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## Agro-meteorological Bulletin and Assessment for Farmers and Livestock Producers of Trinidad and Tobago for the Second Ten days of September (11<sup>th</sup> -20<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 First Ten Days (Dekad) of September (1<sup>st</sup>-10<sup>th</sup>) 2017

Weather conditions for agriculture were mostly favourable during the last ten days of August in Trinidad and Tobago. In Trinidad, after a rainy first day to start the dekad, moderate to heavy rainfall was experienced throughout the island with moderate to heavy rainfall occurring on the 1<sup>st</sup> and 6<sup>th</sup> contributing to rainfall totals. At Piarco 44.0 mm of rainfall was generated over the ten days while

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other locations ten-day totals were similar or higher. After five mainly dry days, Tobago experienced regularly wet conditions with moderate rainfall on the 6<sup>th</sup>, 7<sup>th</sup> and 9<sup>th</sup>, accounting for most of the ten-day rainfall totals in the island. Preliminary ten-day rainfall at Crown Point was close to 10.0mm. At the same time, maximum day temperatures at Piarco soared above 34.0°C on four days to peak at 35.0°C on the 5<sup>th</sup>; while night minimum temperatures remained relatively warm, fluctuating between 22.5°C and 24.4°C. Across at Crown Point, maximum day temperatures climbed above 31.5°C on most days to peak at 32.6°C on the 6<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 particularly in Tobago 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 Second Ten days of September (11<sup>th</sup>-20<sup>th</sup>) 2017 and Likely Impact on Agriculture**

The forecast for the second ten days of September 2017 calls for increased cloudy and rainy conditions with more wet days than dry days. Pockets of rainfall are likely, farmers should expect wetter conditions with daily rainfall totals up to as much as 20.0mm on the 11<sup>th</sup>, 14<sup>th</sup> to 16<sup>th</sup> and 18<sup>th</sup> in various locations. Overall there is a 70% chance for ten-day accumulated rainfall totals below 75.0 mm in most locations with the highest totals expected in northwest and southwest Trinidad. In general, daily rainfall totals are expected to average between 3.0 and 7.5 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 34.0°C on most days in Trinidad and between 31.0°C and 32.5°C in Tobago. Night-time temperatures are expected to remain warm and vary between 23.0°C and 26.0°C on both islands but on crop fields located in valleys and hilly areas slightly cooler night temperatures (between 22.0°C and 23.0°C) are likely. 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.

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Wet and humid conditions during the dekad will be favourable for bacterial, fungal and viral crop diseases to flourish. Soggy fields would have reduced soil oxygen, increased the loss of nitrogen and other important nutrients, which can negatively affect fruit quality and crop yields. Flooding potential in low lying crop fields are high and may affect harvesting of mature crops.

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

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

### **Trinidad's Mean Daily Rainfall Forecast for the Second Dekad of September (11<sup>th</sup>-20<sup>th</sup>) 2017** **Northern & Northwestern areas:**

Moderate chance (70%) of mean daily rainfall up to 7.5mm.

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

Moderate chance (70%) of mean daily rainfall up to 5.0mm.

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

Moderate chance (70%) of mean daily rainfall up to 5.0mm.

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

Moderate chance (70%) of mean daily rainfall up to 5.0mm.

### **Southern areas:**

Moderate chance (70%) of mean daily rainfall up to 5.0 mm.

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

Moderate chance (70%) of mean daily rainfall up to 7.5mm

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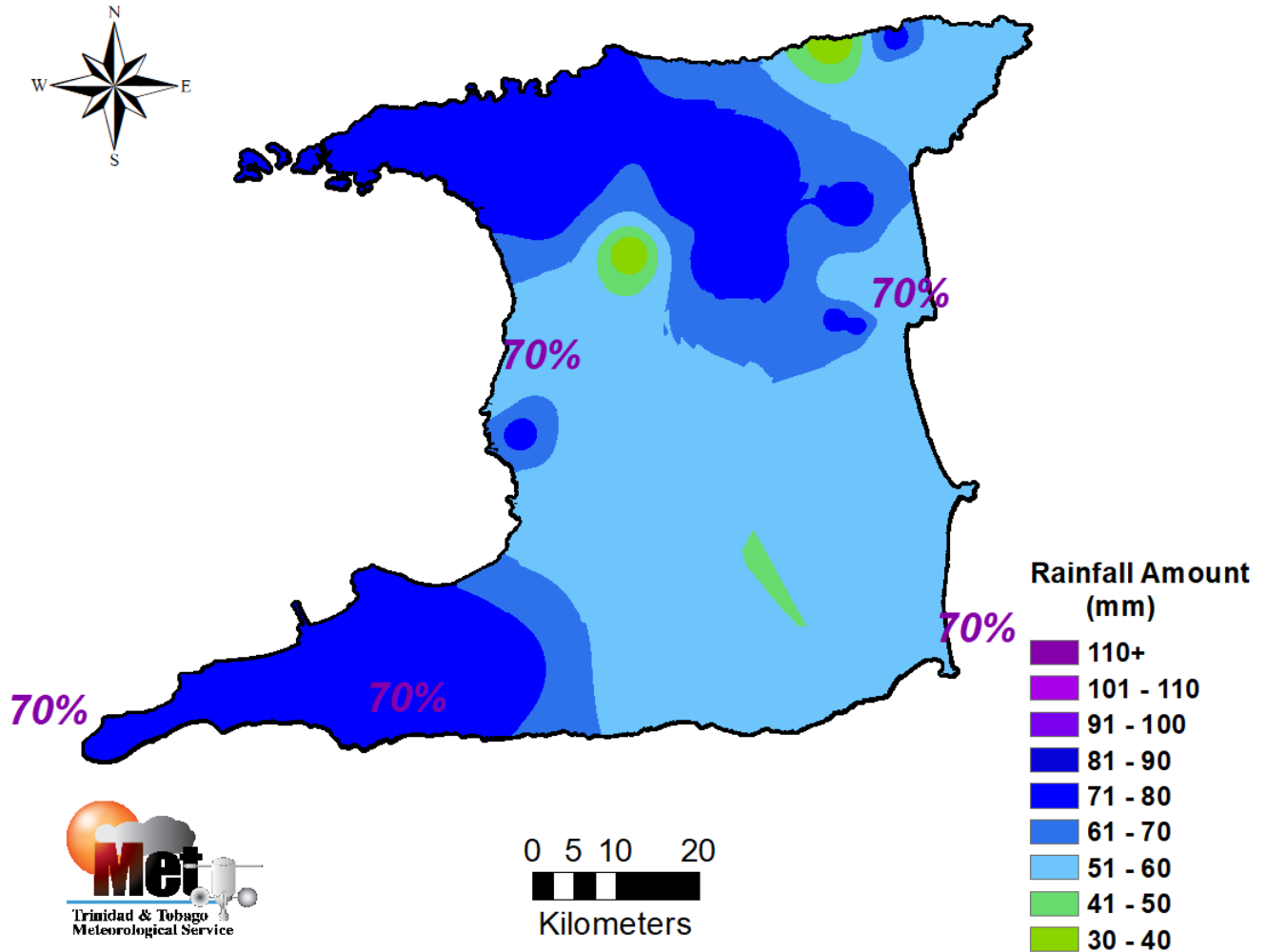


Figure 1. Rainfall Map of Trinidad showing possible rainfall totals for varying districts during the second dekad of September, 2017 and possible probability of occurrence.

**Tobago’s Mean Daily Rainfall Forecast for the Second Dekad of September (11<sup>th</sup>-20<sup>th</sup>) 2017**

**Northeastern areas:**

Moderate chance (70%) of mean daily rainfall up to 3.0mm.

**South-Western areas:**

Moderate chance (70%) of mean daily rainfall up to 3.0mm.

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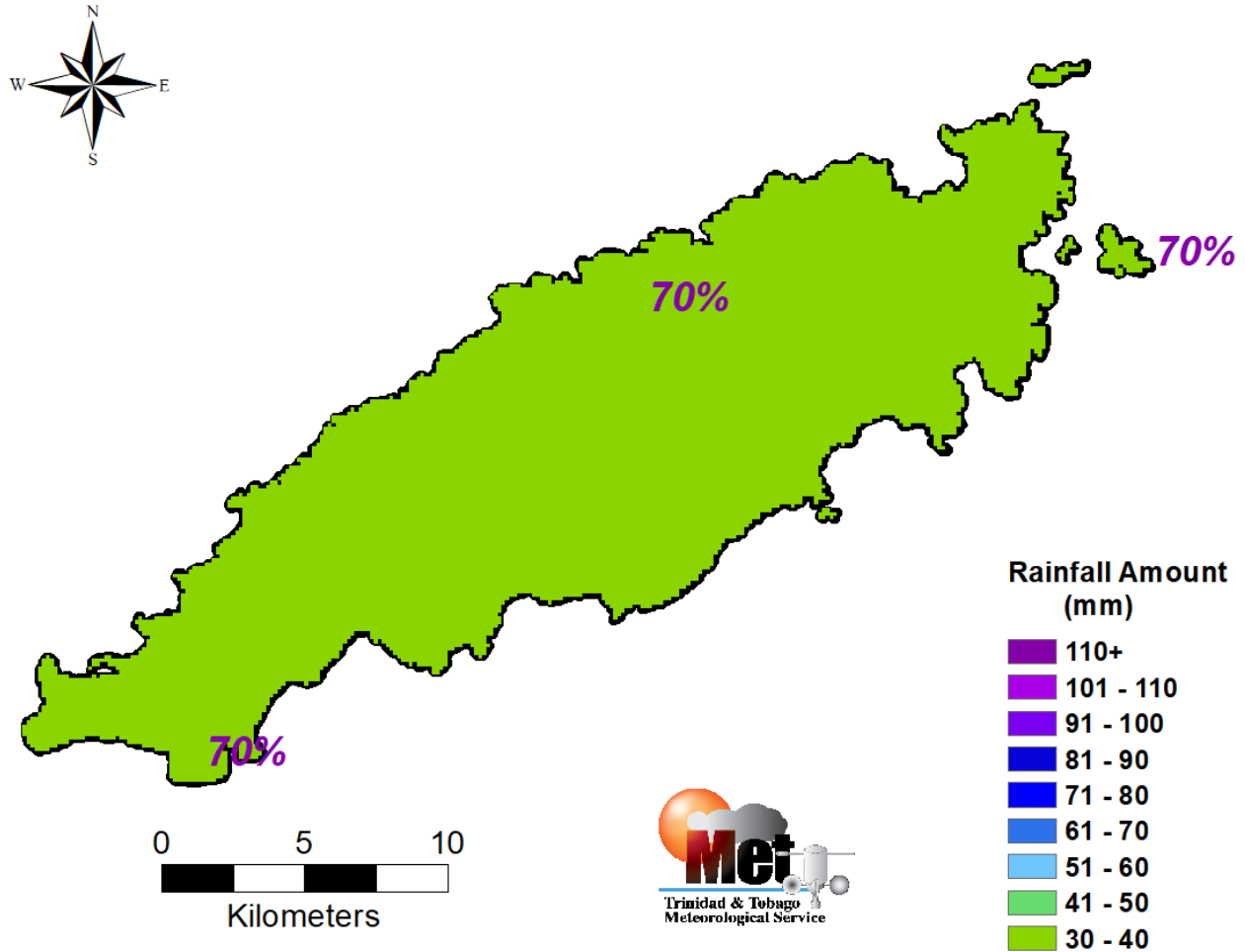


Figure 2. Rainfall Map of Tobago showing possible rainfall totals for varying districts during the second dekad of September, 2017 and possible probability of occurrence

### Temperatures

#### **Trinidad's: Temperature Forecasts for the Second Dekad of September (11<sup>th</sup>-20<sup>th</sup>) 2017**

Moderate chance (70%) of daily maximum temperatures exceeding 33.0°C, peaking near 34.0°C.  
 Moderate chance (70%) of daily minimum night temperatures remaining above 24.0°C.

#### **Tobago's: Temperature Forecasts for the Second Dekad of September (11<sup>th</sup>-20<sup>th</sup>) 2017**

Moderate chance (70%) of daily maximum temperatures exceeding 31.0 °C, peaking near 32.5°C.  
 Moderate chance (70%) of daily minimum night temperatures remaining above 25.0°C.

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## Summary

The forecast for the second ten days of September 2017 calls for increased cloudy and rainy conditions with more wet days than dry days. Day-time temperatures are expected to peak between 33.0°C and 34.0°C on most days in Trinidad and between 31.0°C and 32.5°C in Tobago. Night-time temperatures are expected to remain warm and vary between 23.0°C and 26.0°C on both islands but on crop fields located in valleys and hilly areas slightly cooler night temperatures (between 22.0°C and 23.0°C) are likely. 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.

Farmers should watch out for wet and humid conditions during the dekad which can favour development of bacterial, fungal and viral crop diseases. Soggy fields would reduce soil oxygen, increase the loss of nitrogen and other important nutrients, which can negatively affect fruit quality and crop yields. Flooding potential in low lying crop fields is high and may affect harvesting of mature crops.

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