

Agro-meteorological Bulletin and Assessment for Farmers and Livestock Producers of Trinidad and Tobago for the Third Dekad (21st - 31st) of October, 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 Dekad (11th – 20th) of October 2019.

A relatively dry day on the 12th, relatively wet days occurred on the 11th, 15th, 16th and 17th; while wet days on 13th, 14th, 18th, 19th and 20th October 2019 in both Trinidad and Tobago. These wet days were due to the interactions between Tropical Waves (TW) and/or Inter-Tropical Converge Zone (ITCZ); and later by southeasterly wind flow over the Trinidad and Tobago. The rainfall totals for Trinidad and Tobago as of the 20th October, 2019, can be seen on the rainfall maps below:

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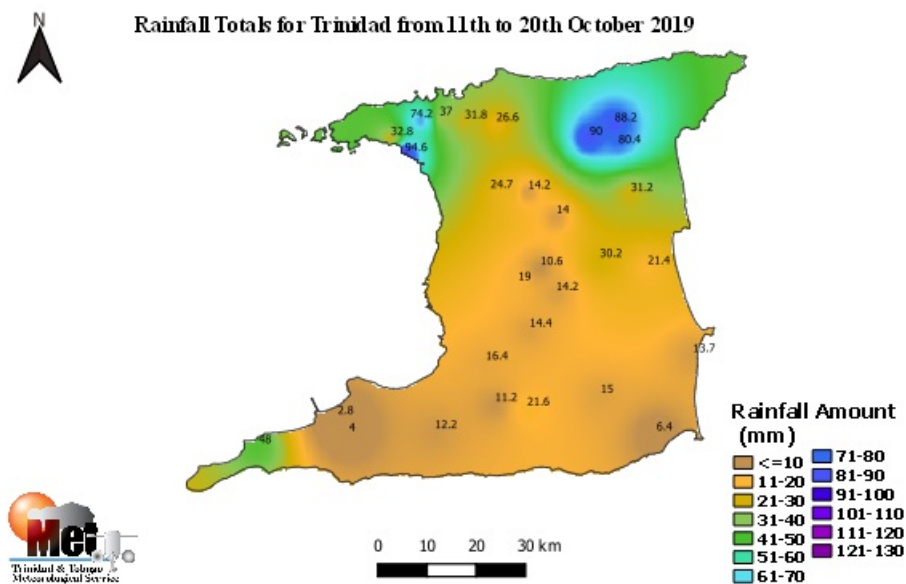


Figure 1. Rainfall map of Trinidad showing measured rainfall totals for varying districts during period 11th to 20th of October 2019.

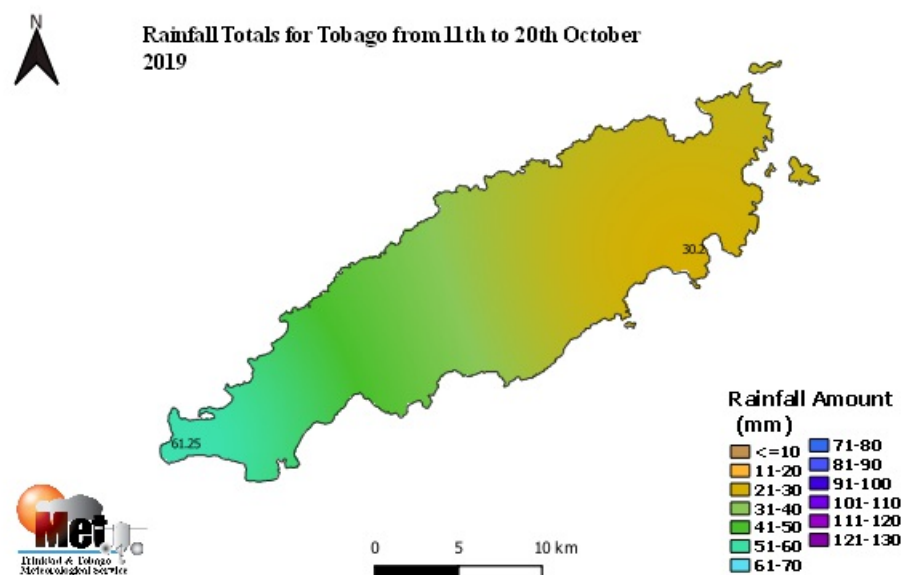


Figure 2. Rainfall map of Tobago showing measured rainfall totals for varying districts during period 11th to 20th

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of October 2019.

Trinidad's temperature was within expected range, maximum temperature went up to 33.2 °C, which was within the expected range of 32.2 °C to 34.3 °C. While Tobago's maximum got up to 32.4 °C, within the range expected of 30.9 °C to 32.8 °C. Similarly, lowest temperatures of 23.0 °C were recorded in Trinidad which was within the expected range of 23.5 °C to 22.6 °C. While Tobago's minimum temperature got down to 24.0 °C and within the expected range of 24.3 °C to 23.6 °C. The average humidity for Trinidad ranged between 75% to 87% while Tobago's average humidity range between 72% to 79%.

Expected Weather for Third Dekad (21st– 31st) of October 2019 and Likely Impact on Agriculture.

The forecast for the third dekad of October indicates that farmers can expect similar conditions as compared to the second dekad of October. Firstly, expect relatively dry days on the 21st, 22nd, 30th and 31st; secondly relatively wet days on days 23rd and 27th; and finally wet days on days 24th, 25th, 26th, 28th and 29th. On relatively dry days expect sparse cloudy patches with one or two light showers of rain, while on relatively wet days, expect cloudy periods, light to moderate rainfall and a high probability of isolated thundershowers along the western coast of both islands, especially over urban areas of Trinidad during the dekad. On wet days, a possible visitation of an active Tropical wave (TW) in conjunction with the Inter Tropical Convergence Zone (ITCZ) will produce widespread cloudy periods with scattered showers and thundershowers over Trinidad and Tobago. The forecasted ten-day period rainfall totals to range between 60.0 mm and 70.0 mm in Trinidad and 70.0 mm in Tobago.

The average daily temperatures across Trinidad and Tobago are likely to range between 26.5 °C and 29.3 °C. Expect the highest maximum temperature over the third dekad to peak near 34.3 °C in **Trinidad**, while the lowest night to early morning minimum temperature could fall below 21.0 °C. While during the third dekad in **Tobago**, the highest maximum temperature will peak near 32.8 °C, while the lowest minimum temperature will fall below 23.6 °C.

For both Trinidad and Tobago, the daytime relative humidity (RH) is likely to range between 62% and 78%. However, during wet days, RH percentage values will range around 79% to 91%. At the same time, expect wind speeds to range between 10 km/h and 20 km/h but can gust to 45 km/h in heavy showers or thundershowers. In addition, expect evaporation rates to range between 5.0 mm/day and 11.0 mm/day.

There is also a moderate (60%) probability of frequent visitation of Saharan dust that will occasionally reduce visibility to less than 11.0 km, particularly during the 21st, 22nd, 30th and 31st.

Impacts on Agriculture:

As a result of the wetter conditions that occurred during the latter part of second dekad of October, the soils have return to a moist state. Vegetation/foilage growth rates will increase once favourable conditions exist. During the third dekad of October, soils moisture will continue to be high, with possible water logged soils. Rivers will replenish their waters from flooding and ground water runoff, while shrubs and grass growth will continue at a steady pace. The expected relatively

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wet-to-wet conditions of the third dekad of October may decrease the need for irrigation during wet days of the dekad. Additionally, with the expected high mean temperatures and high relative humidity, there is a high (70%) probability of some agricultural insects, pests, fungi and diseases get a foot in and possibly develop and thrive.

Sun and Moon positions in the sky:

The sun is presently at latitude of approximately 6.5 degrees' south latitude, and with this position, the day length for this dekad will be 11.7 hours. A moderate probability (62%) of frequent episodes of intense solar radiation will occur during the third dekad of October when the sky is generally cloud free. There is moderate probability (62%) of heat stress on certain variety plant seedlings and young/sick/elderly animals from direct exposure to solar radiation and high temperatures. Additionally, the moon's third quarter moon phase will be on the 21st and new moon phase on the 27th as a result, there will be low moon illumination over crop fields and livestock at night during the dekad.

Trinidad's Mean Daily Rainfall Forecast for the Third Dekad of October (21st–31st) 2019.

Northern & Northwestern areas:

Moderate chance (68%) of mean daily rainfall up to 8.8 mm.

North-Eastern and Eastern areas:

Moderate chance (68%) of mean daily rainfall up to 8.9 mm.

Central, West-Central and inland areas:

Moderate chance (65%) of mean daily rainfall up to 6.0 mm.

South-Eastern areas:

Moderate chance (68%) of mean daily rainfall up to 7.1 mm.

Southern areas:

Moderate chance (65%) of mean daily rainfall up to 6.4 mm.

South-Western areas:

Moderate chance (60%) of mean daily rainfall up to 6.0 mm.

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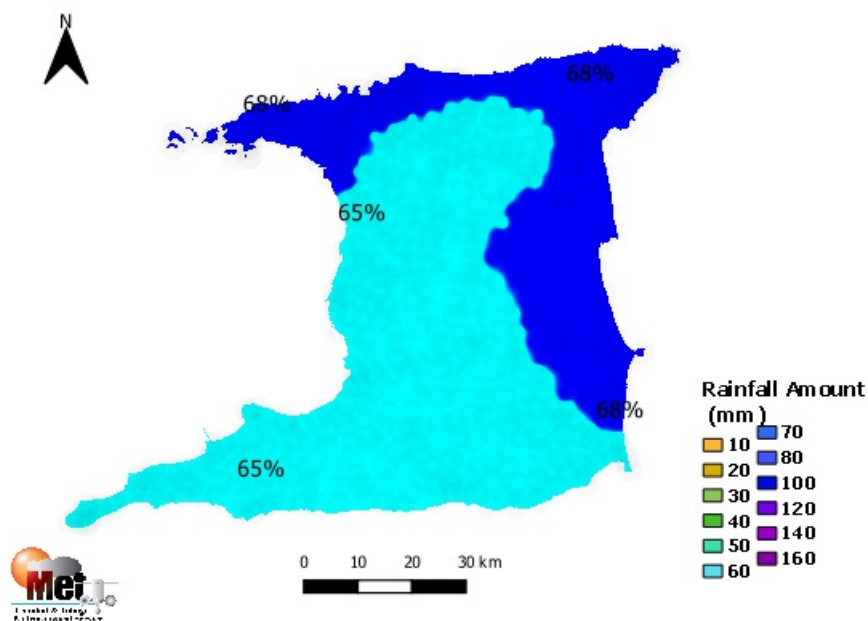


Figure 3. Rainfall map of Trinidad showing possible rainfall totals for varying districts during third dekad of October 2019 and percentage probability of occurrence.

Tobago's Mean Daily Rainfall Forecast for the Third Dekad of October (21st–31st) 2019.

Northeastern areas:

Moderate chance (68%) of mean daily rainfall up to 6.8 mm.

South-Western areas:

Moderate chance (68%) of mean daily rainfall up to 6.8 mm.

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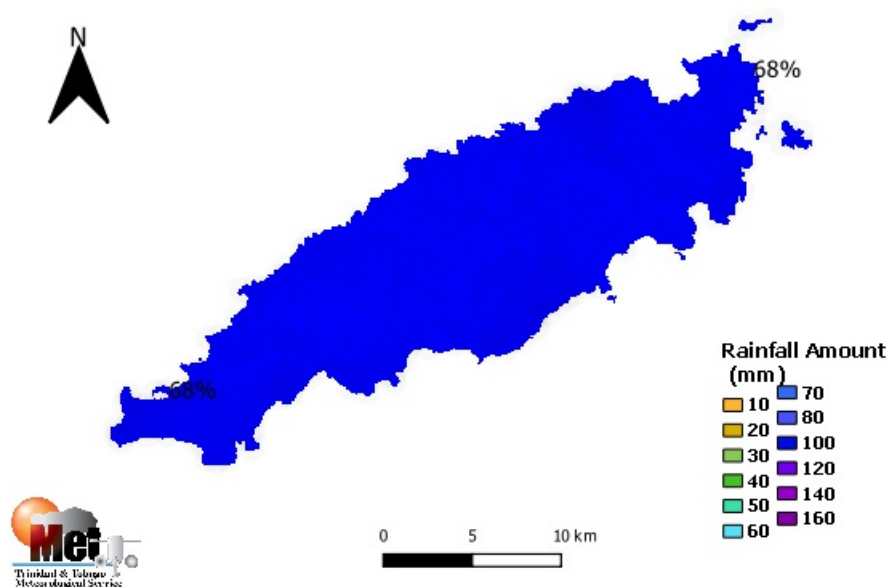


Figure 4. Rainfall map of Tobago showing possible rainfall totals for varying districts during third dekad of October 2019 and percentage probability of occurrence.

Temperatures:

Trinidad's Temperature Forecast for the Third Dekad of October (21st–31st) 2019.

Moderate chance (70%) of daily maximum temperatures to exceed 32.2 °C, peaking near 34.3 °C.

Moderate chance (70%) of daily minimum temperatures to be below 23.5 °C, dropping as low as 21.0 °C.

Tobago's Temperature Forecast for the Third Dekad of October (21st–31st) 2019.

Moderate chance (70%) of daily maximum temperatures to exceed 30.9 °C, peaking near 32.8 °C.

Moderate chance (70%) of daily minimum temperatures to be below 24.3 °C, dropping as low as 23.6 °C.

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Summary

Expected Weather for Third Dekad (21st– 31st) of October 2019 and Likely Impact on Agriculture. The forecast for the third dekad of October indicates that farmers can expect similar conditions as compared to the second dekad of October. Firstly, expect relatively dry days on the 21st, 22nd, 30th and 31st; secondly relatively wet days on days 23rd and 27th; and finally wet days on days 24th, 25th, 26th, 28th and 29th. On relatively dry days expect sparse cloudy patches with one or two light showers of rain, while on relatively wet days, expect cloudy periods, light to moderate rainfall and a high probability of isolated thundershowers along the western coast of both islands, especially over urban areas of Trinidad during the dekad. On wet days, a possible visitation of an active Tropical wave (TW) in conjunction with the Inter Tropical Convergence Zone (ITCZ) will produce widespread cloudy periods with scattered showers and thundershowers over Trinidad and Tobago. The forecasted ten-day period rainfall totals to range between 60.0 mm and 70.0 mm in Trinidad and 70.0 mm in Tobago.

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