

Agro-meteorological Bulletin and Assessment for Farmers and Livestock Producers of Trinidad and Tobago for the Third Dekad (21st - 31st) 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 Second Ten Days (Dekad) of July (11th - 20th) 2019

Weather conditions for agriculture were mostly favourable during the second ten days of July in Trinidad and Tobago with rainfall occurring on all but two days in Trinidad and all days in Tobago. Wide spread heavy rainfall on the 11th, 14th and 17th accounted for the majority of the ten-day rainfall total of 25.6 mm measured at Piarco and this pattern would have been similar elsewhere in Trinidad. Tobago experienced much wetter conditions with 92.4 mm recorded at Crown Point. The wettest day of the period occurred on the 14th when just about 2 inches or 51.8 mm of rain fell. Two other very wet days occurred on the 12th and 17th where 16.0 mm was measured on both days at Crown Point. Similar rainfall amounts were observed elsewhere on the island during the period.

At the same time, maximum day temperatures climbed above 30.0°C on each day to peak at 32.4°C in Piarco and at

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31.8°C in Tobago; while night minimum temperatures fluctuated between 23.4°C and 24.8°C in Trinidad and 23.4°C and 26.4°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 particularly in Tobago 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 Third Ten Days of July (21st – 31st) 2019 and Likely Impact on Agriculture

The forecast for the last ten days of July (21-31) 2019 favours mixed conditions with high chances existing for at least two very wet days across much of Trinidad and Tobago during this period. Northeastern areas in Trinidad are likely to receive the heaviest downpours but all areas are expected to receive sufficient rainfall for agriculture production.

The first day is expected to produce mixed conditions with spotty showers occurring at various locations. Farmers should expect wetter conditions on the 22nd and 23rd which are expected to be the two wettest days in the period. Daily rainfall totals on these days are likely to exceed 5.0 mm and can get as high as 20.0 mm. Drier conditions are in the forecast for the 24th and 25th but pockets of moderate to heavy rainfall are still expected on these days, especially in Trinidad. Wet conditions are expected to return on the 26th and 29th and 30th, intermixed with spotty rainfall on the 27th, 28th and 31st. There is a 55% chance for ten-day accumulated rainfall totals between 35.0 mm and 60.0 mm 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 32.8°C on most days in Trinidad and between 30.0°C and 32.3°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 70% on average, but can get 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). 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 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

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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. Good opportunities are likely to be available for applying fertilizer on the 21st, 24th and 28th 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 reduce the impacts of potential flooding effects on mature crops.

Preliminary Rainfall and Temperature Outlook for First Ten Days of August 2019

The outlook indicates a wet first three days of period is likely.

Trinidad Rainfall Forecast for the Last Ten Days of July (21st – 31st) 2019

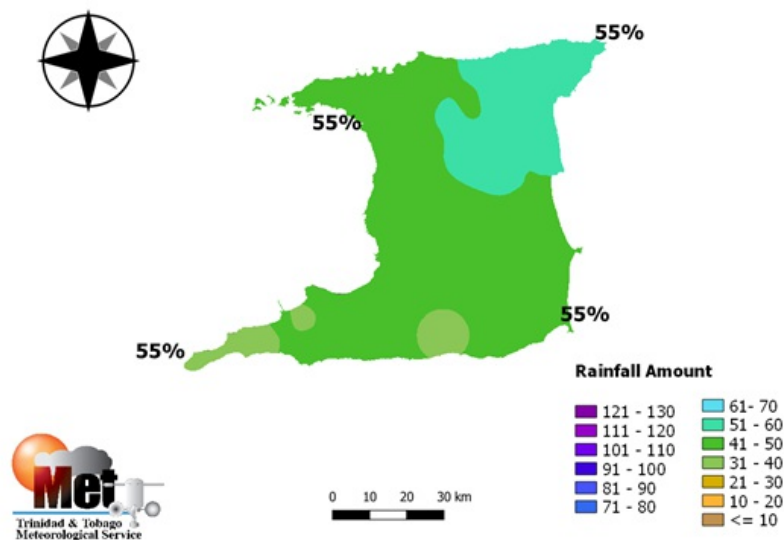


Figure 1. Rainfall Map of Trinidad showing expected mean rainfall totals for districts across Trinidad during the last ten days (21st - 31st) of July 2019.

Northern & Northwestern areas:

Moderate chance (55%) of mean daily rainfall up to 5.0 mm.

North-Eastern and Eastern areas:

Moderate chance (55%) of mean daily rainfall up to 6.0 mm.

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Central, West-Central and inland areas:

Moderate chance (55%) of mean daily rainfall up to 5.0 mm.

South-Eastern areas:

Moderate chance (55%) of mean daily rainfall up to 5.0 mm.

Southern areas:

Moderate chance (55%) of mean daily rainfall up to 4.5 mm.

South-Western areas:

Moderate chance (55%) of mean daily rainfall up to 4.0 mm

Tobago Rainfall Forecast for the Last Ten Days of July (21st-31st) 2019

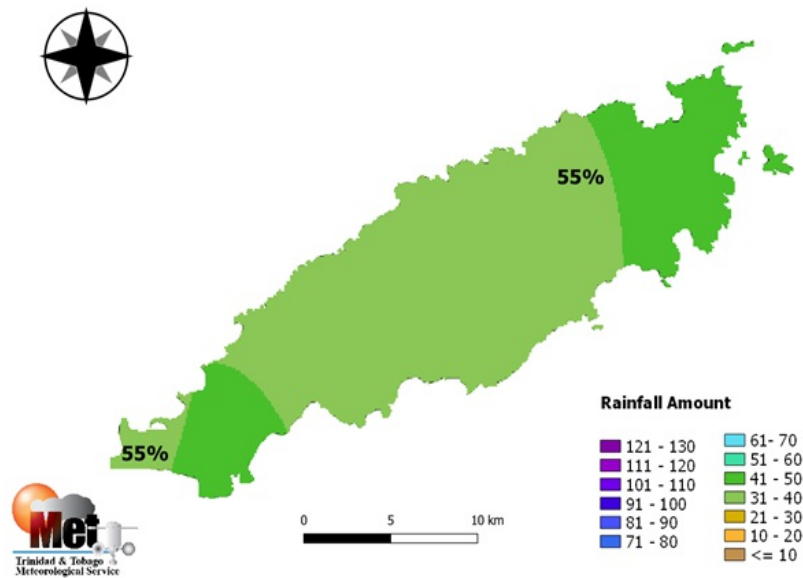


Figure 2. Rainfall Map of Tobago showing expected mean rainfall totals for districts across Tobago during the last ten days of July 2019.

Northeastern areas:

Moderate chance (55%) of mean daily rainfall up to 5.0 mm.

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South-Western areas:

Moderate chance (55%) of mean daily rainfall up to 4.0 mm.

Temperatures

Trinidad's: Temperature Forecasts for the Last Ten Days of July (21st – 31st) 2019

High chance (70 % chance) of warmer than average daily mean temperatures (warmer than 26.3°C).

Moderate chance (70%) of daily maximum temperatures exceeding 31.0°C and peaking near 32.8°C.

Moderate chance (60%) of daily minimum night temperatures remaining above 24.0°C.

Tobago's: Temperature Forecasts for the Last Ten Days of July (21st – 31st) 2019

High chance (65 % chance) of warmer than average daily mean temperatures (warmer than 26.0°C).

Moderate chance (70%) of daily maximum temperatures exceeding 30.0°C, peaking near 32.3°C.

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

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 on most days.

Summary

The weather forecast for the first ten days of July 21st to July 31st 2019 favours weather 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 5.0mm and as much as 20.0 mm on at least two days. There is a 55% chance for possible ten-day rainfall totals between 35.0 and 60.0 mm across both islands. Temperatures are set to peak near 32.8°C in Trinidad and near 32.3°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. 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. High temperatures could have an effect on production in some livestock if left exposed to the excessive heat. Overall, 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.

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