Tobago. In Trinidad's case, the minimum temperature was below the expected range of 22.8 °C to 21.3 °C. Similarly, the minimum temperature was within the range of 23.6 °C to 22.4 °C for Tobago. The average humidity for both islands remained in the mid-sixties, falling lower during hot and breezy conditions and raising during cloudy, cool and relatively wet periods. Since mostly relatively wet to relative dry days occurred during the dekad, frequent irrigation may have been necessary during of the dekad.

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

The forecast for the second dekad of December indicates that farmers can expect similarly dry conditions as compared to the first dekad of December. Expect relatively dry conditions on days: 12<sup>th</sup>, 13<sup>th</sup>, 14<sup>th</sup>, 15<sup>th</sup>, 16<sup>th</sup> and 17<sup>th</sup>; with relatively wet conditions on days: 11<sup>th</sup>, 18<sup>th</sup>, 19<sup>th</sup> and 20<sup>th</sup>. During relatively dry days, expect sporadic light rainfall; while during relatively wet days, expect light rainfall over most areas. The ten-day period rainfall totals, forecast to range between 20.0 mm and 47.0 mm in Trinidad and 16.0 mm to 34.0 mm in Tobago.

The average daily temperatures across Trinidad and Tobago are likely to range between 26.0°C and 26.6 °C. Expect the highest maximum temperature over the dekad to peak near 32.1 °C in **Trinidad**, while the lowest night to early morning minimum temperature could dip below 20.8 °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 31.2 °C, while the lowest minimum temperature will dip below 21.9 °C, mostly during relatively cloud-free nights.

For both Trinidad and Tobago, the daytime relative humidity (RH) is likely to range between 55% and 63%. However, during relatively wet days, RH percentage values will range around 65% to 100%. At the same time, wind speeds are expected to range between 20 km/h and 38 km/h but can gust to 45 km/h. In addition, evaporation rates are expected to range between 5.0 mm/day and 10.0

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mm/day, but can be slightly more during warmer and windier periods and slightly less during relatively wet days. The mostly relatively dry to relatively wet days during the dekad, may warrant more frequent irrigation during the dekad.

### **Impacts on Agriculture:**

On days: 11<sup>th</sup>, 18<sup>th</sup>, 19<sup>th</sup> and 20<sup>th</sup> there is a low chance (20%) lightning strikes, heavy down-pours, water logged soils, flash flooding and riverine flooding in some areas. There is also a moderate (68%) probability of visitation of Saharan dust/haze that will occasionally reduce visibility to less than 14.0 km, particularly during days: 12<sup>th</sup>, 13<sup>th</sup>, 14<sup>th</sup>, 15<sup>th</sup>, 16<sup>th</sup> and 17<sup>th</sup>. Additionally, during the dekad, there is a low (30%) probability of some agricultural insects, pests, fungi and diseases to get a foot in and possibly develop and thrive. Moreover, the expected daytime increase in wind speeds and funnelling effect of wind along narrow paths and undulating landscapes, may affect some seedlings negatively by causing seedlings' stems and leaves to be damaged.

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

The sun is presently at a latitude of 22.5 degrees south latitude and as a consequence of its position, the day length for this dekad will be 11.4 hours. The intense solar irradiance episodes will be at its lowest during this dekad when the sky is generally cloud free. There is low probability (10%) of heat stress on certain variety plant seedlings and animals from direct exposure to solar radiation and hot temperatures. Additionally, the moon's first quarter phase will be on the 15<sup>th</sup>, the moon's illumination will be at 50%, allowing some lighting over fields and livestock at night. As the sun sets in the west, planets Saturn, Jupiter, Neptune and Mars will be seen in just after dusk and during the night in the western sky. The Geminids meteor shower will peak on the 13<sup>th</sup> /14<sup>th</sup> of December, some may be seen with the naked eye.

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## Trinidad's Mean Daily Rainfall Forecast for the Second Dekad of December (11<sup>th</sup>–20<sup>th</sup>) 2018.

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

Moderate chance (62%) of mean daily rainfall up to 2.5 mm.

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

Moderate chance (67%) of mean daily rainfall up to 4.5 mm.

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

Moderate chance (63%) of mean daily rainfall up to 2.1 mm.

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

Moderate chance (68%) of mean daily rainfall up to 4.7 mm.

### **Southern areas:**

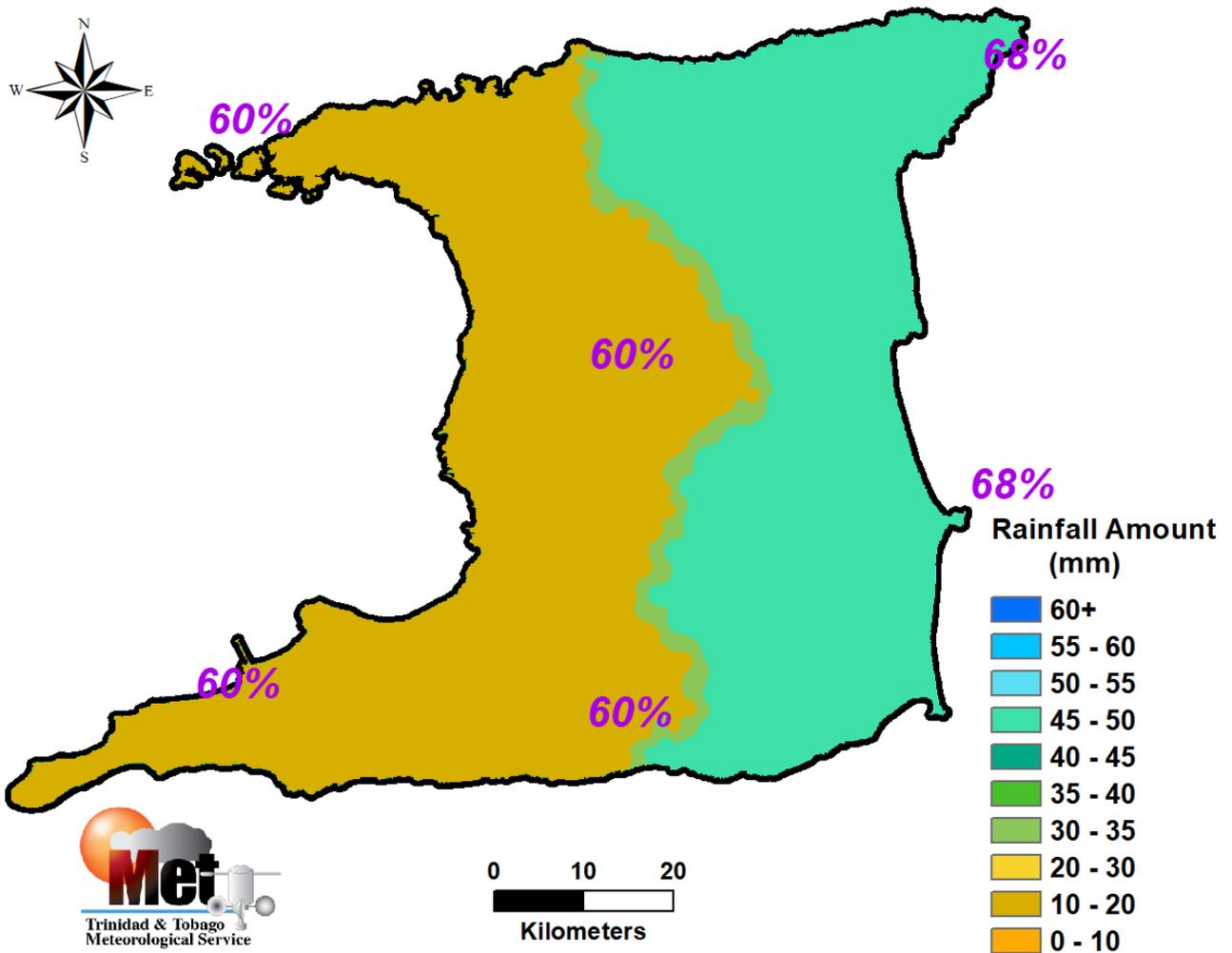
Moderate chance (63%) of mean daily rainfall up to 3.1 mm.

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

Moderate chance (61%) of mean daily rainfall up to 2.3 mm.

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

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

### Northeastern areas:

Moderate chance (68%) of mean daily rainfall up to 3.3 mm.

### South-Western areas:

Moderate chance (60%) of mean daily rainfall up to 1.7 mm.

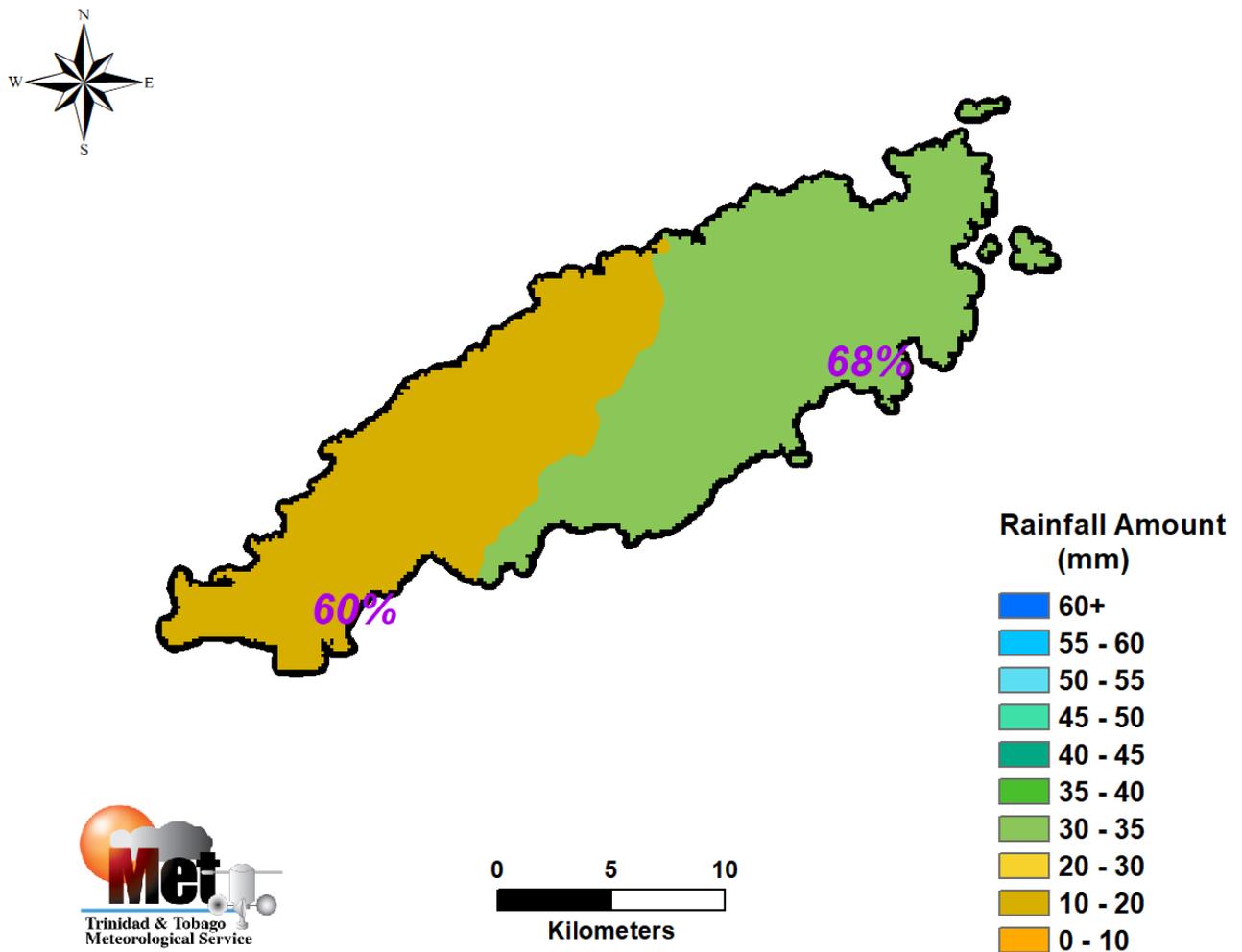


Figure 2. Rainfall Map of Tobago showing possible rainfall totals for varying districts during second dekad of December 2018 and percentage probability of occurrence.

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## Temperatures:

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

Moderate chance (70%) of daily maximum temperatures to exceed 31.1 °C, peaking near 32.1 °C.

Moderate chance (70%) of daily minimum temperatures to be below 22.4 °C, dropping as low as 20.8 °C.

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

Moderate chance (70%) of daily maximum temperatures to exceed 30.2 °C, peaking near 31.2 °C.

Moderate chance (70%) of daily minimum temperatures to be below 23.3 °C, dropping as low as 21.9 °C.

## Summary:

The forecast for the second dekad of December indicates that farmers can expect similar conditions as compared to the first dekad of December. Expect relatively dry conditions on days: 12<sup>th</sup>, 13<sup>th</sup>, 14<sup>th</sup>, 15<sup>th</sup>, 16<sup>th</sup> and 17<sup>th</sup>; with relatively wet conditions on days: 11<sup>th</sup>, 18<sup>th</sup>, 19<sup>th</sup> and 20<sup>th</sup>. During relatively dry days, expect sporadic light rainfall; while during relatively wet days, expect light rainfall over most areas. The ten-day period rainfall totals, forecast to range between 20.0 mm and 47.0 mm in Trinidad and 16.0 mm to 34.0 mm in Tobago.

The average daily temperatures across Trinidad and Tobago are likely to range between 26.0 °C and 26.6 °C. Expect the highest maximum temperature over the dekad to peak near 32.1 °C in **Trinidad**, while the lowest night to early morning minimum temperature could dip below 20.8 °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 31.2 °C, while the lowest minimum temperature will be dip below 21.9 °C, mostly during relatively cloud-free nights.

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