

Agro-meteorological Bulletin and Assessment for Farmers and Livestock Producers of Trinidad and Tobago for the Second Dekad (11th - 20th) of July, 2019

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 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 First Ten Days (Dekad) of July (01st - 10th) 2019

Relatively high temperatures accompanied by rainfall on seven of the ten days provided warm and humid conditions for agricultural activities during the first dekad (ten days) of July. Ten-day rainfall totals between 40.0 mm and 60.0 mm in Trinidad were recorded at varying locations during the period including 51.0mm recorded at Piarco. Very wet conditions on the 3rd, 5th and 9th in Trinidad accounted for most of the ten-day rainfall totals. Similar conditions on the 3rd, 6th and 7th in Tobago accounted for most of the ten-day rainfall totals, where 40.0 mm was recorded at Crown Point.

Even though most days produced rainfall, daily maximum temperatures still climbed close to 32.5°C in both Trinidad and Tobago. Nights were also relatively warm, as minimum temperatures remained above 24.0 °C on most nights across both island. Together, these conditions would have led to low to moderate evapo-transpiration rates in crops and boosted topsoil moisture amounts. These

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conditions would have also increased stream flows and water levels that are important for agriculture, but at the same time, would have slowed fieldwork on the wettest days. The heavy rainfall days may have assisted with washing away some pests and fungi but at the same time, the hot and humid conditions following wet days would have benefited others.

Expected Weather for the Second Ten Days of July (11th–20th) 2019 and Likely Impact on Agriculture

The forecast for the second ten days of July (11th–20th) 2019 favours mixed conditions across Trinidad and Tobago, that will be beneficial to agriculture, in general. Areas in northeastern and eastern Trinidad and Tobago are expected to receive the heaviest downpours. Farmers should expect rainfall on most days with the wettest days likely to occur on the 12th, 13th, 15th, 16th and 17th. Rainfall totals on the wetter days are likely to range between 3.0mm and 20.0mm with the 15th expected to be the wettest of all days during the period.

Overall there is a 70% chance for ten-day rainfall totals between 35.0mm and 80.0mm in Trinidad while totals are likely to range between 40.0mm and 60.0mm in Tobago. Conditions are expected to remain humid on most days with relative-humidity percentage values during daylight hours likely to be from 55% to 70% on average but up to the 90s during heavy rainfall periods. Wind speeds are expected to be moderate to strong (20 to 40 kilometers per hour) during heavy downpours but on the lighter-side during other conditions (less than 20 kilometers per hour).

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 32.5°C on most days in Trinidad and between 30.0°C and 32.0°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.

Together, these conditions will be good for all stages of crop growth and development; 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.

The forecast conditions also suggest that light to moderate pan evaporation rates are expected during the period which tends to lead to light to moderate evapo-transpiration rates in crops. 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. Good opportunities are likely to be available for applying fertilizer on the 11th, 19th and 20th when spotty to no rainfall is likely and winds are expected to be light. Farmers are encouraged to pay attention to the daily forecasts to negate potential flooding effects on mature crops.

Preliminary Rainfall and Temperature Outlook for Last Ten Days of July 2019

The outlook indicates wet than dry days during the last ten days of July. Temperatures are forecasted to peak near 32.5°C.

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Trinidad Rainfall Forecast for the Second Ten Days of July (11th – 20th) 2019

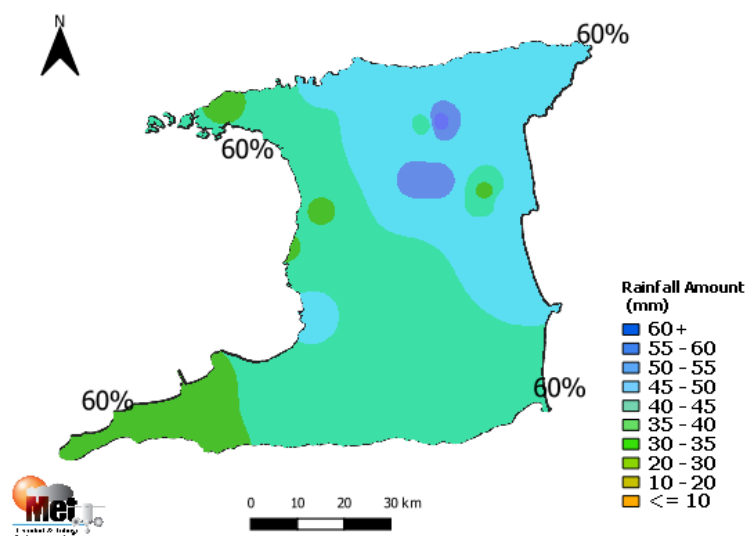


Figure 1. Rainfall Map of Trinidad showing expected mean rainfall totals for districts across Trinidad during the second ten days of July 2019.

Eastern and North-Eastern areas

Moderate chance (70 %) of mean daily rainfall up to 8.0 mm.

South-Eastern areas

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

Southern areas

Moderate chance (70 %) of mean daily rainfall up to 40 mm.

Central, West-Central and inland areas

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

South-Western areas

Moderate chance (70 %) of mean daily rainfall up to 4.0 mm.

Northern, North-Western areas

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Moderate chance (70 %) of mean daily rainfall up to 4.0 mm.

Tobago Rainfall Forecast for the Second Ten Days of July (11th – 20th) 2019

North-Eastern areas

Moderate chance (70 %) of mean daily rainfall of up to 50.0 mm.

South-Western areas

Moderate chance (70 %) of mean daily rainfall up to 40 mm.

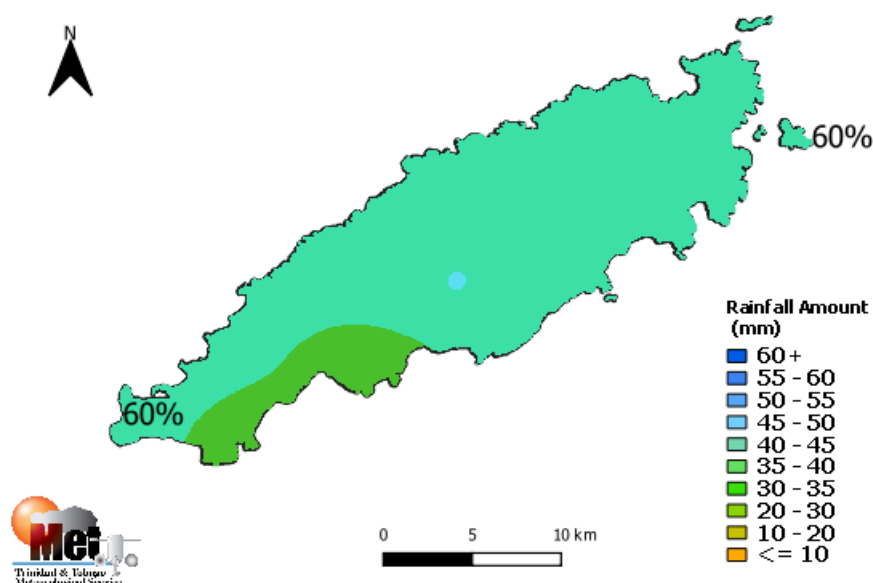


Figure 2. Rainfall Map of Tobago showing expected mean rainfall totals for districts across Tobago during the second ten days of July 2019.

Temperatures

Trinidad: Temperature Forecasts for the Second Ten Days of July (11th – 20th) 2019

High chance (80 % chance) of warmer than average daily mean temperatures (warmer than 26.3 °C).

High chance (80 % chance) for day-time maximum temperatures near 32.5 °C.

High chance (80 % chance) for night-time minimum temperatures between 23.0°C and 25.0°C.

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Tobago: Temperature Forecasts for the Second Ten Days of July (11th – 20th) 2019

High chance (75 % chance) of warmer than average daily mean temperatures (warmer than 26.0 °C).

High chance (80 % chance) for day-time maximum temperatures near 32.0 °C.

High chance (80 % chance) for night-time minimum temperature between 24.5°C and 27.0°C.

Summary

Mixed weather is expected during the period July 11th to 20th with moderate to heavy rainfall likely on the 12th, 13th 15th and 16th. Rainfall totals over the 10-day period are likely to range between 35.0 mm and 80.0 mm in Trinidad and between 40.0 mm and 60.0 mm in Tobago. Day-time maximum temperatures are set to peak between 31.0 °C and 32.5 °C on most days in Trinidad and between 30.0 °C and 32.0 °C in Tobago. Actual real-feel temperatures are likely to be peak near 35.0 °C in Trinidad and 34.0 °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 moderate to high ranging between 55% and 70% but can get up to the 90s during wet periods. Wind speeds will remain light to moderate but can become strong during heavy down pours. Farmers should take note that the weather over the first 10-days and the anticipated mixture of dry and wet weather over the next ten-days of July are favourable for bacterial, fungal and viral crop diseases to flourish and for losses in soil oxygen and nitrogen. These conditions can affect fruit quality and crop yields negatively, in the end. 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 11th, 19th and 20th when spotty to no rainfall is likely and winds are expected to be light. Flooding potential in low lying crop fields are high for during the heavy rainfall days and this may affect harvesting of mature crops.

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