

Agro-meteorological Bulletin and Assessment for Farmers and Livestock Producers of Trinidad and Tobago for the Second Dekad (11th - 20th) of August 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 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 Ten Days of August 2019

In Trinidad, mostly wet conditions dominated the first ten days of August with measurable rainfall recorded on each day at Piarcó and based on observation this was similar elsewhere. Rainfall when it occurred was widespread and particularly high, being in excess of 10.0mm on four days. The four wettest days at Piarcó were 2nd, 4th, 5th, 7th which produced 63.3 mm, 40.0 mm, 10.9 mm and 16.0 mm respectively. The heavy rainfall resulted in flooding in areas such as Arima, Tunapuna, Siparia and parts of Chaguanas. Preliminary ten-day rainfall total at Piarcó amounted to 136.7 mm but this would have been higher in other districts, particularly in northeastern Trinidad.

Tobago on the other hand was much less wet but still received significant and beneficial rainfall for agriculture. Over the first ten days the island received measureable rainfall on most days with the

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three wettest days occurring on the 7th when 25.9 mm was recorded, followed by the 2nd with 7.0 mm and the 1st with 5.5mm. The preliminary 10-day rainfall total recorded at Crown Point was close to 40.0 mm but this would have been larger in the northern areas of the island.

The wet conditions did not dampen temperatures as daily maximum temperatures still climbed above 32.0°C on at least four days in Trinidad to peak at 33.3°C at Piarco during the period. In Tobago, maximum temperatures climbed above 31.0°C on almost all of the days to peak at 33.0°C at Crown Point. At the same time, nights remained much cooler at Piarco with minimum temperatures dipping below 24.5°C on seven of the ten nights while averaging 24.4°C. At Crown Point warmer nights persisted as minimum temperatures remained above 24.0°C on each night with minimum night temperatures remaining above 26.0°C on a few nights in Tobago.

While conditions in Tobago were ideal and mostly beneficial for agriculture, farmlands in Trinidad would have been negatively affected by saturated soil in some locations, which is not the ideal condition for crop growth. The saturated ground condition would have reduced the soil oxygen, and increased the loss of nitrogen and other important nutrients, while at the same time increasing the potential for crop disease infections. Together, these have the potential to affect crop yields negatively, later on. On the plus side, irrigation needs would have been reduced while stream flows and water levels would have increased, and some pests and diseases may have been washed away. Farmers should still be watchful for outbreaks of agricultural pests, diseases and fungi in the coming ten days due to the hot conditions following the recent wet and moist conditions.

Expected Weather for the Second Dekad (11th - 20th) of August 2019 and Likely Impact on Agriculture.

The weather forecast for agriculture during the second ten days of August 2019 calls for similar rainfall amounts as occurred during the first ten days in Trinidad, while Tobago can expect increased rainfall totals. The first five days are expected to produce most of the rainfall over the ten days but rainfall amounts will gradually increase over the five days to produce the highest amount on the 14th and 15th. The 11th and 12th are expected to be slightly wet with spotty rainfall producing daily totals up to 5.0 mm. Wet conditions are expected to continue on the 13th with occasional morning to afternoon showers producing daily totals up to 4.0mm. The 14th and 15th are expected to be particularly wet, with daily totals between 5.0 mm and 20.0 mm. The 16th is expected to be one of the drier days before wet conditions return on the 17th and the 18th. Farmers should expect mostly dry conditions on the 19th and the 20th.

There is a 72% chance for ten-day rainfall totals to reach and exceed 60.0 mm most areas. Farmers should expect the highest rainfall totals (near 90.0 mm) to occur in the vicinity of Valencia, Sangre Grande, Plum Mitán and Fishing Pond areas of Trinidad and near Mason Hall, Goodwood and Mount Saint George areas of Tobago. Maximum temperatures are likely to peak near 33.5°C in Trinidad and average close to 32.5°C over the ten-day period. Across in Tobago, maximum

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temperatures are expected to peak around 33.0°C and average near 32.0°C. The actual real-feel or feels-like temperatures (heat-index) are expected to get as high as 37.0°C in Trinidad and 36.0°C in Tobago. Nighttime minimum temperatures are expected to remain above 24.0 °C in Trinidad and above 25.0 °C in Tobago on most nights. Wind speeds are expected to remain light to moderate (up to 6 meters per second) at 2.0 meters from the surface, but can get particularly strong (in excess of 10 meters per second) during moderate to heavy rainfall events.

Together, these conditions along with already very moist soils will be good for all stages of crop growth and development and are expected to continue being favourable for agriculture as the wet season progresses. However, the mixture of warm and moist conditions also encourages rapid multiplication of some agricultural pests, viral diseases and fungi. In the heaviest showers, water ponding can occur in low-lying crop fields and this can lead to localized flooding. Soggy and flooded crop fields often lead to loss in soil oxygen and nitrogen, which can have an overall negative effect on crop yields.

At the same time, the hotter days with high feels-like (real-feel) temperatures can negatively affect some livestock in their sensitive stage of reproduction. Similarly, the high temperatures could have an effect on production in some livestock, if insufficient actions are not taken to reduce exposure to the excessive heat. Farmers are encouraged to pay attention to the daily forecasts to reduce the impacts of potential flooding effects on mature crops.

Trinidad Mean Daily Rainfall Forecast for the Second Ten Days of August (11th - 20th) 2019

Eastern & Northeastern areas

High chance (72 %) of mean daily rainfall up to 9.0 mm.

Northern & Northwestern areas

High chance (72 %) of mean daily rainfall up to 8.0 mm.

Southeastern & Southern areas

High chance (72 %) of mean daily rainfall up to 8.0 mm.

Southwestern areas

High chance (72 %) of mean daily rainfall up to 7.0 mm.

Central & West-Central areas

High chance (72 %) of mean daily rainfall up to 8.0 mm.

Tobago Mean Daily Rainfall Forecast for the Second Ten Days of August (11th – 20th) 2019

Northeastern areas

High chance (72 %) of mean daily rainfall up to 7.0 mm.

Southwestern areas

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High chance (72 %) of mean daily rainfall up to 6.0 mm.

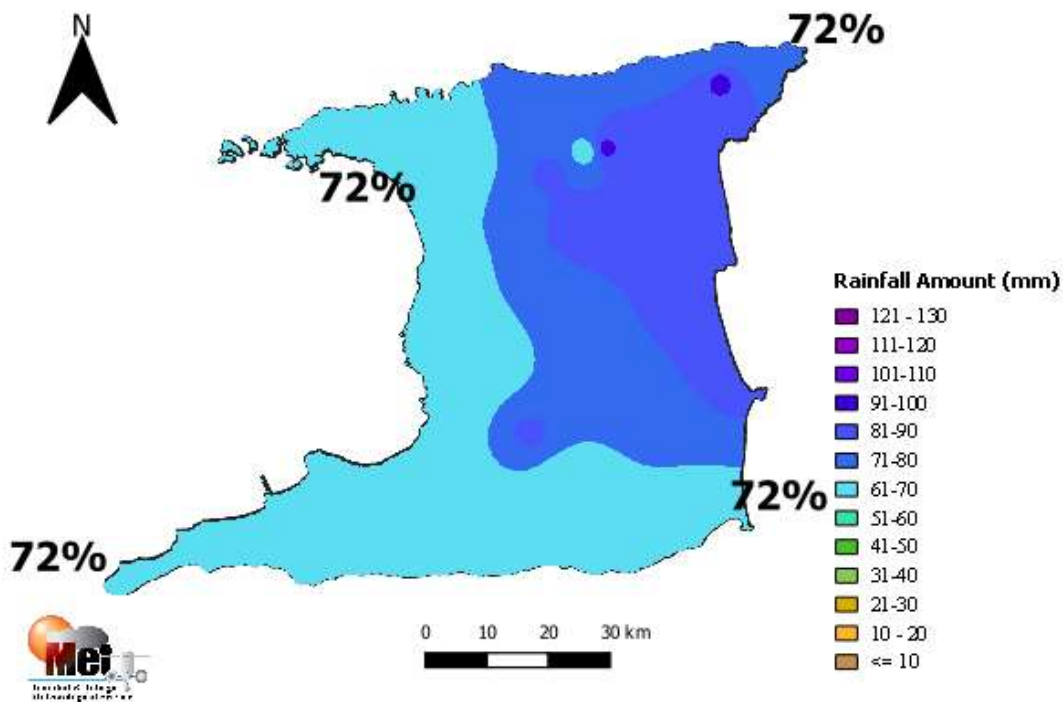


Figure 1. Rainfall Map of Trinidad showing expected rainfall totals for varying districts during the second ten days of August 2019 and percentage probability of occurrence.

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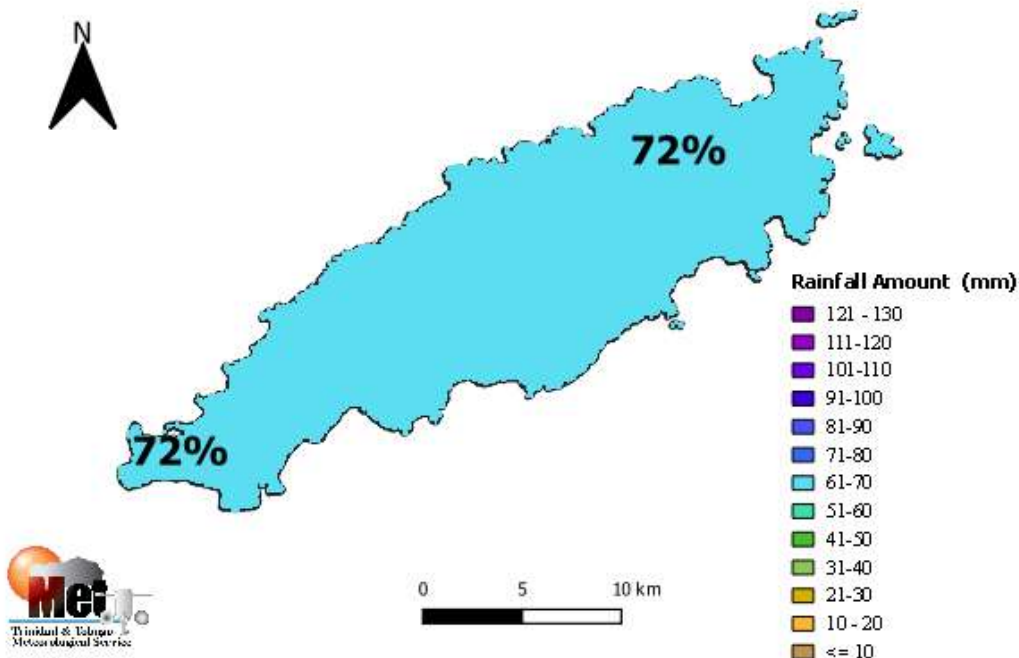


Figure 2. Rainfall Map of Tobago showing expected rainfall totals for varying districts during the second ten days of August 2019 and percentage probability of occurrence

Temperatures

Trinidad Temperature Forecast for the Second Ten Days of August (11th – 20th) 2019

High chance (85% chance) for daily maximum temperatures to exceed 32.5°C and peak near 33.5 °C.

High chance (85% chance) for minimum nighttime temperatures to remain above 24.0 °C.

Tobago Temperature Forecast for the Second Ten Days of August (11th – 20th) 2019

High chance (80 % chance) for daily maximum temperatures to exceed 32.0 °C and peak near 33.0°C.

High chance (80 % chance) for minimum nighttime temperatures to remain above 25.0 °C.

Summary:

The forecast for the second ten days of August (11th – 20th) 2019 favours mixed conditions alternating between dry and wet days with very hot temperatures, especially on dry days. There is a very good chance for beneficial rainfall for agriculture on most days with the first five days of the period likely to produce most of the rainfall over the period. Ten-day rainfall totals have a 72% chance of exceeding 60.0 mm in most areas with wettest areas likely to be in north and eastern areas of Trinidad

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and northeast Tobago where totals can range between 70-90 mm. These conditions are likely to be accompanied by maximum temperatures that are set to peak near 33.5⁰C in Trinidad and near 33.0⁰C in Tobago. Farmers should watch out for rapid development of certain pests and diseases due to the mixture of wet and humid conditions.

Preliminary Rainfall and Temperature Outlook for Third Ten Days of August 2019

Preliminary indications suggest a very wet first half for the last ten days of August 2019 accompanied by warm temperatures.

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