

Agro-meteorological Bulletin and Assessment for Farmers and Livestock Producers of Trinidad and Tobago for the First Dekad (1st - 10th) of September, 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– 31st) of August, 2019.

Alternating relatively dry and relative wet days dominated Trinidad and Tobago during the dekad, where both islands experienced patchy cloudy to cloudy conditions at times with mostly light to moderate rainfall. Specifically, on day 21st, a localized weather phenomena occurred on the Northwest coast of Trinidad, producing moderate to heavy showers over Port of Spain and environs resulting in flash floods. The preliminary rainfall totals are as follows: northeastern areas such as Piarco (16.6 mm), North Oropouche (54.4 mm), Cumana (60.2 mm), Hollis (99.6 mm), Sangre Grande (58.4 mm) had rainfall mostly within the forecasted 50.0 mm to 70.0 mm range. Northwestern areas such St. Barbara (77.0 mm), St Anns (37.8 mm), Moka (41.0 mm) and Diego Martin (20.8 mm) had rainfall mostly below the forecasted 50.0 mm. Central areas had rainfall totals as follows: Flanagin Town (18.4 mm), Tamana (36.8 mm) and Plum Mitán (29.6 mm) and Navet (12.8 mm) had

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rainfall mostly below the forecasted 50.0 mm to 70.0 mm range. Southwestern, southern and southeastern areas had the following rainfall amounts: Granville (13.0 mm), Barrackpore (60.6 mm), Penal (5.8 mm), Cats Hill (25.0 mm) and Guayaguayare (2.2 mm) had rainfall mostly below the forecasted 50.0 mm to 70.0 mm range. Tobago experienced low rainfall amounts; western areas such as Crown Point had rainfall totals of 2.4 mm and below the forecasted 40.0 mm to 60.0 mm range.

Trinidad's temperature was generally within expected range, maximum temperature went up to 33.5 °C, which was within the expected range of 32.7 °C to 34.1 °C. At the same time Tobago's maximum got up to 33.5 °C, above the range expected of 30.9 °C to 33.1 °C. Similarly, lowest temperatures of 23.6 °C were recorded in Trinidad and 25.3 °C in Tobago. In Trinidad's case, the minimum temperature was within the expected range of 23.6 °C to 22.6 °C. While the minimum temperature was above the range of 24.7 °C to 23.1 °C for Tobago. The average humidity for both islands ranged between 74% to 81%. Since a mixture of alternating relatively dry to relative wet conditions occurred during the dekad, frequent irrigation may have been necessary.

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

The forecast for the first dekad of September indicates that farmers can expect similar conditions as compared to the third dekad of August. Relatively wet days are expected on the 1st, 2nd, 3rd, 4th and 5th and particularly on the 3rd and 4th with light to moderate rainfall or possible thundershowers along the coasts of western and northwestern Trinidad. During the remainder of the first dekad expect mostly relatively dry days. The ten-day period rainfall totals are forecasted to range between 35.0 mm and 70.0 mm in Trinidad and 35.00 mm to 50.0 mm in Tobago.

The average daily temperatures across Trinidad and Tobago are likely to range between 28.5 °C and 29.5 °C. Expect the highest maximum temperature over the first dekad to peak near 34.9 °C in **Trinidad**, while the lowest night to early morning minimum temperature could fall below 23.0 °C. Especially along the foothills and valleys during relatively cloud-free nights. Likewise, 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 24.0 °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 92%. 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 heavy showers or thundershowers. In addition, evaporation rates are expected to range between 5.0 mm/day and 11.0 mm/day.

There is also a moderate (68%) probability of frequent visitation of Saharan dust that will occasionally reduce visibility to less than 11.0 km, particularly during days: 6th, 7th, 8th, 9th and 10th.

Impacts on Agriculture:

As a result of the past dry conditions that occurred during the third dekad of August, the soils are a bit drier and vegetation/foilage growth rates have decrease. During the first dekad of September, soils will continue to dry out to some extent, reducing soil moisture content, which will hinder vegetative growth. Rivers will slowly replenish their waters from soil runoff, while shrub and grass growth will continue at a much slower pace. The mixed conditions of relatively wet and

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relatively dry days of the first dekad of September, may increase the need for frequent irrigation.

Sun and Moon positions in the sky:

The sun is presently at latitude of approximately 9 degrees' north latitude, and with this position, the day length for this dekad will be 12.1 hours. A high probability (75%) of frequent episodes of intense solar radiation will occur during the first dekad of September when the sky is generally cloud free. There is moderate probability (70%) 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 will be on the 5th 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 September (1st–10th) 2019.

Northern & Northwestern areas:

Moderate chance (60%) of mean daily rainfall up to 3.5 mm.

North-Eastern and Eastern areas:

Moderate chance (68%) of mean daily rainfall up to 9.3 mm.

Central, West-Central and inland areas:

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

South-Eastern areas:

Moderate chance (68%) of mean daily rainfall up to 5.2 mm.

Southern areas:

Moderate chance (68%) of mean daily rainfall up to 4.0 mm.

South-Western areas:

Moderate chance (60%) of mean daily rainfall up to 3.5 mm.

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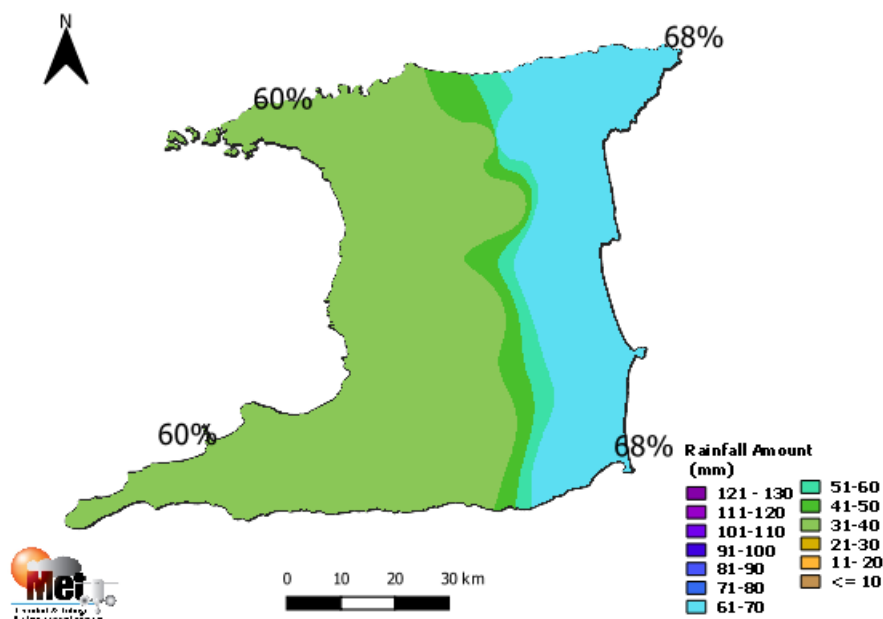


Figure 1. Rainfall Map of Trinidad showing possible rainfall totals for varying districts during first dekad of September 2019 and percentage probability of occurrence.

Tobago's Mean Daily Rainfall Forecast for the first Dekad of September (1st-10th) 2019.

Northeastern areas:

Moderate chance (68%) of mean daily rainfall up to 5.0 mm.

South-Western areas:

Moderate chance (60%) of mean daily rainfall up to 4.2 mm.

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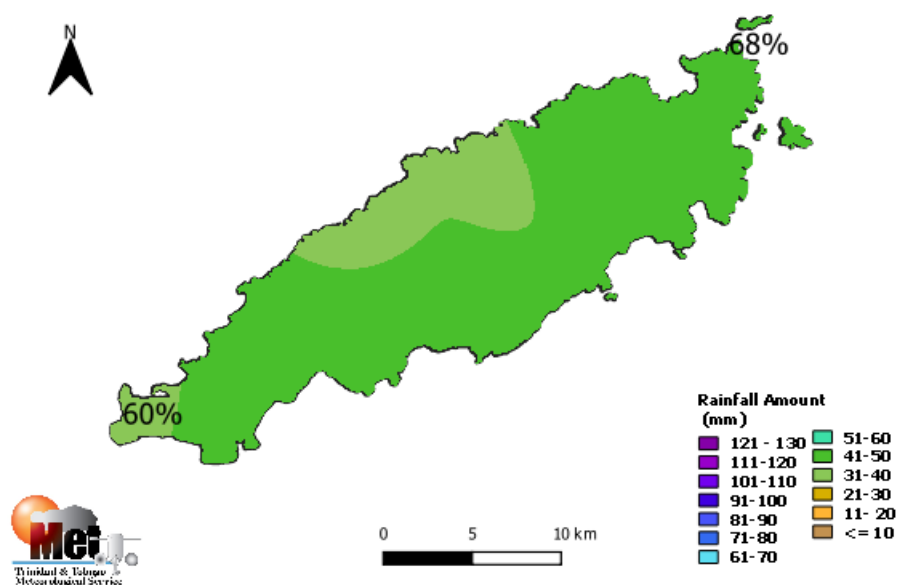


Figure 2. Rainfall Map of Tobago showing possible rainfall totals for varying districts during first dekad of September 2019 and percentage probability of occurrence.

Temperatures:

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

Moderate chance (70%) of daily maximum temperatures to exceed 32.5 °C, peaking near 34.9 °C.

Moderate chance (70%) of daily minimum temperatures to be below 24.0 °C, dropping as low as 23.0 °C.

Tobago's Temperature Forecast for the First Dekad of September (1st-10th) 2019.

Moderate chance (70%) of daily maximum temperatures to exceed 31.8 °C, peaking near 33.4 °C.

Moderate chance (70%) of daily minimum temperatures to be below 25.5 °C, dropping as low as 24.0 °C.

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Summary:

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