

Agro-meteorological Bulletin and Assessment for Farmers and Livestock Producers of Trinidad and Tobago for the Third Dekad (21st -31st) of July 2018.

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 Dekad (11th– 20th) of July 2018.

Mostly relative wet to wet conditions dominated Trinidad and Tobago particularly on days 12th, 13th, 15th and 18th of the dekad, where both islands experienced patchy cloudy to cloudy conditions at times with light to moderate/occasionally heavy rainfall over most areas. Similarly, to the last dekad, the rainfall events were due to consecutive Tropical Waves (TW) passage across the islands and several short visitation of the Inter Tropical Convergence Zone (ITCZ) mostly over Trinidad. Northeastern and eastern areas had rainfall totals more than Piarco (73.1 mm) and were within the forecasted range of 30.0 mm to 100.0 mm. Conversely, central areas had rainfall totals as follows: Chaguanas (59.2 mm), Freeport (46.5 mm) and Carapichiana (64.0 mm) which were above the range forecasted of 30.0 mm to 40.0 mm. Additionally, southern areas had the following rainfall amounts: San Fernando (37.6 mm), Princess Town (83.8mm) and Golconda (98.6 mm) which were again,

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mostly within the range forecasted of 30.0 mm to 80.0 mm. Likewise, northern and northwestern areas had rainfall totals as follows: Tunapuna (69.1 mm) where just within the expected amount of 30.0 mm to 80.0 mm. On the other hand, northwestern areas of Trinidad such as Port of Spain and Carenage had rainfall amounts of 7.9 mm and 39.9 mm respectfully, and was below expected range of 30.0 mm to 80.0 mm.

Tobago had experienced very little rainfall, western areas such as Crown Point and Buccoo had rainfall totals ranging between 3.2 mm to 11.4 mm well below the forecasted amount of 30.0 mm to 60.0 mm.

Trinidad's temperature was generally within expected range, maximum temperature went up to 32.0 °C, which was within the expected range of 31.7 °C to 33.0 °C. At the same time Tobago's maximum got up to 31.4 °C, well within the range expected of 30.6 °C to 31.6 °C. Similarly, lowest temperatures recorded were 23.6 °C in Trinidad and 25.2 °C in Tobago. In Trinidad's case, the minimum temperature was within the expected range, of 23.3 °C to 23.7 °C. Conversely, the minimum temperature was above the range of 24.0 °C to 24.4 °C for Tobago. The average humidity for both islands remained in the lower-seventies, falling lower during hot and breezy conditions and raising during cloudy, cool and relatively wet periods. Since very few relatively dry days occurred in between wet days during the dekad, frequent irrigation may not have been necessary.

Expected Weather for Third Dekad (21st – 31st) of July 2018 and Likely Impact on Agriculture.

The forecast for the third dekad of July indicates that farmers can expect similar rainfall amounts as compared to the second dekad of July. During the third dekad, farmers will experience mostly relatively wet to wet days during the dekad, particularly, on days 23rd, 24th, 26th, 27th and 30th. Expect mostly moderate to heavy showers or thundershowers, while relatively wet days during days 28th, 29th and 31st of the dekad. The ten-day period rainfall totals, forecast to range between 50.0 mm and 100.0 mm in Trinidad and between 15.0 mm to 30.0 mm in Tobago.

The average daily temperatures across Trinidad and Tobago are likely to range between 25.2 °C and 28.1 °C. Expect the highest maximum temperature over the dekad to peak near 32.8 °C in **Trinidad**, while the lowest night to early morning minimum temperature could dip below 23.2 °C. Especially along the foothills and valleys during relatively cloud free nights. Likewise, during the dekad, in **Tobago**, the highest maximum temperature will peak near 31.4 °C, while the lowest minimum temperature will be dip below 24.0 °C, mostly during relatively cloud free nights.

For both Trinidad and Tobago, the daytime relative humidity (RH) is likely to range between 68% and 85%. However, during relatively wet days, RH percentage values will range around 85% to 100%. At the same time, wind speeds are expected to range between 18 km/h and 36 km/h but can gust to 50 km/h. In addition, evaporation rates are expected to range between 2.5 mm/day and 8.8 mm/day, but can be slightly more during warmer and windier periods and slightly less during

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relatively wet days. The mostly relatively wet to wet days of the dekad, will definitely decrease the need for frequent irrigation.

In consequence of the expected weather conditions during the dekad, there is a low (30%) probability of heat stress on certain variety plant seedlings and young animals from exposure to solar radiation and warm temperatures. On the other hand, there is a moderate chance (65%) of lightning, heavy down-pours, water logged soils and flash flooding in some areas, particularly on days 23rd, 24th, 26th, 27th and 30th. There is also a moderate (60%) probability chance of frequent visitation of Saharan dust that will occasionally reduce visibility to less than 10.0 km, particularly during days 21st, 25th and 31st.

Additionally, during the dekad, there is a moderate (70%) probability of some agricultural insect pests, fungi and diseases to get a foot in and possibly develop and thrive. Moreover, the expected daytime wind speeds and specifically during down drafts from cloud clusters, together with the funneling effect of wind along narrow paths and undulating landscapes, may affect some seedlings negatively by causing seedlings' stems and leaves to be damaged. In addition, possible strong winds and high intensity rainfall may hamper some types of fertilizer, fungicide and insecticide application and retention.

Trinidad's Mean Daily Rainfall Forecast for the Third Dekad of July (21st–31st) 2018.

Northern & Northwestern areas:

Moderate chance (63%) of mean daily rainfall up to 7.0 mm.

North-Eastern and Eastern areas:

Moderate chance (67%) of mean daily rainfall up to 9.3 mm.

Central, West-Central and inland areas:

Moderate chance (63%) of mean daily rainfall up to 6.5 mm.

South-Eastern areas:

Moderate chance (67%) of mean daily rainfall up to 9.0 mm.

Southern areas:

Moderate chance (64%) of mean daily rainfall up to 7.4 mm.

South-Western areas:

Moderate chance (62%) of mean daily rainfall up to 6.3 mm.

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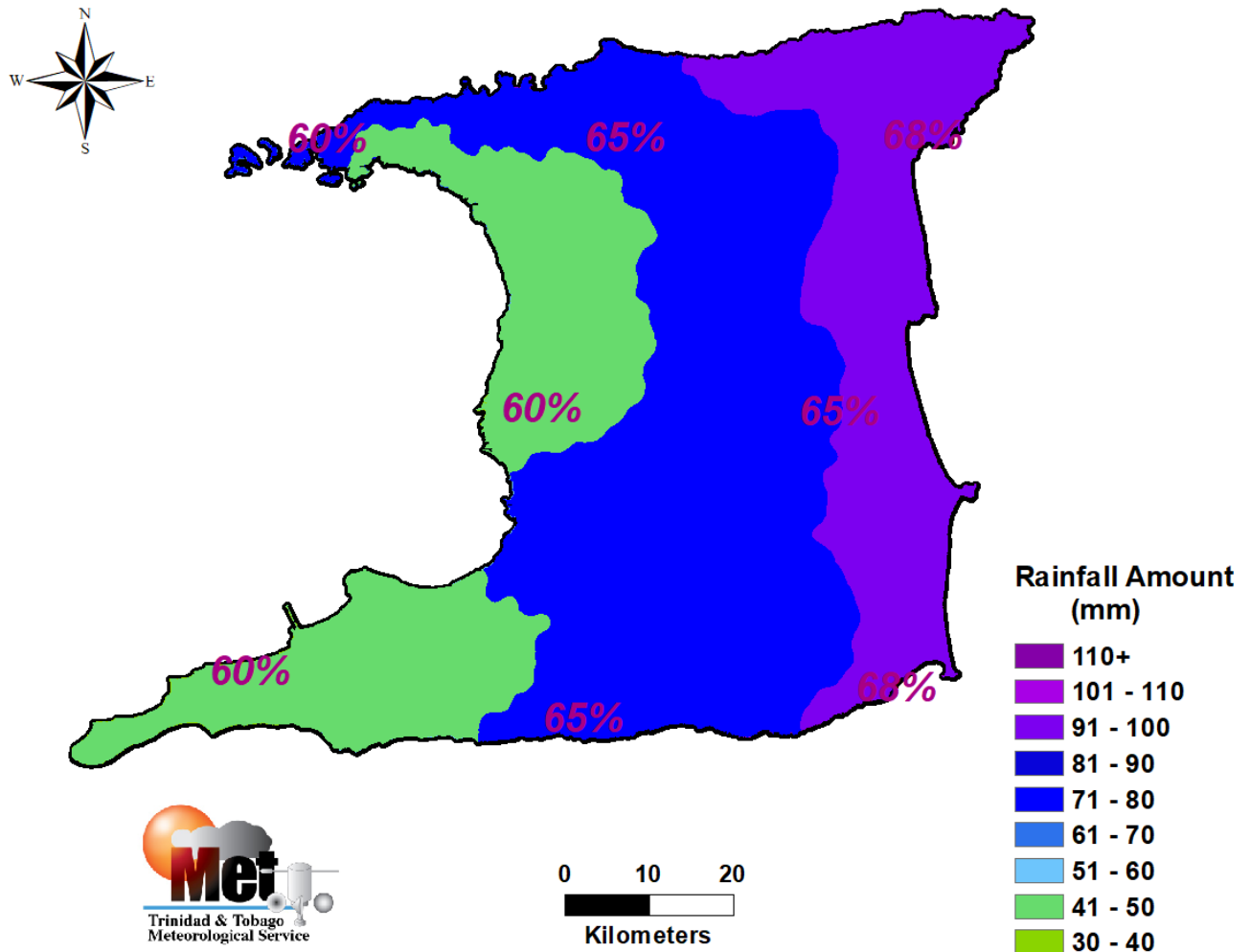


Figure 1. Rainfall Map of Trinidad showing possible rainfall totals for varying districts during third dekad of July 2018 and percentage probability of occurrence.

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Tobago's Mean Daily Rainfall Forecast for the Third Dekad of July (21st - 31st) 2018.

Northeastern areas:

Moderate chance (62%) of mean daily rainfall up to 2.4 mm.

South-Western areas:

Moderate chance (62%) of mean daily rainfall up to 2.5 mm.

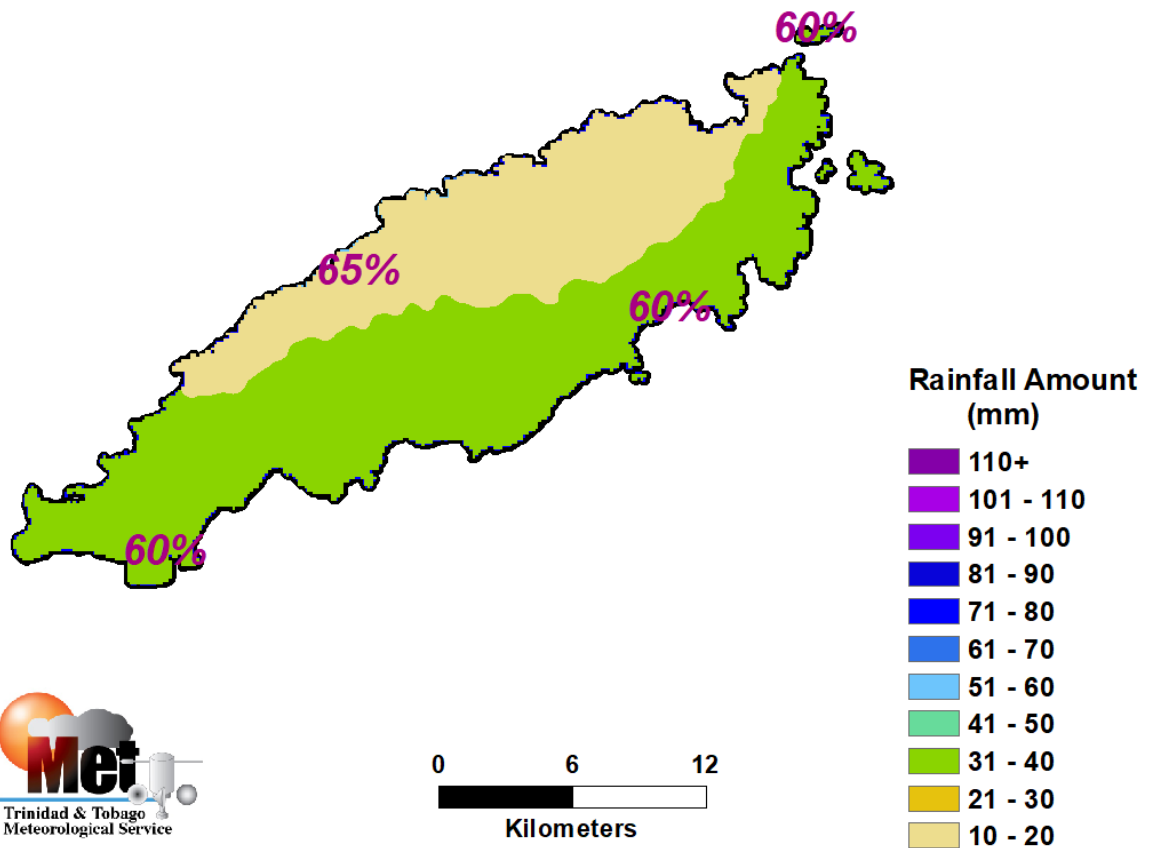
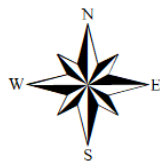


Figure 2. Rainfall Map of Tobago showing possible rainfall totals for varying districts during third dekad of July 2018 and percentage probability of occurrence.

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Temperatures:

Trinidad's Temperature Forecast for the Third Dekad of July (21st-31st) 2018.

Moderate chance (70%) of daily maximum temperatures to exceed 32.0 °C, peaking near 32.8 °C.

Moderate chance (70%) of daily minimum temperatures to be below 23.7 °C, dropping as low as 23.2 °C.

Tobago's Temperature Forecast for the Third Dekad of July (21st-31st) 2018.

Moderate chance (70%) of daily maximum temperatures to exceed 30.5 °C, peaking near 31.4 °C.

Moderate chance (70%) of daily minimum temperatures to be below 25.0°C, dropping as low as 24.0 °C.

Summary:

The outlook for the third dekad of July calls for similar conditions as of second dekad. Expect relatively wet to wet days, particularly, on days 23rd, 24th, 26th, 27th and 30th of the dekad with mostly moderate to heavy showers or thundershowers, while relatively wet days during days 28th and 29th of the dekad. The ten-day period rainfall totals, forecast to range between 50.0 mm and 100.0 mm in Trinidad and between 15.0 mm to 30.0 mm in Tobago.

Overall, **average** temperatures ranging between 25.2 °C and 28.1 °C in both islands over the full dekad. The maximum temperature is likely to reach 32.8 °C in Trinidad and 31.4 °C in Tobago. While, the lowest minimum temperatures are likely to reach 23.3 °C in Trinidad and 24.0 °C in Tobago. There is high probability (70%) of flash floods and waterlogged soils on days 23rd, 24th, 26th, 27th and 30th. Opportunities for water harvesting will increase during the relatively wet to wet days.

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