

## Agro-meteorological Bulletin and Assessment for Farmers and Livestock Producers of Trinidad and Tobago for the First Ten days of August (01<sup>st</sup> -10<sup>th</sup>) 2019

### 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 Ten Days (Dekad) of July (21<sup>st</sup> – 31<sup>st</sup>) 2019

Weather conditions for agriculture were mostly favourable during the last ten days of July in both islands as a mixture of wet and dry conditions brought moderate to heavy rainfall on four days across the islands. Preliminary ten-day rainfall at Piarco was close to 55.0mm with the 27<sup>th</sup> producing 36.0mm, but based on observations, totals were higher at other locations. Tobago experienced wetter conditions during the dekad as the ten day total recorded at Crown Point was

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just over 100.0 mm or close to double that measured at Piarco with the 27<sup>th</sup> alone producing 86.0mm.

At the same time, maximum day temperatures at Piarco climbed above 31.0°C on most days to peak at 32.9°C maximum temperatures peaked at 31.9°C in Tobago. The wet and humid conditions would have been favourable for some bacterial, fungal and viral crop diseases to flourish. At the same time, the soggy fields in on the very wet days would have reduced soil oxygen, increased the loss of nitrogen and other important nutrients, which can negatively affect fruit quality and crop yields. Meanwhile, these conditions would have reduced the need for irrigation, improved water flow and levels in streams and ponds, while providing good opportunities for water harvesting, where needed.

### **Expected Weather for the First Ten days of August (01<sup>st</sup>–10<sup>th</sup>) 2019 and Likely Impact on Agriculture**

Mixed conditions with a number of heavy rainfall periods are expected during the first ten days of August across large areas of Trinidad and Tobago. It is expected that areas in northeastern Trinidad and all of Tobago will receive the heaviest downpours and largest amounts of rainfall. The first day is likely to be mostly hot and dry but farmers should look out for increased rainfall by mid-morning on the 2<sup>nd</sup> with showers increasing on the 3<sup>th</sup> to the 5<sup>th</sup>. During this period daily rainfall totals are likely to be between 2.0mm and 5.0 mm in a number of farming communities with the higher totals likely on the 5<sup>th</sup>. A plume of moist air is expected to bring much wetter conditions on the 6<sup>th</sup> to the 8<sup>th</sup> with the 8<sup>th</sup> likely to be the least wet day before dry mostly dry conditions on the 9<sup>th</sup> and 10<sup>th</sup> bring the dekad to a close. Overall there is a 68% chance for ten-day rainfall totals between 40.0mm and 75.0mm across both islands.

During the forecast period, day-time temperatures are expected to be slightly warmer than average for all of Trinidad and Tobago. Expect day-time maximum temperatures to peak between 31.0°C and 33.0°C on most days in Trinidad and between 30.0°C and 32.5°C in Tobago. The actual real-feel or feels-like temperatures (heat-index) are expected to get as high as 35.0°C in Trinidad and 34.0°C in Tobago. Night-time temperatures are expected to be on the warm side, varying between 25.0°C and 27.0°C on both islands. However, in the valleys and foothills of the northern range, other hilly areas in Trinidad and northeastern areas of Tobago expect slightly cooler night temperatures.

Farmers should expect conditions to remain humid on most days with relative-humidity percentage values during daylight hours ranging between 55% and 80% on average, but can get up to the high 90s during heavy rainfall periods. Wind speeds are expected to be moderate to

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strong (20 to 40 kilometers per hour) during heavy downpours but on light to moderate (less than 20 kilometers per hour) during none rainfall periods. The forecast conditions also suggest that light to moderate pan evaporation rates are expected during the period. This tends to be associated with light to moderate evapotranspiration rates in crops. Meanwhile, soils continue to be relatively moist which favours all stages of crop growth and development.

Together, these conditions will be good for all stages of crop growth and development and are expected to continue being favourable for agriculture as the wet season progresses. However, the mixture of warm and moist conditions also encourages rapid multiplication of some agricultural pests, viral diseases and fungi. In the heaviest showers, ponding can occur in low-lying crop fields which can lead to localized flooding and this often lead to loss in soil oxygen and nitrogen which can have an overall negative effect on crop yields.

At the same time, the hotter days with high feels-like (real-feel) temperatures can negatively affect some livestock in their sensitive stage of reproduction. Similarly, the high temperatures could have an effect on production in some livestock, if insufficient actions are not taken to reduce the exposure to the excessive heat. Farmers are encouraged to pay attention to the daily forecasts to reduce the impacts of potential flooding effects on mature crops.

### **Preliminary Rainfall and Temperature Outlook for Second Ten Days of August**

The outlook indicates a continuation of mixed conditions with an equal number of dry and wet days likely.

### **Trinidad's Mean Daily Rainfall Forecast for the First Dekad of August (01<sup>st</sup> -10<sup>th</sup>) 2019**

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

Moderate chance (68%) of mean daily rainfall up to 6.0mm.

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

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

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

Moderate chance (68%) of mean daily rainfall up to 6.0mm.

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

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Moderate chance (68%) of mean daily rainfall up to 5.0mm.

**Southern areas:**

Moderate chance (68%) of mean daily rainfall up to 5.0 mm.

**South-Western areas:**

Moderate chance (65%) of mean daily rainfall up to 5.0mm

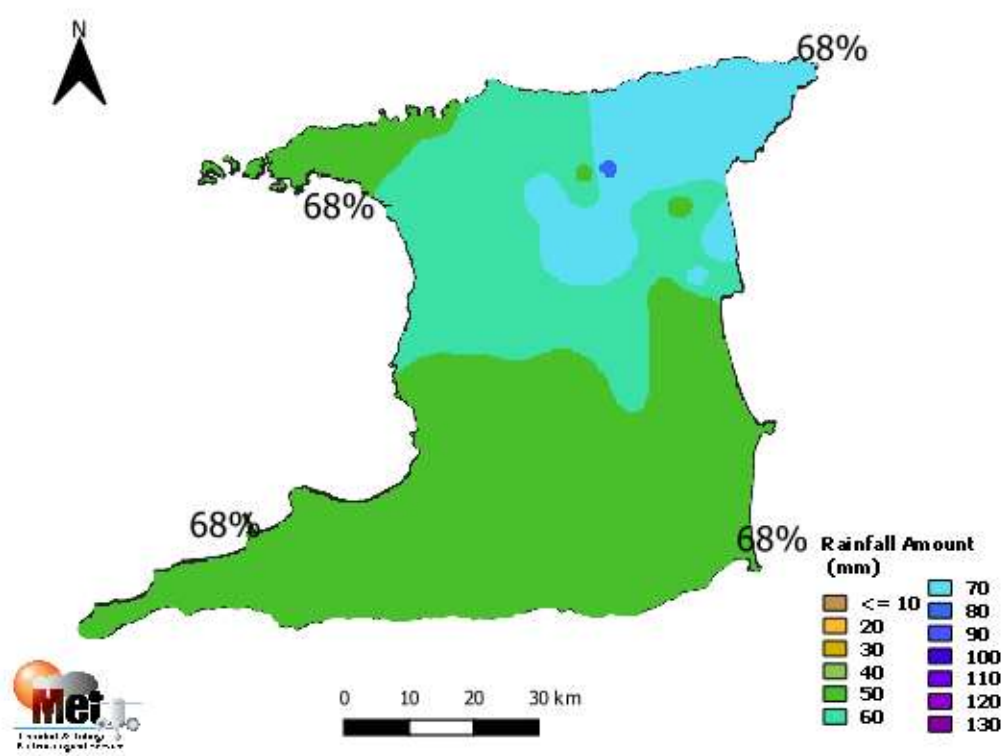


Figure 1. Rainfall Map of Trinidad showing possible rainfall totals for varying districts during the first dekad of August, 2019 and possible probability of occurrence.

**Tobago's Mean Daily Rainfall Forecast for the First Dekad of August (01<sup>st</sup> -10<sup>th</sup>) 2019**

**Northeastern areas:**

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

**South-Western areas:**

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

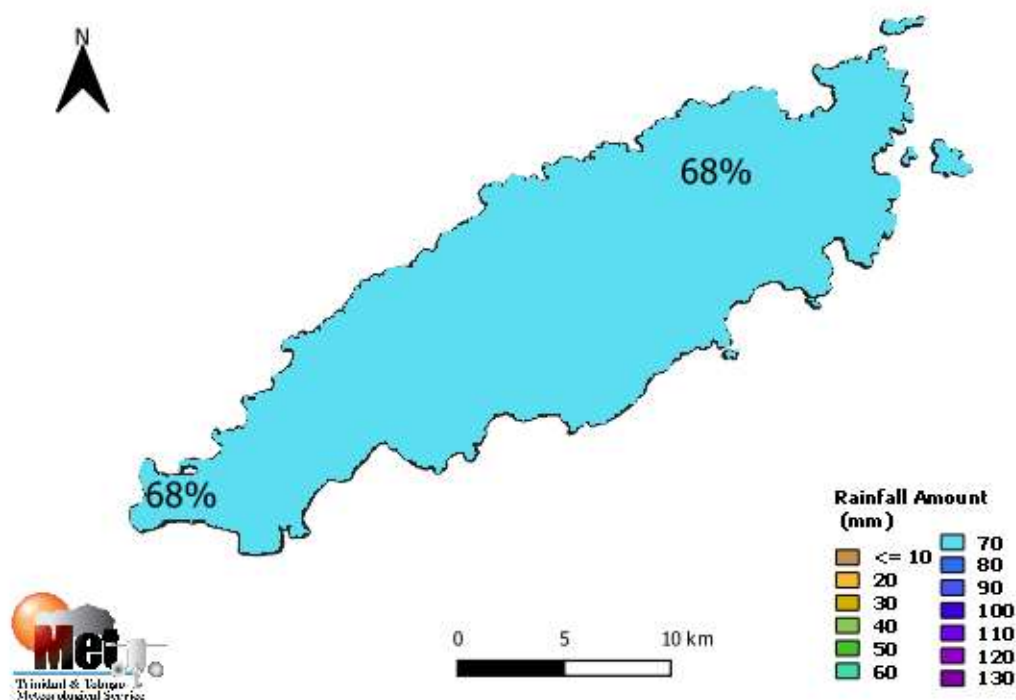


Figure 2. Rainfall Map of Tobago showing possible rainfall totals for varying districts during the first dekad of August, 2019 and possible probability of occurrence

## Temperatures

### **Trinidad's: Temperature Forecasts for the First Ten Days of August (01<sup>st</sup> – 10<sup>th</sup>) 2019**

High chance (80%) of daily maximum temperatures exceeding 31.0°C and peaking near 33.0°C.

Moderate chance (70%) of daily minimum night temperatures remaining above 24.0°C.

### **Tobago's: Temperature Forecasts for the First Ten Days of August (01<sup>st</sup> -10<sup>th</sup>) 2019**

High chance (80%) of daily maximum temperatures exceeding 31.0°C and peaking near 32.5°C.

Moderate chance (70%) of daily minimum night temperatures remaining above 25.0°C.

## **Summary**

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The weather forecast for the first ten days of August (01<sup>st</sup> – 10<sup>th</sup>) 2019 favours conditions that will be beneficial to agriculture in most areas. Light to heavy rainfall is expected on most days with possible daily totals in excess of 10.0mm on at least two days. There is a 68% chance for possible ten-day rainfall totals between 45.0 and 75.0 mm across both islands. Temperatures are set to peak near 33.0<sup>0</sup>C in Trinidad and near 32.0<sup>0</sup>C in Tobago. Farmers should watch out for soggy conditions and possible flooding in low-lying fields on days with heavy rainfall. Based on expected moist and hot conditions, chances are enhanced for rapid multiplication of some agricultural pests, diseases and fungi.

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