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## Agro-meteorological Bulletin and Assessment for Farmers and Livestock Producers of Trinidad and Tobago for the First Ten days of September (01<sup>st</sup> - 10<sup>th</sup>) 2017

### 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 Last Ten Days (Dekad) of August (22<sup>nd</sup> – 31<sup>st</sup>) 2017

Weather conditions for agriculture were mostly favourable during the last ten days of August in Trinidad and Tobago. After five mainly dry days Trinidad experienced regularly wet conditions with moderate to heavy rainfall on the 26<sup>th</sup>, 27<sup>th</sup>, 29<sup>th</sup>, 30<sup>th</sup> and 31<sup>st</sup>, accounting for most of the ten-day rainfall totals in the island. Preliminary ten-day rainfall at Piarco was close to 70.0mm, at Tabaquite, Talparo/Brazil and other locations ten-day totals were similar or higher. Across in

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Tobago, after a rainy first day to start the dekad, dry conditions dominated the next three days before moderate to heavy rainfall returned to close off the period from the 26<sup>th</sup> to 31<sup>st</sup> and generated close to four inches (95.1mm) of rainfall over the ten days at Crown Point. At the same time, maximum day temperatures at Piarco soared above 34.0°C on most days to peak at 35.8°C on the 23<sup>rd</sup>; while night minimum temperatures remained relatively warm, fluctuating between 23.8°C and 25.3°C. Across at Crown Point, maximum day temperatures climbed above 31.5°C on most days to peak at 33.3°C on the 5<sup>th</sup>; while night minimum temperatures remained above 25.0°C on the majority of nights.

The wet and humid end to the period would have provided relief from the drier hot days but would have also been favourable for some bacterial, fungal and viral crop diseases to flourish. At the same time, soggy fields tend to cause reduction in soil oxygen, increase in loss of soil nitrogen and other important nutrients, which can negatively affect fruit quality and crop yields, later on. Also, high air temperature has been associated with reduction in some crop shoots growth which in turn reduces root growth; meanwhile relatively warm night temperatures would help promote leafy growth in some plants. 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 September (01<sup>st</sup> –10<sup>th</sup>) 2017 and Likely Impact on Agriculture**

The forecasts for the first ten days of September 2017 calls for reduced cloudy and rainfall conditions with more dry and hot days than wet days. Apart from day one when pockets of rainfall are likely, farmers should expect a scarcity of rainfall on most days up to start of day seven, as mostly dry, hot and Petit Carême-like conditions are expected to dominate. By the afternoon of day seven, a swath of moist rain-producing air is expected to move over both islands and is likely to remain in the area for the remainder of the ten days. This will provide relief in the form of spotty afternoon showers in some areas on the 7<sup>th</sup> but wetter conditions with daily rainfall totals up to as much as 15.0mm are expected on the 8<sup>th</sup>, 9<sup>th</sup> and 10<sup>th</sup>. Overall there is a 65% chance for ten-day accumulated rainfall totals below 40.0 mm in most locations with the highest totals expected in Tobago and south Trinidad. In general daily rainfall totals are expected to average between 2.5 and 4.5 mm.

During the forecast period, day-time temperatures are expected to be mainly hotter than usual for this time of the year. Expect day-time temperatures to peak between 33.0°C and 35.0°C on most days in Trinidad and between 32.0°C and 33.0°C in Tobago. Night-time temperatures are expected to remain warm and vary between 24.0°C and 27.0°C on both islands but on crop fields located in

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valleys and hilly areas slightly cooler night temperatures (between 22.0°C and 23.0°C) are likely. During the drier period daytime humidity is expected to be relatively low (less than 60%) on average. Wind speeds will remain light to moderate (up to 6 meters per second) but can get particularly strong (in excess of 10 meters per second) during moderate to heavy rainfall events.

Hot and dry conditions following a wet end to the previous dekad will increase prevalence of crop pests and diseases. Hot and dry conditions also increase the chances for crop wilt and heat stress by day four but the potential for this to occur will be moderate due to the wet end to the last forecast period. Since humidity is expected to be low on dry and windy days accompanied by plenty of sunshine, water loss from crops and the top soil is likely to occur very quickly on these days. When this happens, crops can wilt rapidly if too much water is pulled out of crops and topsoil. Farmers are encouraged to use mulching after rainfall episodes to prolong top soil moisture. Good opportunities will be available for applying fertilizer during the first five to six day when rainfall will be reduced and winds not as strong. Flooding potential in low lying crop fields are high for the last three days of the dekad and may affect harvesting of mature crops.

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

The outlook indicates a very wet start to the second ten days of September is most likely with the first three days likely to be rainy days with the potential for flooding being high.

### **Trinidad's Mean Daily Rainfall Forecast for the First Dekad of September (01<sup>st</sup> – 10<sup>th</sup>) 2017** **Northern & Northwestern areas:**

Moderate chance (65%) of mean daily rainfall up to 3.5mm.

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

Moderate chance (65%) of mean daily rainfall up to 4.0mm.

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

Moderate chance (65%) of mean daily rainfall up to 4.0mm.

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

Moderate chance (65%) of mean daily rainfall up to 4.5mm.

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**Southern areas:**

Moderate chance (65%) of mean daily rainfall up to 4.5 mm.

**South-Western areas:**

Moderate chance (65%) of mean daily rainfall up to 4.5mm

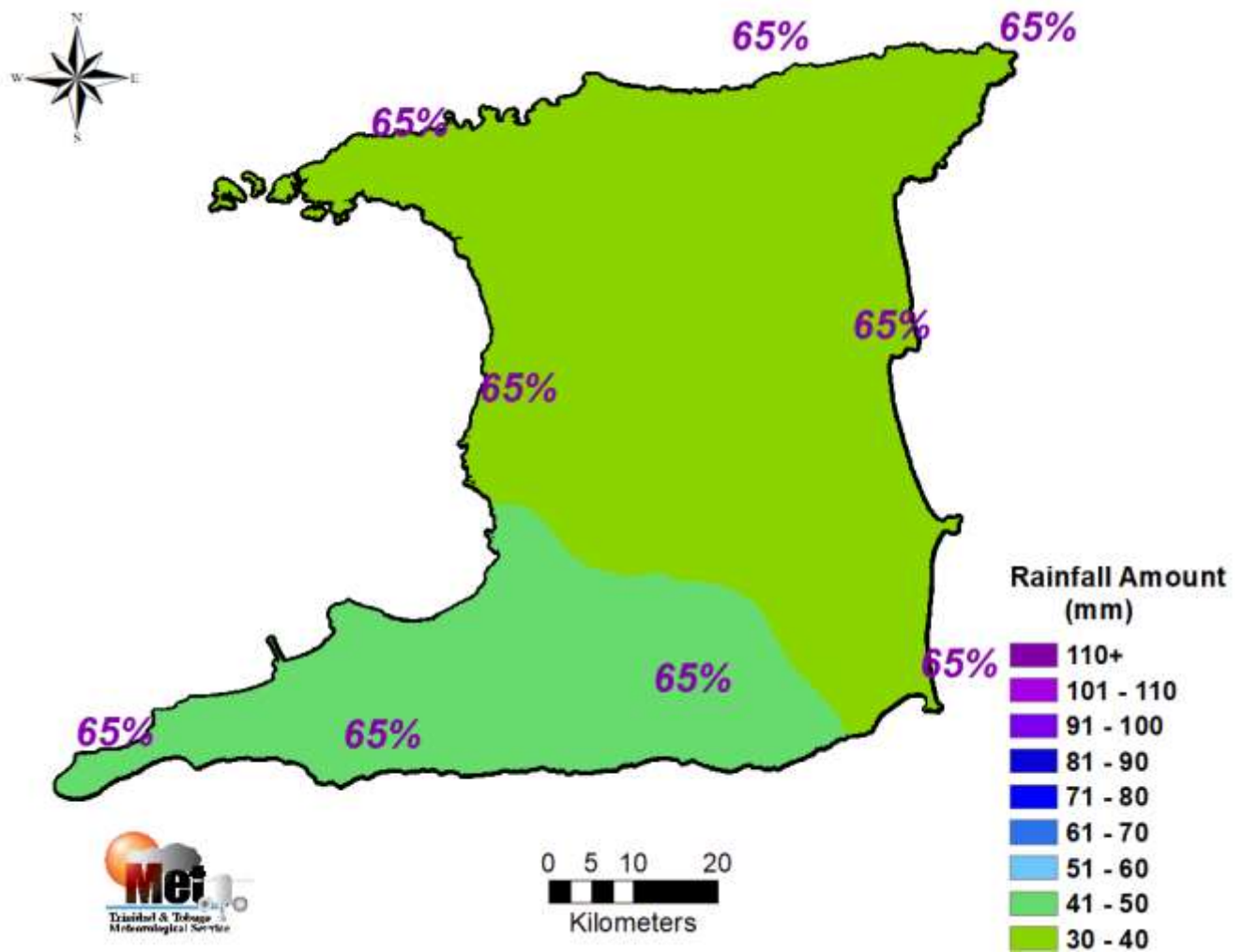


Figure 1. Rainfall Map of Trinidad showing possible rainfall totals for varying districts during the first dekad of September, 2017 and possible probability of occurrence.

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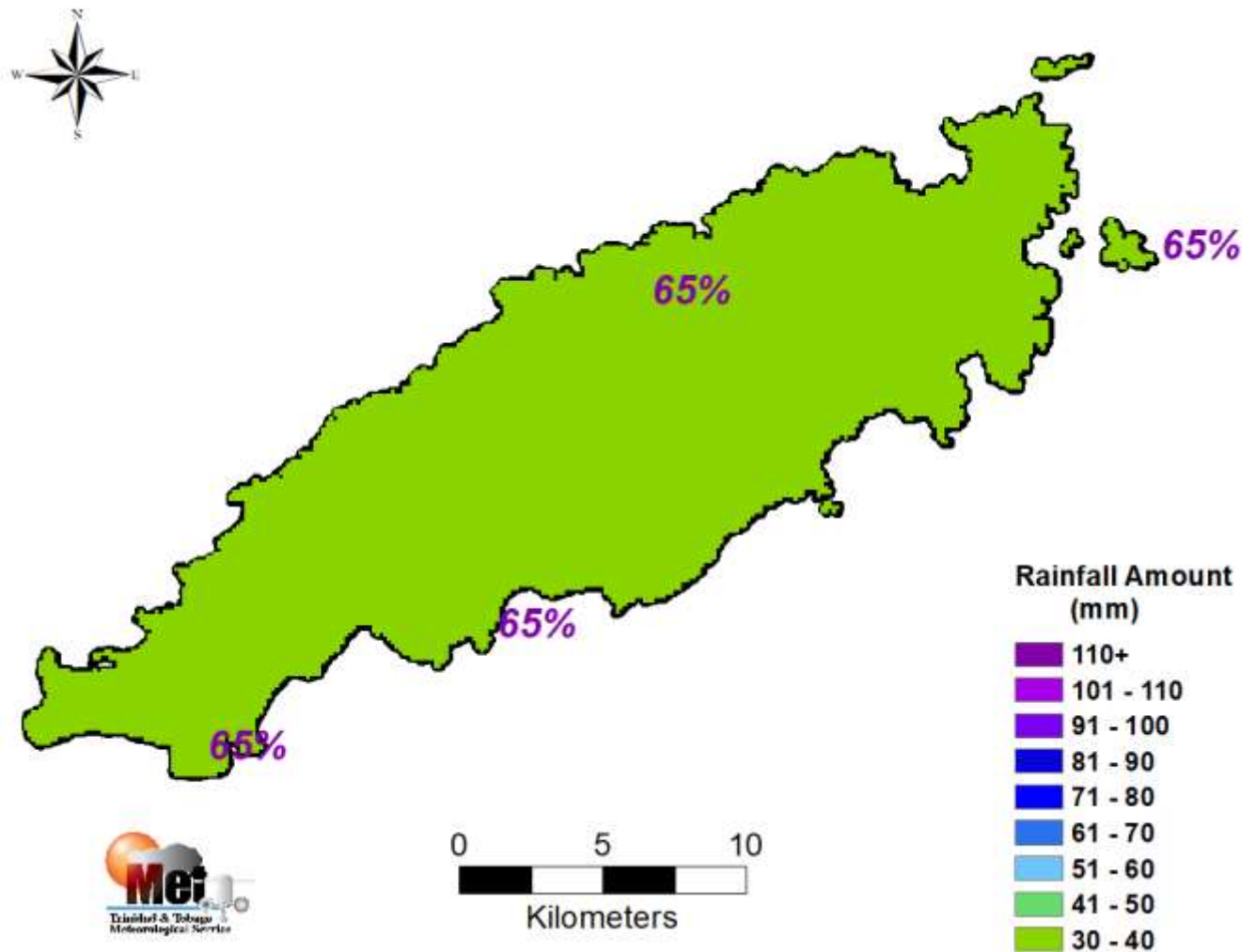
**Tobago's Mean Daily Rainfall Forecast for the First Dekad of September (01<sup>st</sup> -10<sup>th</sup>) 2017**

**Northeastern areas:**

Moderate chance (65%) of mean daily rainfall up to 4.0mm.

**South-Western areas:**

Moderate chance (65%) of mean daily rainfall up to 4.0mm.



**Figure 2. Rainfall Map of Tobago showing possible rainfall totals for varying districts during the first dekad of September, 2017 and possible probability of occurrence**

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## Temperatures

### **Trinidad's: Temperature Forecasts for the First Ten Days of September (01<sup>st</sup> – 10<sup>th</sup>) 2017**

Moderate chance (70%) of daily maximum temperatures exceeding 34.0°C, peaking near 35.0°C.  
Moderate chance (70%) of daily minimum night temperatures remaining above 24.0°C.

### **Tobago's: Temperature Forecasts for the First Ten Days of September (01<sup>st</sup> - 10<sup>th</sup>) 2017**

Moderate chance (70%) of daily maximum temperatures exceeding 31.5 °C, peaking near 33.0°C.  
Moderate chance (70%) of daily minimum night temperatures remaining above 25.0°C.

## **Summary**

After a mostly dry and hot first five days of the dekad, moderate to heavy rainfall is expected from the 7<sup>th</sup> with possible daily totals up to 15.0mm and a 65% chance for ten-day rainfall totals between 25.0 and 45.0 mm across both islands. Day-time maximum temperatures are set to peak between 33.0°C and 35.0°C on most days in Trinidad and between 32.0°C and 33.0°C in Tobago. Night-time temperatures are expected to remain warm and vary between 24.0°C and 27.0°C on both islands. Humidity during daylight hours is expected to be relatively low (less than 60%) on average while wind speeds will remain light to moderate (up to 6 meters per second). Farmers should watch out for excessive crop water loss on the hotter days which can lead to crop wilt and heat stress. Good opportunities will be available for applying fertilizer during the first five to six days when rainfall will be reduced and winds not as strong. Flooding potential in low lying crop fields are high for the last three days of the dekad and may affect harvesting of mature crops.

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