

Agro-meteorological Bulletin and Assessment for Farmers and Livestock Producers of Trinidad and Tobago for the Second Dekad (11th -20th) 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 first Dekad (1st– 10th) of July 2018.

Mostly relative wet to wet conditions dominated Trinidad and Tobago over days: 1st, 2nd, 4th and 6th of the dekad, where both islands experienced some patchy cloudy to cloudy conditions at times with light to moderate/occasionally heavy rainfall over most areas. These rainfall events were due to consecutive Tropical Waves (TW) passage across the islands and several short visitation of the Inter Tropical Convergence Zone (ITCZ) to mostly over Trinidad. Northeastern and eastern areas had rainfall totals similar to Piarco of 75.0 mm and were within the forecasted range of 35.0 mm to 60.0+ mm. Conversely, central areas had rainfall totals as follows: Chaguanas (43.7 mm), Freeport (43.2 mm), Preysal (71.6 mm) and Calcutta (14.0 mm) which were well above the range forecasted of 30.0 mm to 35.0 mm. Additionally, southern areas had the following rainfall amounts: San Fernando (75.9 mm), Princess Town (85.6 mm) and Golconda (46.7 mm) which were again mostly were above the

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range forecasted of 35.0 mm to 60.0 mm. Likewise, northern and northwestern areas had rainfall totals as follows: Tunapuna (84.6 mm) where again above the expected amount of 35.0 mm to 60.0 mm. On the other hand, Carenage had 51.8 mm, was within expected value.

In the same way, Tobago had experienced some rainfall, western areas such as Crown Point and Buccoo had rainfall totals ranging between 30.0 mm to 61.4 mm well below the forecasted amount of 10.0 mm to 30.0 mm.

Trinidad's temperature was generally within expected range, maximum temperature went up to 33.2 °C, which was outside of the expected range of 31.5 °C to 32.8 °C. At the same time Tobago's maximum got up to 31.1 °C, well above the range expected of 30.5 °C to 31.6 °C. Similarly, lowest temperatures recorded were 23.4 °C in Trinidad and 24.1 °C in Tobago. In Trinidad's case, the minimum temperature was within the expected range, of 22.8 °C to 23.7 °C. Similarly, the minimum temperature was within the range of 23.1 °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 relatively dry days occurred in between wet days during the dekad, frequent irrigation may not have been necessary.

Expected Weather for Second Dekad (11th – 20th) of July 2018 and Likely Impact on Agriculture.

The forecast for the Second dekad of July indicates that farmers can expect similar rainfall amounts as compared to the first dekad of July. During the second dekad, farmers will experience relatively wet to wet days during first six days of the dekad, with thundershowers on days 12th and 13th; while relatively dry conditions during the last four days of the dekad. The ten-day period rainfall totals, forecast to range between 50.0 mm and 100.0 mm in Trinidad and between 40.0 mm to 60.0 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 33.0 °C in **Trinidad**, while the lowest night to early morning minimum temperature could dip below 23.3 °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 31.6 °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 79% 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

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mm/day, but can be slightly more during warmer and windier periods and slightly less during relatively wet days.

The mostly wet days of the dekad, will definitely decrease the need for frequent irrigation. However, during the dekad, on days 17th, 18th, 19th and 20th expect relatively dry conditions with the possible increase in the frequency of 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 (60%) of lightning, heavy down-pours, water logged soils and flash flooding in some areas, particularly on days 12th and 13th. 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 11th, 17th, 18th, 19th and 20th.

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 Second Dekad of July (11th–20th) 2018.

Northern & Northwestern areas:

Moderate chance (64%) of mean daily rainfall up to 7.2 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 (62%) of mean daily rainfall up to 6.0 mm.

South-Eastern areas:

Moderate chance (67%) of mean daily rainfall up to 9.4 mm.

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Southern areas:

Moderate chance (64%) of mean daily rainfall up to 7.3 mm.

South-Western areas:

Moderate chance (62%) of mean daily rainfall up to 6.0 mm.

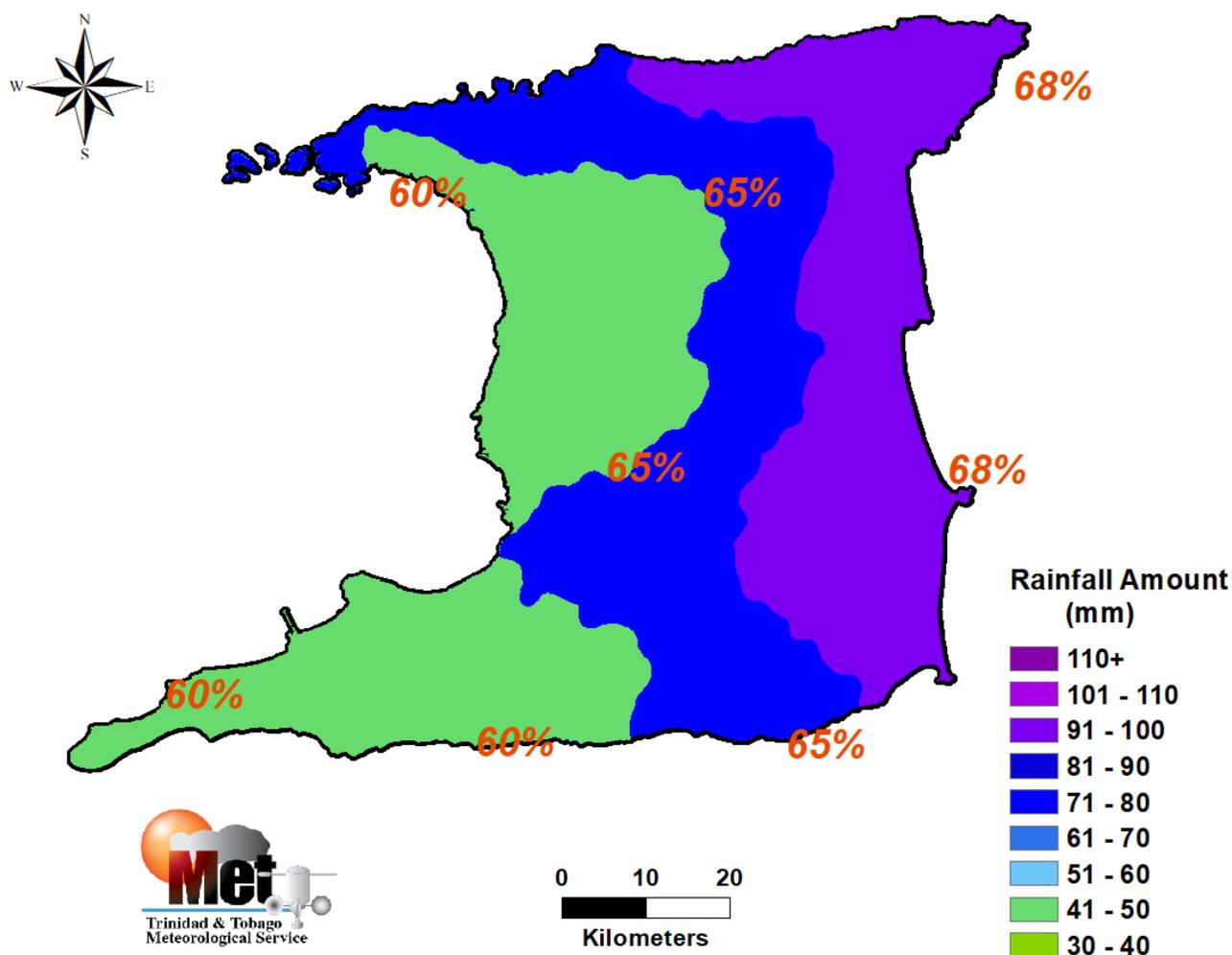


Figure 1. Rainfall Map of Trinidad showing possible rainfall totals for varying districts during second dekad of July 2018 and percentage probability of occurrence.

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Tobago's Mean Daily Rainfall Forecast for the Second Dekad of July (11th - 20th) 2018.

Northeastern areas:

Moderate chance (68%) of mean daily rainfall up to 5.9 mm.

South-Western areas:

Moderate chance (67%) of mean daily rainfall up to 5.3 mm.

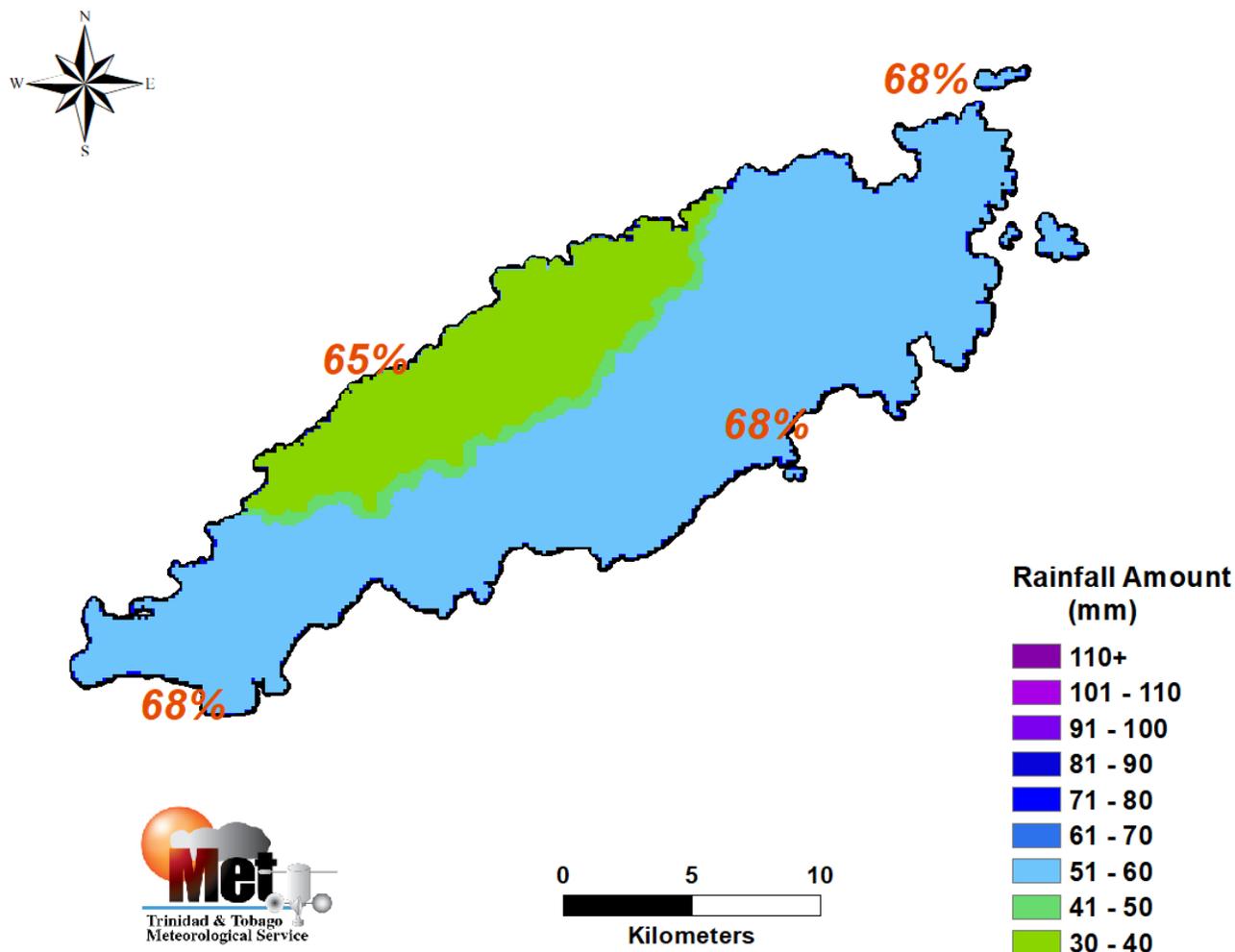


Figure 2. Rainfall Map of Tobago showing possible rainfall totals for varying districts during second dekad of July 2018 and percentage probability of occurrence.

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Temperatures:

Trinidad's Temperature Forecast for the Second Dekad of July (11th -20th) 2018.

Moderate chance (70%) of daily maximum temperatures to exceed 31.7 °C, peaking near 33.0 °C.

Moderate chance (70%) of daily minimum temperatures to be below 23.7 °C, dropping as low as 23.3 °C.

Tobago's Temperature Forecast for the Second Dekad of July (11th-20th) 2018.

Moderate chance (70%) of daily maximum temperatures to exceed 30.6 °C, peaking near 31.6 °C.

Moderate chance (70%) of daily minimum temperatures to be below 24.4 °C, dropping as low as 24.0 °C.

Summary:

The outlook for the Second dekad of July calls for similar conditions as of last dekad. Expect relatively wet to wet days during the majority dekad and relatively dry days during days: 17th, 18th 19th and 20th of the dekad. 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 33.0 °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 12 through 14th. Opportunities for water harvesting will increase during the relatively wet to wet days, any additional opportunity to harvest and store rainwater should be undertaken, while irrigation processes continue.

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