

Agro-meteorological Bulletin and Assessment for Farmers and Livestock Producers of Trinidad and Tobago for the First Dekad (1st - 10th) 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 Third Dekad (21st-28th) of September 2019.

Wet days occurred on the 21st, 22nd and 23rd September in Trinidad and Tobago. This was due to the passage of tropical storm Karen in the proximity of Tobago. Relative dry to relatively wet days occurred during the rest of the dekad in Trinidad and Tobago. During relatively dry days, hot temperatures of above 33.8 °C had experienced in Trinidad and above 33.0 °C in Tobago. Additionally, high humidity and light winds added to the discomfort mostly over urban areas of both islands.

Heavy rainfall fell mostly in central, northern and northwestern parts of Trinidad, while Tobago experienced heavy rainfall throughout. Reports of flooding came in from Chaguanas, Charlieville, Penal, St Joseph, Bamboo, Port of Spain and Diego Martin. As of the 28th of September, preliminary rainfall totals are as follows: northeastern areas such as Piarco (84.0 mm),

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North Oropouche (53.0 mm), Cumaca (79.4 mm), Hollis (90.6 mm) and Sangre Grande (54.4 mm) had rainfall mostly above the forecasted range 70.0 mm to 100.0 mm. Similarly, Northwestern areas such St. Barbara (111.8 mm), St Anns (123.5 mm), Moka (101.8 mm) and Diego Martin (72.4 mm) had rainfall above the forecasted 70.0 mm to 100.0 mm range. While central areas had rainfall totals as follows: Flanagin Town (83.2 mm), Tamana (55.0 mm) and Plum Mitán (31.2 mm) and Navet (67.0 mm) had rainfall mostly below the forecasted 70.0 mm to 100.0 mm range. Similarly, southwestern, southern and southeastern areas had the following rainfall amounts: Granville (58.6 mm), Barrackpore (43.4 mm), Penal (17.4 mm), Cats Hill (20.2 mm) and Guayaguayare (76.8 mm) had rainfall mostly below the forecasted 70.0 mm to 100.0 mm range. Tobago experienced high rainfall amounts; western areas such as Crown Point had rainfall totals of 142.0 mm and very much above the forecasted 70.0 mm to 100.0 mm range.

Trinidad's temperature was 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 33.3 °C, within the range expected of 31.8 °C to 33.4 °C. Similarly, lowest temperatures of 23.0 °C were recorded in Trinidad which was within the expected range of 24.0 °C to 22.9 °C. Likewise Tobago's minimum temperature surprisingly got down to 24.3 °C and within the expected range of 25.0 °C to 22.9 °C. The average humidity for Trinidad ranged between 72% to 90% while Tobago's average humidity range between 73% to 88%.

Expected Weather for First Dekad (1st – 10th) of October 2019 and Likely Impact on Agriculture.

The forecast for the first dekad of October indicates that farmers can expect similar conditions as compared to the third dekad of September. Expect relatively wet days on days 1st, 2nd, 5th, 6th and wet days on days 3rd, 4th, 7th, 8th, 9th, 10th. On relatively wet days, there is 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 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 100.0 mm and 120.0 mm in Trinidad and 120.0 mm Tobago.

The average daily temperatures across Trinidad and Tobago are likely to range between 27.4 °C and 29.2 °C. Expect the highest maximum temperature over the first dekad to peak near 34.5 °C in **Trinidad**, while the lowest night to early morning minimum temperature could fall below 23.0 °C. While during the first dekad in **Tobago**, the highest maximum temperature will peak near 33.5 °C, while the lowest minimum temperature will be fall below 23.5 °C.

For both Trinidad and Tobago, the daytime relative humidity (RH) is likely to range between 68% and 76%. However, during relatively wet and wet days, RH percentage values will range around 77% to 93%. At the same time, expect wind speeds to range between 16 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 2.0 mm/day and 8.0 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 1st, 2nd, 5th, 6th.

Impacts on Agriculture:

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As a result of the mixed conditions that occurred during the third dekad of September, the soils are damper and some cases waterlogged. Vegetation/foilage growth rates will decrease in waterlogged soils. During the first 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 wet-to-wet conditions of the first dekad of October may decrease the need for irrigation during 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 2.0 degrees' south latitude, and with this position, the day length for this dekad will be 11.8 hours. A moderate probability (68%) of frequent episodes of intense solar radiation will occur during the first dekad of October when the sky is generally cloud free. There is moderate probability (68%) 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 first quarter phase will be on the 5th followed and as a result, there will be mostly low moon illumination over crop fields and livestock at night during the dekad.

Trinidad's Mean Daily Rainfall Forecast for the First Dekad of October (1st–10th) 2019.

Northern & Northwestern areas:

Moderate chance (68%) of mean daily rainfall up to 11.0 mm.

North-Eastern and Eastern areas:

Moderate chance (68%) of mean daily rainfall up to 11.0 mm.

Central, West-Central and inland areas:

Moderate chance (65%) of mean daily rainfall up to 10.0 mm.

South-Eastern areas:

Moderate chance (67%) of mean daily rainfall up to 10.0 mm.

Southern areas:

Moderate chance (65%) of mean daily rainfall up to 10.0 mm.

South-Western areas:

Moderate chance (65%) of mean daily rainfall up to 10.0 mm.

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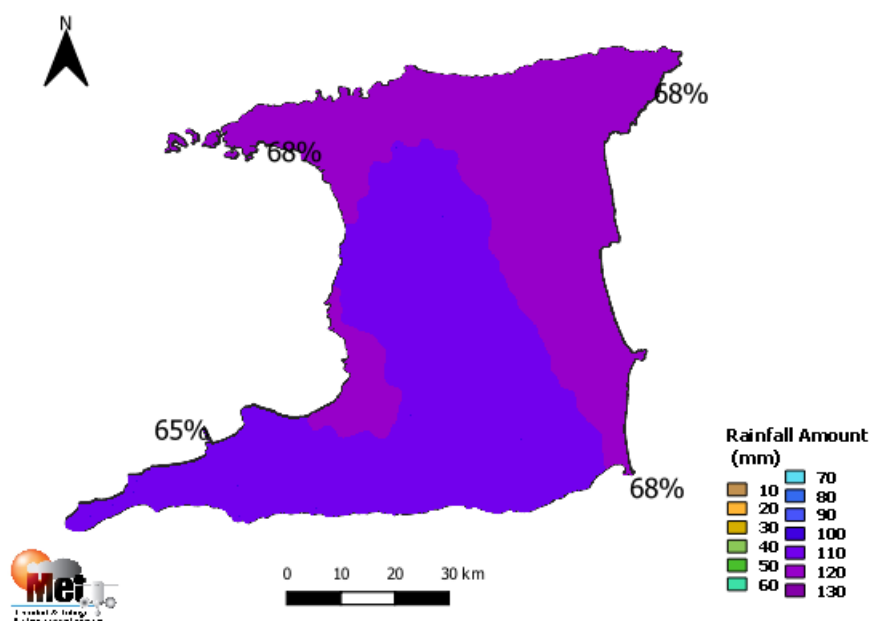


Figure 1. Rainfall Map of Trinidad showing possible rainfall totals for varying districts during first dekad of October 2019 and percentage probability of occurrence.

Tobago's Mean Daily Rainfall Forecast for the First Dekad of October (1st–10th) 2019.

Northeastern areas:

Moderate chance (66%) of mean daily rainfall up to 12.0 mm.

South-Western areas:

Moderate chance (65%) of mean daily rainfall up to 12.0 mm.

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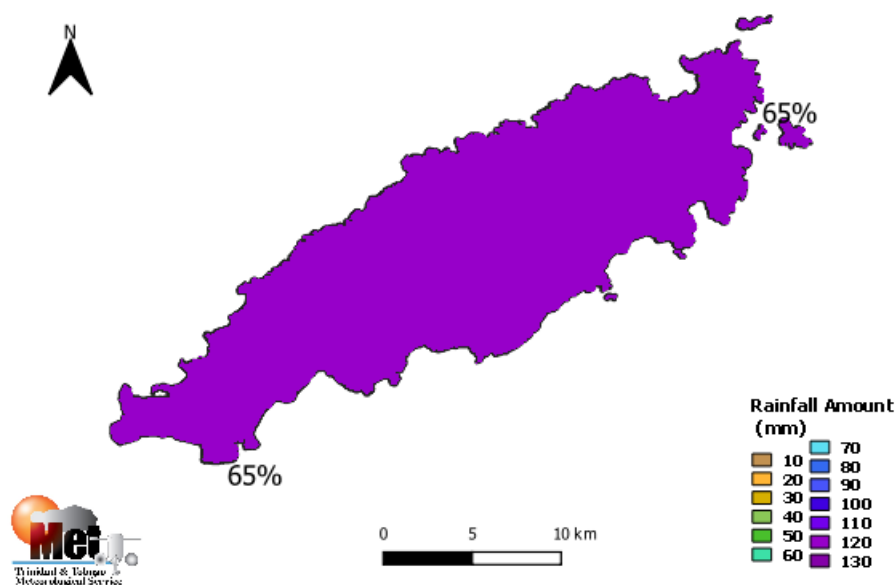


Figure 2. Rainfall Map of Tobago showing possible rainfall totals for varying districts during first dekad of October 2019 and percentage probability of occurrence.

Temperatures:

Trinidad's Temperature Forecast for the First Dekad of October (1st–10th) 2019.

Moderate chance (70%) of daily maximum temperatures to exceed 33.7 °C, peaking near 34.5 °C.

Moderate chance (70%) of daily minimum temperatures to be below 23.9 °C, dropping as low as 23.0 °C.

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Summary:

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