

	Trinidad & Tobago Meteorological Service	Agromet Bulletin Page 1 of 6
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Agro-meteorological Bulletin and Assessment for Farmers and Livestock Producers of Trinidad and Tobago for the Third Ten days of September (21st - 30th) 2017

Definitions used in the forecast and bulletin

Term		Meaning
Dekad		10 day rainfall measuring period
Rain Day		A day with 1.0 mm or more of rainfall amount
Wet Day		A day with 10.0 mm or more of rainfall amount
Extremely Wet Day		A day with 25.0 mm or more of rainfall amount
Normal Rainfall		Between 75% and 125 % of the average
Below Normal Rainfall		Rainfall below 75% of the average
Above Normal Rainfall		Rainfall in excess of 125 % of the average
Much below Normal Rainfall		Rainfall below 50% of the average
Much above Normal Rainfall		Rainfall above 150% of the average
Scanty Rainfall		Less than 1 mm
Moderate Rainfall		1-10 mm
Heavy Rainfall		10-50 mm
Very heavy Rainfall		Greater than 50 mm
Probability of 1-30 %		Low Chance
Probability of 30-70 %		Moderate Chance
Probability greater than 70%		High Chance
Term	Amount of Rain	Type of day
Scanty Rainfall	Less than 1 mm	Relatively dry day
Moderate Rainfall	1-10 mm	Relatively wet day
Heavy Rainfall	10-50 mm	Wet day
Very heavy Rainfall	Greater than 50 mm	Excessively wet day

Weather Assessment for the Second Ten Days (Dekad) of September (11th – 20th) 2017

Weather conditions for agriculture were mostly favourable during the first three and last two days of the second dekad in Trinidad and Tobago. Moderate to heavy rainfall was experienced on the 11th, 12th, 13th, 19th and 20th, accounting for most of the ten-day rainfall totals in the islands. Preliminary ten-day rainfall at Piarco was close to 38.0 mm, at Brasso Venado, Guayaguayare and other locations ten-day totals were similar or higher. Across in Tobago, after a rainy start to the

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dekad, moderate conditions dominated the next five days before moderate to heavy rainfall returned to close off the period from the 19th to 20th and generated close to 53.6 mm 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 35.5°C on the 18th; while night minimum temperatures remained relatively warm, fluctuating between 23.0°C and 25.0°C. Across at Crown Point, maximum day temperatures climbed above 31.5°C on most days to peak at 32.7°C on the 17th; while night minimum temperatures remained above 25.0°C on most of nights.

The conditions at the beginning and near the end of the period would have provided relief from the drier days in between. However, these conditions would have 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. 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 Third Ten days of September (21st –30th) 2017 and Likely Impact on Agriculture

Concerns as it relates to frequent rainfall occurrence during the current wet season remains high as a mixture of wet, dry and hot weather is set to continue during the last ten days of September across the twin island republic. The latest weather forecast for agriculture shows more wet days than dry days in the forecast for the period across the twin islands. Apart from spotty afternoon showers on the 22nd and 23rd, hot and dry conditions will dominate these two day, but by the morning of the 24th, farmers can expect to see an increase in moisture and cloudiness as a ribbon of very moist air is likely to move over the islands bringing light to heavy rainfall. Daily totals are expected to peak near 25.0 mm in the eastern half of Trinidad and Tobago. The moisture is expected to stay over the islands for the rest of the period and is likely to bring rainfall on each day with daily totals between 2.0 mm and 10.0 mm. Overall, there is a 68% chance for ten-day rainfall totals to range between 40.0 mm and 75.0 mm.

On the drier days, farmers should expect temperatures to peak around 34.5 °C in Trinidad and average near 33.0 °C during daylight hours. Across in Tobago, temperatures are expected to peak around 32.5 °C and average near 31.0 °C. Nighttime minimum temperatures are expected to remain above 24.0 °C in Trinidad and above 26.0 °C in Tobago on most nights. Wind speeds will remain

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light to moderate (up to 6 meters per second) at 2.0 meters from the surface, but can get particularly strong (in excess of 10 meters per second) during moderate to heavy rainfall events.

These conditions have the potential to lead to soggy fields, which are not favourable for heavy machine fieldwork. In addition, soggy agriculture fields have the potential to reduce soil oxygen, increase the loss of nitrogen and other important nutrients, as well as, cause crop disease infections to increase. Together, these conditions can affect crop yields negatively in the long run.

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 First Ten Days of October

The outlook indicates a very wet start to the first ten days of October is 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 Third Ten Days of September (21st – 30th) 2017

Northern & Northwestern areas:

Moderate chance (65%) of mean daily rainfall up to 6.5mm.

North-Eastern and Eastern areas:

Moderate chance (65%) of mean daily rainfall up to 7.5mm.

Central, West-Central and inland areas:

Moderate chance (65%) of mean daily rainfall up to 6.0mm.

South-Eastern areas:

Moderate chance (68%) of mean daily rainfall up to 5.5mm.

Southern areas:

Moderate chance (68%) of mean daily rainfall up to 5.5 mm.

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South-Western areas:

Moderate chance (68%) of mean daily rainfall up to 6.5 mm

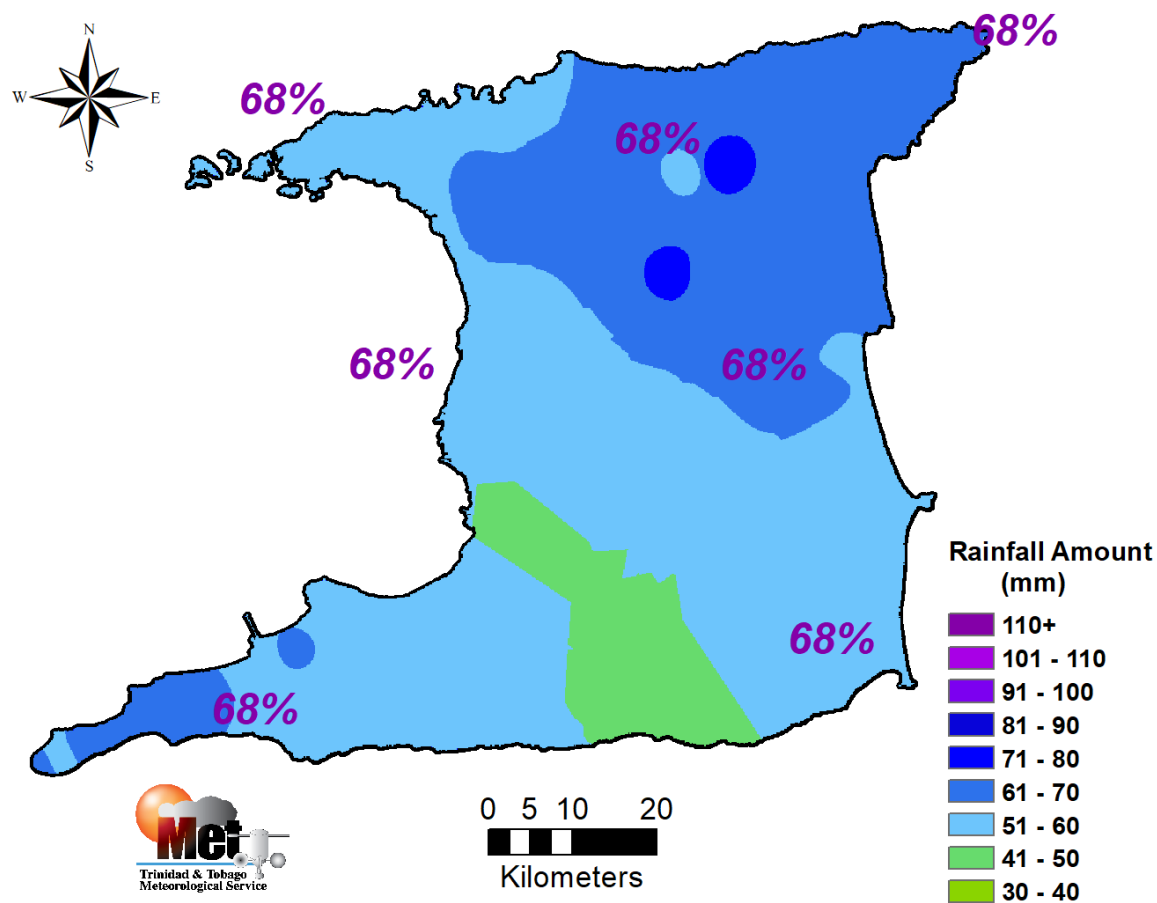


Figure 1. Rainfall Map of Trinidad showing possible rainfall totals for varying districts during the third dekad of September, 2017 and possible probability of occurrence.

Tobago's Mean Daily Rainfall Forecast for the Third Dekad of September (21st -30th) 2017

Northeastern areas:

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

South-Western areas:

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

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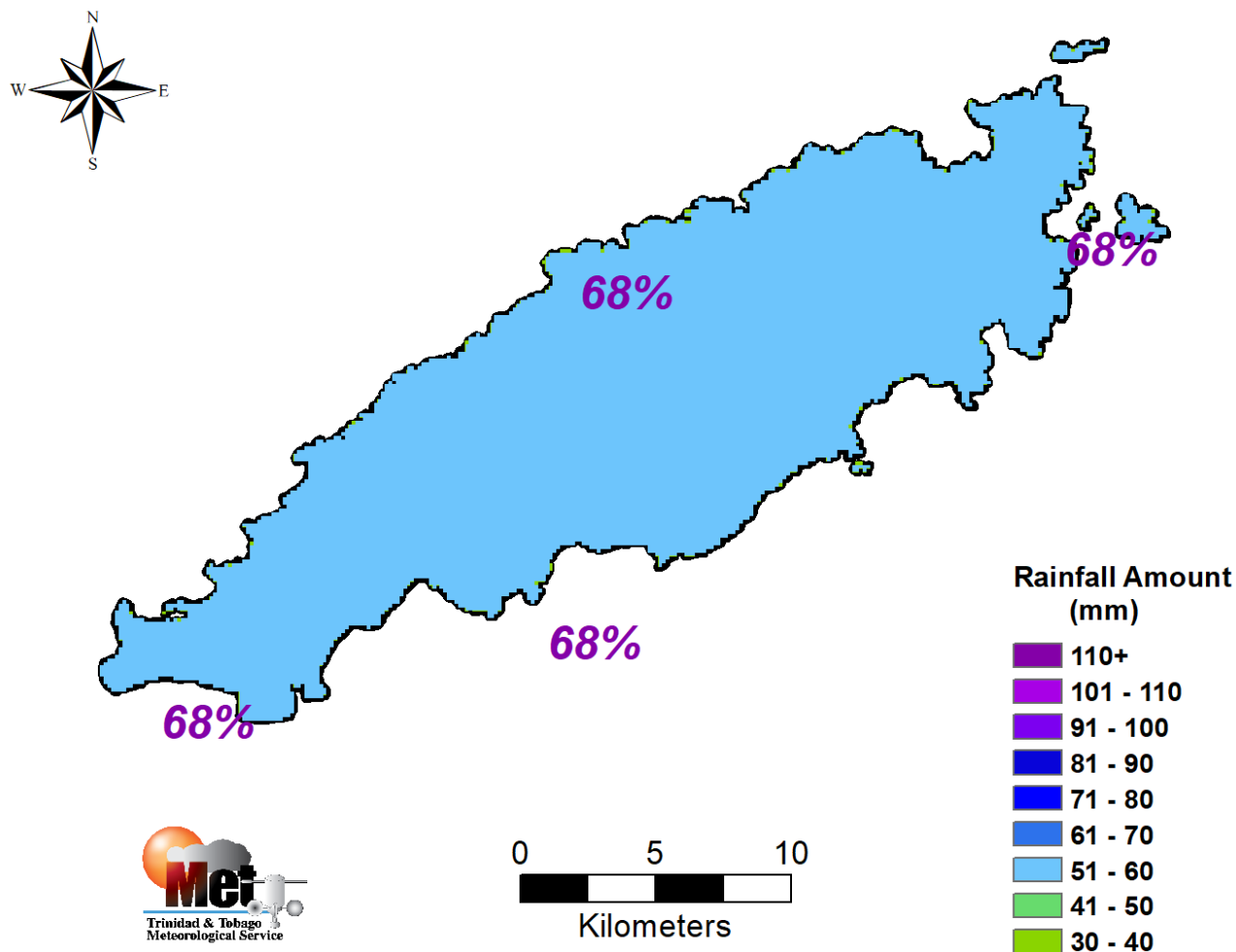


Figure 2. Rainfall Map of Tobago showing possible rainfall totals for varying districts during the third dekad of September, 2017 and possible probability of occurrence

Temperatures

Trinidad's: Temperature Forecasts for the Third Ten Days of September (21st – 30th) 2017

Moderate chance (70%) of daily maximum temperatures exceeding 34.0°C, peaking near 34.5°C.
Moderate chance (70%) of daily minimum night temperatures remaining above 24.0°C.

Tobago's: Temperature Forecasts for the Third Ten Days of September (21st - 30th) 2017

Moderate chance (70%) of daily maximum temperatures exceeding 32.0 °C, peaking near 32.5°C.
Moderate chance (70%) of daily minimum night temperatures remaining above 26.0°C.

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Summary

After a mostly dry start to the period light to heavy rainfall on the 24th could produce daily rainfall totals up to 25.0mm. The days following will also have episodes of rainfall but totals are expected to be less, ranging between 2.0 mm to 12.0 mm. There is a 68% chance for ten-day rainfall totals between 40.0 and 75.0 mm across both islands. Day-time maximum temperatures are set to peak between 33.0°C and 34.5°C on most days in Trinidad and between 31.5°C and 32.5°C in Tobago. Night-time temperatures are expected to remain warm and vary between 24.0°C and 26.0°C on both islands. Humidity values during daylight hours are expected to be relatively high (above 65%) on average while wind speeds will remain light to moderate (up to 6 meters per second). Farmers should watch out for excessive wet days which can affect harvesting and fertilizer application and washout. Flooding potential in low lying crop fields are high for the extremely wet days.

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