

**Agro-meteorological Bulletin and Assessment for Farmers and Livestock
Producers of Trinidad and Tobago for the Third Dekad (21st-30th) of
September, 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 September, 2018.

Mostly relatively wet to wet conditions dominated Trinidad and Tobago during the dekad, where both islands experienced patchy cloudy to cloudy conditions at times with mostly light to moderate rainfall over most areas. Specifically, on days 12th, 13th, 16th and 17th, the rainfall events were due to the indirect influence of Tropical Storm Isaac and Inter Tropical Convergence Zone (ITCZ) producing light to moderate showers; followed by the direct influence of ITCZ which produced moderate to heavy showers/Thundershowers over central and southern areas. Northeastern and eastern areas had rainfall totals as follows: Piarco (63.6 mm), Cumaca (125.9 mm), and Hollis (112.8 mm) were above the forecasted range of 40.0 mm to 90.0 mm. Similarly, central areas had rainfall totals as follows: Chaguanas (56.9 mm), Mamoral (97.6 mm), Flanagin Town (109 mm), Navet

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(137.4 mm), Tamana (148.6 mm) and Plum Mitan (116.8 mm) which were greatly above the range forecasted of 40.0 mm to 90.0 mm.

Furthermore, southern areas had the following rainfall amounts: San Fernando (123.4 mm), Barrackpore (116.8 mm), Penal (131.0 mm) and Guayaguayare (131.4 mm) which were mostly within the range forecasted of 40.0 mm to 90.0 mm. Likewise, northern areas such as Tunapuna (64.0 mm), Caura (60.2 mm), St Anns (47.4 mm), St. Barbara (38.0 mm) had rainfall amounts mostly above the range 40.0 mm to 90.0 mm.

On the other hand, northwestern areas of Trinidad such as Port of Spain and Carenage had rainfall amounts of 6.0 mm and 8.4 mm respectfully, and again well below the expected range of 40.0 mm to 90.0 mm.

Tobago had experienced some rainfall, central areas such as Mt. Pleasant had 17.0 mm while western areas such as Crown Point had rainfall totals around 12.5 mm, below the forecasted amount of 40.0 mm to 90.0 mm.

Trinidad's temperature was generally within expected range, maximum temperature went up to 34.0 °C, which was within the expected range of 32.7 °C to 35.0 °C. At the same time Tobago's maximum got up to 33.1 °C, above the range expected of 31.3 °C to 32.8 °C. Similarly, lowest temperatures recorded were 22.2 °C in Trinidad and 24.6 °C in Tobago. In Trinidad's case, the minimum temperature was within the expected range of 23.7 °C to 22.1 °C. Similarly, the minimum temperature was within the range of 24.6 °C to 23.6 °C for Tobago. The average humidity for both islands remained in the upper-sixties, falling lower during hot and breezy conditions and raising during cloudy, cool and relatively wet periods. Since relatively dry to relative wet days occurred during the dekad, frequent irrigation may have been necessary.

Expected Weather for Third Dekad (21st – 30th) of September 2018 and Likely Impact on Agriculture.

The forecast for the Third dekad of September indicates that farmers can expect similar conditions as compared to the second dekad of September. Relatively wet days are expected on days: 21st, 22nd, 23rd, 25th, 28th and 30th; with wet conditions on days 24th, 26th, 27th, and 29th. Expected light to moderate rainfall and possible thundershowers which may result in flash flooding and water logged soils. The ten-day period rainfall totals, forecast to range between 40.0 mm and 100.0 mm in Trinidad and 50.0 mm to 70.0 mm in Tobago.

The average daily temperatures across Trinidad and Tobago are likely to range between 27.0 °C and 28.6 °C. Expect the highest maximum temperature over the dekad to peak near 35.0 °C in **Trinidad**, while the lowest night to early morning minimum temperature could dip below 22.1 °C. Especially along the foothills and valleys during relatively cloud-free nights. Likewise, during the dekad, in

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Tobago, the highest maximum temperature will peak near 33.2 °C, while the lowest minimum temperature will be dip below 23.6 °C, mostly during relatively cloud-free nights.

For both Trinidad and Tobago, the daytime relative humidity (RH) is likely to range between 56% and 76%. However, during relatively wet days, RH percentage values will range around 77% to 100%. At the same time, wind speeds are expected to range between 16 km/h and 24 km/h but can gust to 36 km/h. In addition, evaporation rates are expected to range between 3.0 mm/day and 11.0 mm/day, but can be slightly more during warmer and windier periods and slightly less during relatively wet days. The mostly relatively wet to wet days of the dekad, may warrant a variation in the need for frequent irrigation during the dekad.

Impacts on Agriculture:

On the other hand, there is a moderate chance (60%) of lightning strikes heavy down-pours, water logged soils and flash flooding in some areas especially on days 24th, 26th, 27th, and 29th. There is also a moderate (65%) probability chance of frequent visitation of Saharan dust that will occasionally reduce visibility to less than 14.0 km, particularly during days: 21st, 22nd, 23rd, 25th, 28th and 30th.

Additionally, during the dekad, there is a moderate (65%) probability of some agricultural insects, 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.

Sun, Moon and bright objects in the sky:

As a consequence of the position of the sun relative to the equator, equal hours of day and night is expected for this last dekad, but more important than this, more intense solar irradiance is expected during those daytimes when the sky is generally cloud free. There is high probability of heat stress on certain variety plant seedlings and animals from direct exposure to solar radiation and hot temperatures. Additionally full moon or harvest moon will be on the 24th of September at 10:52pm; this may provide some illumination over fields and livestock at night. During the last dekad of September, as the sunset sets in the west, two bright objects; planets Jupiter and Venus will be seen in the night sky, with Venus setting earlier in the west and leaving Jupiter in the horizon until midnight.

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Trinidad's Mean Daily Rainfall Forecast for the Third Dekad of September (21st –30th) 2018.

Northern & Northwestern areas:

Moderate chance (63%) of mean daily rainfall up to 5.7 mm.

North-Eastern and Eastern areas:

Moderate chance (67%) of mean daily rainfall up to 8.9 mm.

Central, West-Central and inland areas:

Moderate chance (60%) of mean daily rainfall up to 4.5 mm.

South-Eastern areas:

Moderate chance (67%) of mean daily rainfall up to 8.5 mm.

Southern areas:

Moderate chance (63%) of mean daily rainfall up to 6.2 mm.

South-Western areas:

Moderate chance (61%) of mean daily rainfall up to 4.7 mm.

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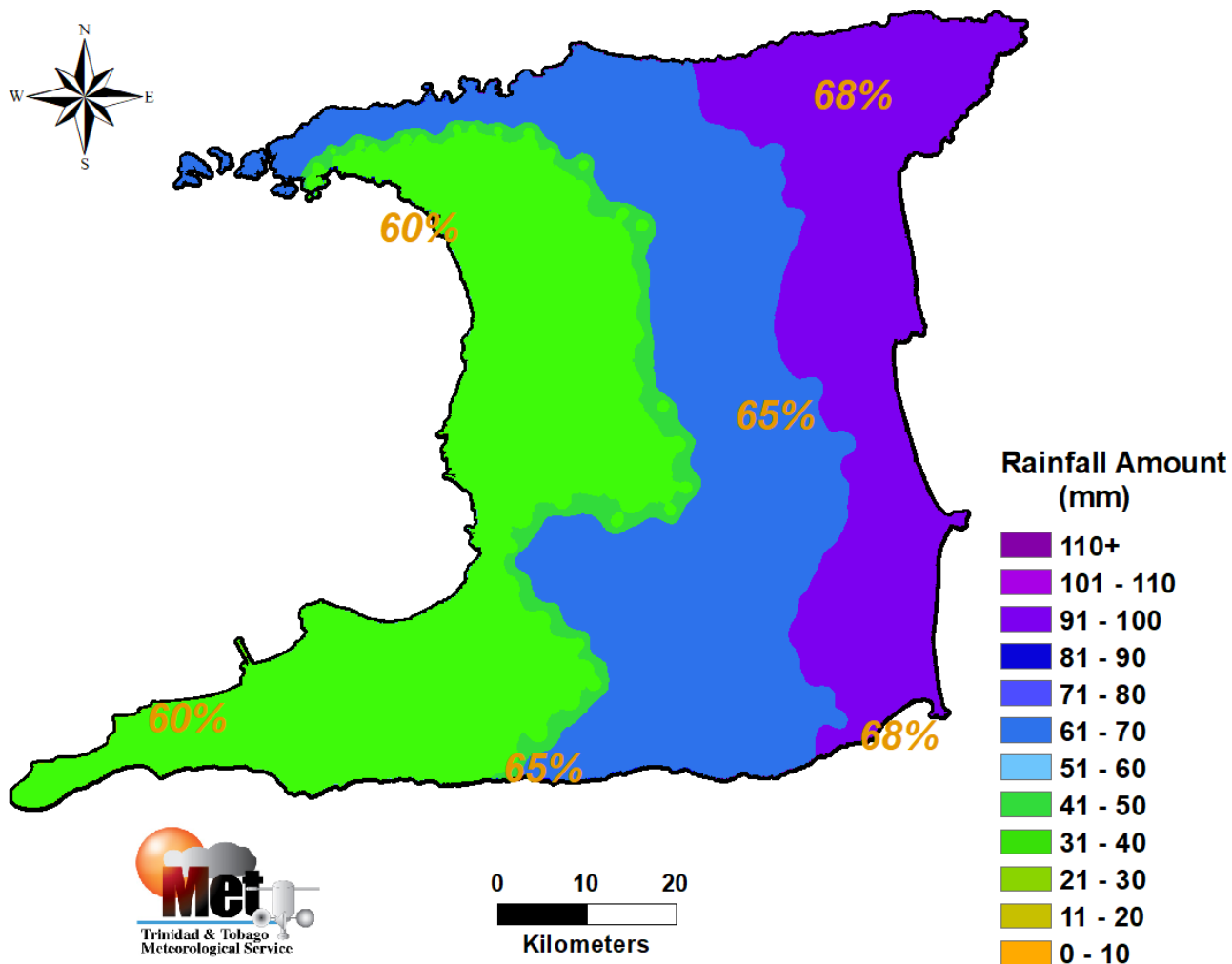


Figure 1. Rainfall Map of Trinidad showing possible rainfall totals for varying districts during third dekad of September 2018 and percentage probability of occurrence.

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Tobago's Mean Daily Rainfall Forecast for the Third Dekad of September (21st-30th) 2018.

Northeastern areas:

Moderate chance (64%) of mean daily rainfall up to 6.5 mm.

South-Western areas:

Moderate chance (61%) of mean daily rainfall up to 5.5 mm.

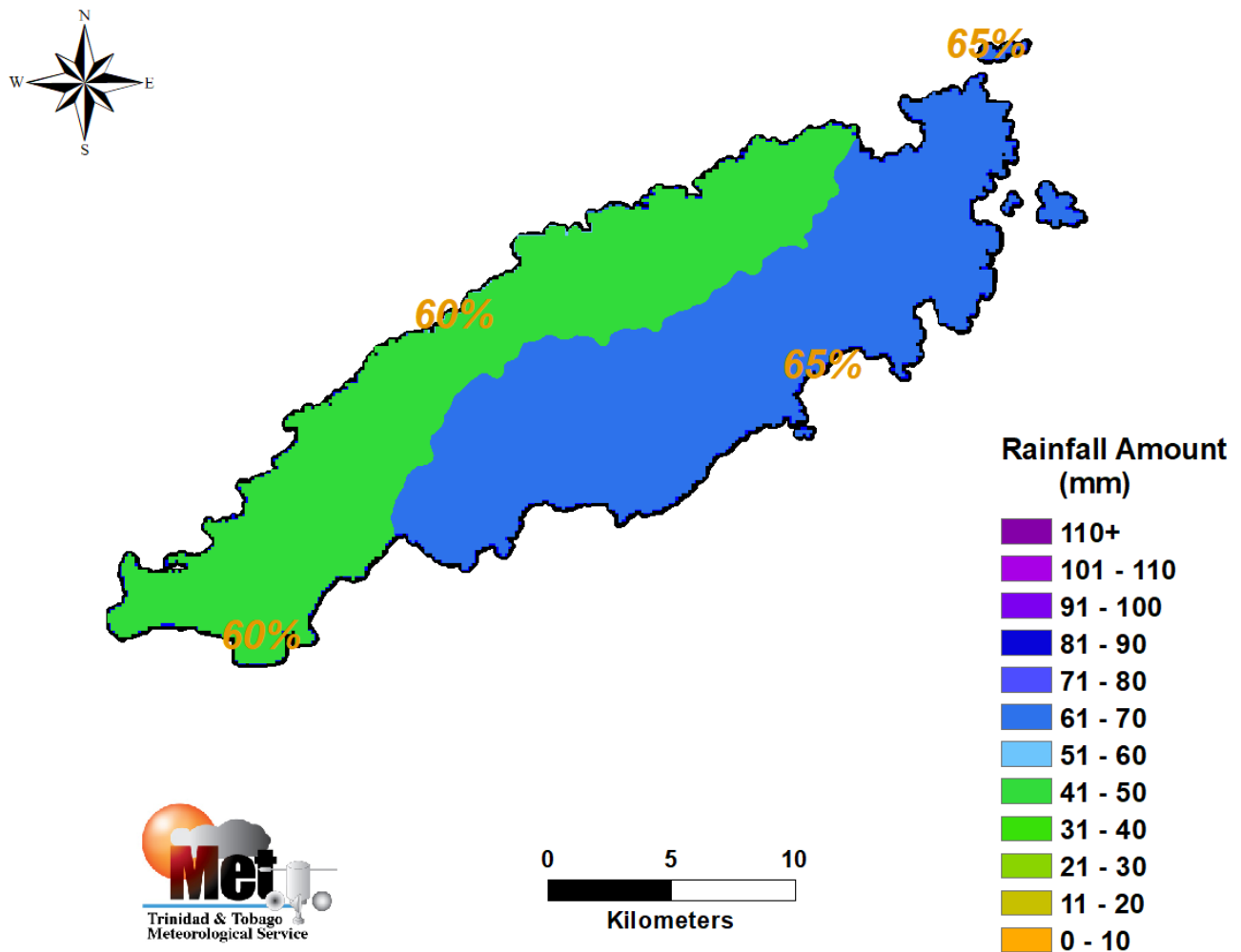


Figure 2. Rainfall Map of Tobago showing possible rainfall totals for varying districts during third dekad of September 2018 and percentage probability of occurrence.

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Temperatures:

Trinidad's Temperature Forecast for the Third Dekad of September (21st -30th) 2018.

Moderate chance (70%) of daily maximum temperatures to exceed 32.7 °C, peaking near 35.0 °C.

Moderate chance (70%) of daily minimum temperatures to be below 23.4 °C, dropping as low as 22.1 °C.

Tobago's Temperature Forecast for the Third Dekad of September (21st-30th) 2018.

Moderate chance (70%) of daily maximum temperatures to exceed 31.3 °C, peaking near 33.2 °C.

Moderate chance (70%) of daily minimum temperatures to be below 24.7°C, dropping as low as 23.6 °C.

Summary:

The outlook for the third dekad of September calls for similar conditions as compared to second dekad of September. Expect relatively wet days on days: 21st, 22nd, 23rd, 25th, 28th and 30th ; with wet conditions on days: 24th, 26th, 27th and 29th with light to moderate rainfall and possible thundershowers. The ten-day period rainfall totals, forecast to range between 40.0 mm and 100.0 mm in Trinidad and 50.0 mm to 70.0 mm in Tobago. Overall, **average** temperatures ranging between 27.0 °C and 28.6°C in both islands over the full dekad. The maximum temperature is likely to reach 35.0 °C in Trinidad and 33.1 °C in Tobago. While, the lowest minimum temperatures are likely to reach 22.1 °C in Trinidad and 23.6 °C in Tobago. Opportunities for water harvesting will remain constant during dekad.

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