

**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  
November, 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 November, 2018.**

Mostly mixed weather, dominated Trinidad and Tobago during the dekad, where both islands experienced patchy cloudy conditions at times at the beginning and middle of the dekad, with mostly light to moderate rainfall and thundershowers over some areas. At the later part of the dekad, Trinidad and Tobago experienced mostly relatively dry conditions. During days 1<sup>st</sup> to 6<sup>th</sup>, a Tropical wave (TW) passed over both islands, followed by a south-easterly moisture flow which caused localised rainfall events, followed by relatively drier conditions during days: 7<sup>th</sup>, 8<sup>th</sup>, 9<sup>th</sup> and 10<sup>th</sup> of the dekad. Areas of Trinidad which experienced heavy rainfall, such as San Juan, El Socorro and Aranguez had experienced some flash floods. Preliminary results of rainfall amounts are as follows, North-eastern and eastern areas had rainfall totals as follows: Piarco (10.1 mm), Cumaca (59.8 mm) and Sangre Grande (21.8 mm) were below the forecasted range of 70.0 mm to 100.0 mm. Similarly, central areas

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had rainfall totals as follows: Chaguanas (27.7 mm), Flanagin Town (33.5 mm), Navet (34.8 mm), Tamana (25.8 mm) and which were below the range forecasted of 40.0 mm to 100.0 mm.

Furthermore, southern areas had the following rainfall amounts: Point Fortin (51.8 mm), Barrackpore (21.0 mm), Penal (39.2 mm), Princes Town (30.0 mm), CatsHill (33.4 mm) and Guayaguayare (22.3 mm), all with the exception of Point Fortin were below the range forecasted of 40.0 mm to 70.0 mm, where it was within the forecasted range. Likewise, northern areas such as Caura (70.0 mm), Tunupuna (93.7 mm) and St Anns (34.6 mm) had rainfall amounts mostly within the range 40.0 mm to 70.0 mm.

On the other hand, north-western areas of Trinidad such as Moka (39.0 mm) and Diamond Vale (58.4 mm) were mostly within the expected range of 40.0 mm to 70.0 mm.

Tobago had experienced some rainfall, central areas such as Mt. Pleasant had 5.1 mm while western areas such as Crown Point had rainfall totals around 35.0 mm, below the forecasted amount of 50.0 mm to 70.0 mm.

Trinidad's temperature was generally within expected range, maximum temperature went up to 33.0 °C, which was within the expected range of 32.1 °C to 35.4 °C. At the same time Tobago's maximum got up to 31.7 °C, within the range expected of 30.7 °C to 31.7 °C. Similarly, lowest temperatures recorded were 21.4 °C in Trinidad and 23.0 °C in Tobago. In Trinidad's case, the minimum temperature was below the expected range of 23.5 °C to 22.0 °C. Similarly, the minimum temperature was within the range of 24.2 °C to 23.0 °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 to wet periods. Since mostly relatively wet days occurred during the beginning and middle of the dekad, frequent irrigation may not have been necessary.

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

The forecast for the second dekad of November indicates that farmers can expect similar conditions as compared to the first dekad of November. Expect relatively wet conditions on days: 11<sup>th</sup>, 12<sup>th</sup>, 13<sup>th</sup>, 18<sup>th</sup>, 19<sup>th</sup> and 20<sup>th</sup>; with wet conditions on days: 14<sup>th</sup>, 15<sup>th</sup>, 16<sup>th</sup> and 17<sup>th</sup>. During relatively wet days, expect light to moderate rainfall and a possible thundershower while during wet days, expect light to moderate rainfall with heavy rainfall/thundershowers which may result in flash flooding, water logged soils and riverine flooding. The ten-day period rainfall totals, forecast to range between 30.0 mm and 70.0 mm in Trinidad Tobago.

The average daily temperatures across Trinidad and Tobago are likely to range between 27.6 °C and 28.3 °C. Expect the highest maximum temperature over the dekad to peak near 34.4 °C in **Trinidad**, while the lowest night to early morning minimum temperature could dip below 21.4 °C. Especially along the foothills and valleys during relatively cloud-free nights. Likewise, during the dekad, in

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**Tobago**, the highest maximum temperature will peak near 32.4 °C, while the lowest minimum temperature will be dip below 23.6 °C, mostly during relatively cloud-free nights.

For both Trinidad and Tobago, the daytime relative humidity (RH) is likely to range between 63% and 80%. However, during relatively wet days, RH percentage values will range around 80% to 100%. At the same time, wind speeds are expected to range between 18 km/h and 28 km/h but can gust to 40 km/h. In addition, evaporation rates are expected to range between 2.0 mm/day and 10.0 mm/day, but can be slightly more during warmer and windier periods and slightly less during relatively wet days. The mostly relatively wet days during the dekad, may warrant less frequent irrigation during the dekad.

### **Impacts on Agriculture:**

On days: 14<sup>th</sup>, 15<sup>th</sup>, 16<sup>th</sup> and 17<sup>th</sup> there is a moderate chance (68%) lightning strikes, heavy down-pours, water logged soils, flash flooding and riverine flooding in some areas. There is also a moderate (56%) probability of visitation of Saharan dust/haze that will occasionally reduce visibility to less than 14.0 km, particularly during days: 19<sup>th</sup> and 20<sup>th</sup>.

Additionally, during the dekad, there is a moderate (68%) 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 funnelling 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.

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

The sun is presently at a latitude of 16 degrees south latitude and as a consequence of its position, the day length for this dekad will be 11.5 hours, but more important than this, the intense solar irradiance episodes will decrease even further during daytimes when the sky is generally cloud free. There is low probability (30%) 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 (half-moon) will be on the 15<sup>th</sup>, this will result in 50% of the moon's total irradiance over fields and livestock at night. As the sun sets in the west, three bright objects; planets Saturn, Venus and Mars will be seen in the night sky, with Venus and Saturn setting earlier in the west and leaving the red planet Mars in the night sky. The Leonids meteor shower will peak on the night 17<sup>th</sup> of November. It will be seen in the eastern sky.

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

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

Moderate chance (66%) of mean daily rainfall up to 4.5 mm.

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

Moderate chance (68%) of mean daily rainfall up to 6.7 mm.

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

Moderate chance (66%) of mean daily rainfall up to 4.2 mm.

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

Moderate chance (68%) of mean daily rainfall up to 6.7 mm.

### **Southern areas:**

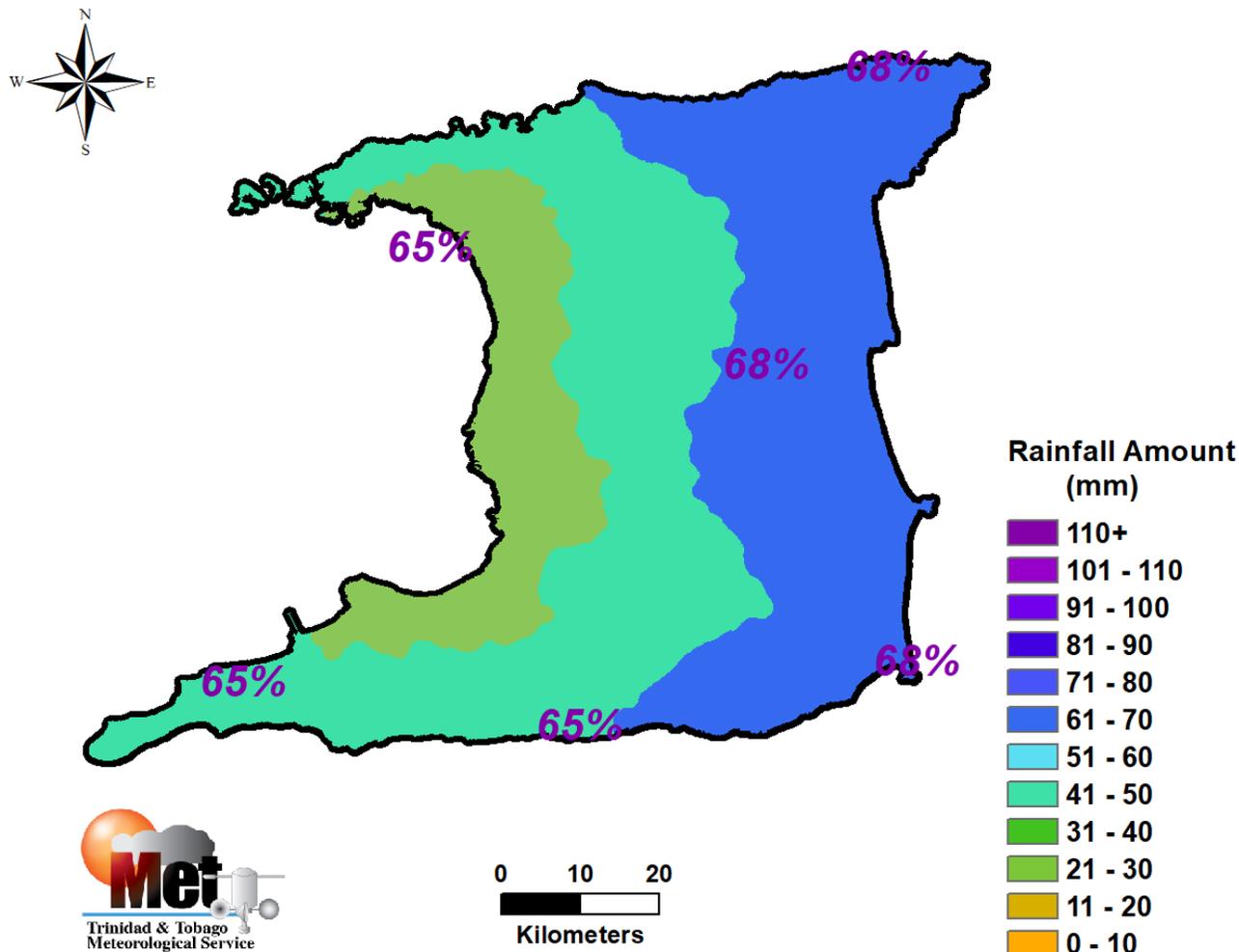
Moderate chance (66%) of mean daily rainfall up to 5.4 mm.

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

Moderate chance (65%) of mean daily rainfall up to 4.6 mm.

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

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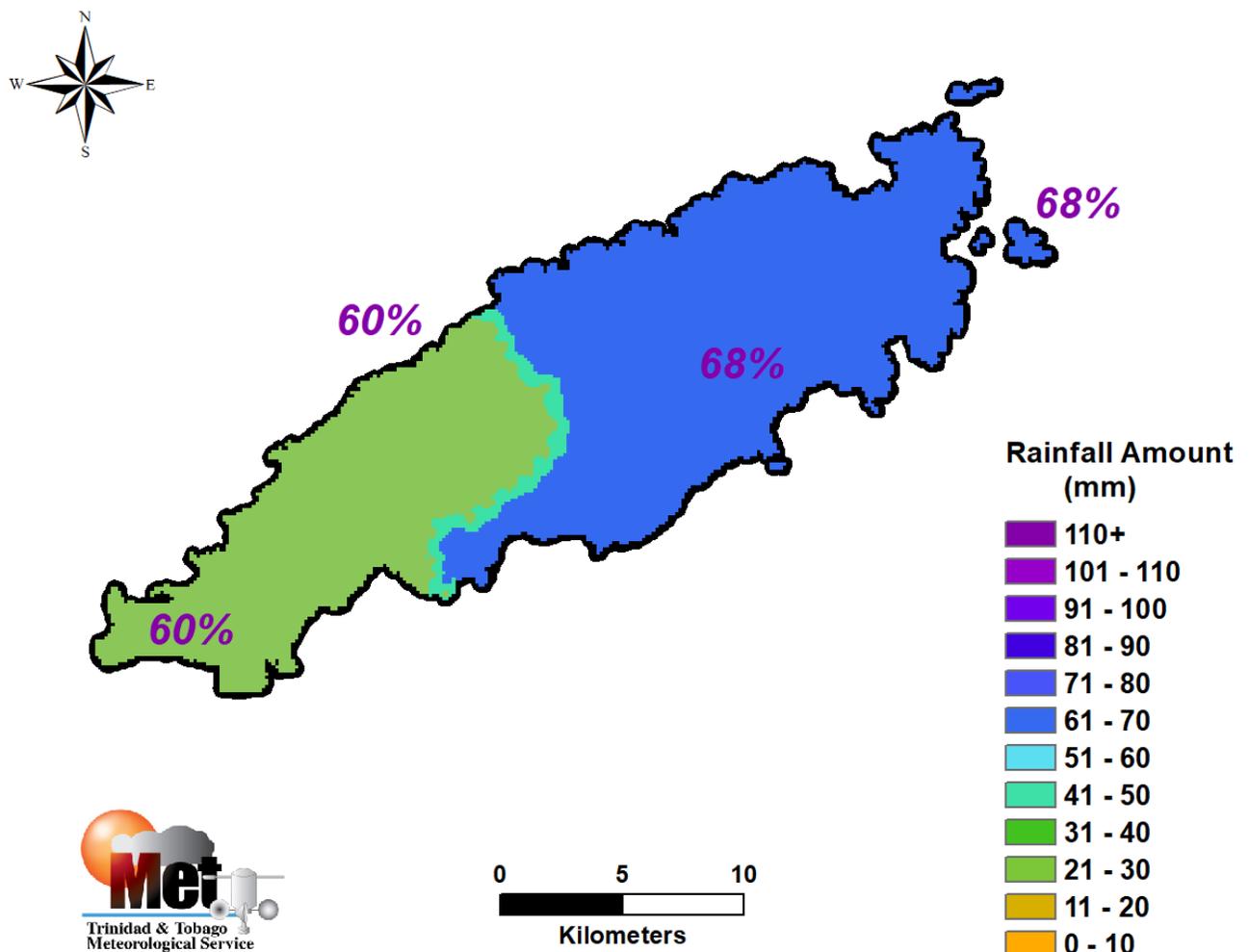
**Tobago’s Mean Daily Rainfall Forecast for the second Dekad of November (11<sup>th</sup>-20<sup>th</sup>) 2018.**

**Northeastern areas:**

Moderate chance (68%) of mean daily rainfall up to 7.0 mm.

**South-Western areas:**

Moderate chance (62%) of mean daily rainfall up to 3.8 mm.



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

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## Temperatures:

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

Moderate chance (70%) of daily maximum temperatures to exceed 31.6 °C, peaking near 34.4 °C.

Moderate chance (70%) of daily minimum temperatures to be below 23.4 °C, dropping as low as 21.4 °C.

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

Moderate chance (70%) of daily maximum temperatures to exceed 30.6 °C, peaking near 32.4 °C.

Moderate chance (70%) of daily minimum temperatures to be below 24.1 °C, dropping as low as 23.6 °C.

## Summary:

The forecast for the second dekad of November indicates that farmers can expect similar conditions as compared to the first dekad of November. Expect relatively wet conditions on days: 11<sup>th</sup>, 12<sup>th</sup>, 13<sup>th</sup>, 18<sup>th</sup>, 19<sup>th</sup> and 20<sup>th</sup>; with wet conditions on days: 14<sup>th</sup>, 15<sup>th</sup>, 16<sup>th</sup> and 17<sup>th</sup>. During relatively wet days, expect light to moderate rainfall and a possible thundershower while during wet days, expect light to moderate rainfall with heavy rainfall/thundershowers which may result in flash flooding, water logged soils and riverine flooding. The ten-day period rainfall totals, forecast to range between 30.0 mm and 70.0 mm in Trinidad and Tobago.

The average daily temperatures across Trinidad and Tobago are likely to range between 27.6 °C and 28.3 °C. Expect the highest maximum temperature over the dekad to peak near 34.4 °C in **Trinidad**, while the lowest night to early morning minimum temperature could dip below 21.4 °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 32.4 °C, while the lowest minimum temperature will be dip below 23.6 °C, mostly during relatively cloud-free nights.

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