

Agro-meteorological Bulletin and Assessment for Farmers and Livestock Producers of Trinidad and Tobago for the First Dekad (1st -10th) of January, 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 Third Dekad (21st – 31st) of December, 2017.

The first half of the dekad turned out to be particularly dry in both Trinidad and Tobago, followed by very wet conditions during the second half of the dekad. Most areas experienced above the amount of rainfall forecasted in the ten-day period. The ten-day rainfall total recorded at Piarco Trinidad, amount was 159.8 mm. Some central districts, came close to having similar amounts of rainfall as Piarco. These were Longdenville, Carapichiamia, Couva, Preysal and Brasso Vernado. Also, similar amounts as Piarco, were recorded in some southern districts such as San Fernando, Golconda, Penal, and Siparia. In addition, Northwestern districts of West Moorings, Port of Spain and Carenage had lesser amounts, closer to 80.0 mm of rainfall. On the other hand, El Reposo and other northeastern

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districts had rainfall amounts around 175.0 mm, which was significantly above the forecasted amounts of 40.0 mm over the ten-day period.

Similarly, Tobago had considerably more than expected rainfall amounts. ANR Robinson airport had rainfall amount of 121.6 mm. Neighboring districts' such as Bethel, Mount Pleasant and Buccoo and environs experienced similar rainfall amounts as well.

Temperatures continue to be cooler in Trinidad and Tobago. Trinidad's maximum temperature went up to 31.0 °C. At the same time Tobago's maximum got up to 31.7 °C. Conversely, lowest temperatures recorded were 21.2 °C in Trinidad and 23.1 °C in Tobago. The average humidity for both islands remained in the low-seventies and mid-sixties but were in the high nineties during rainfall events.

The observed initial conditions would have been ideal for agriculture over the first two days second half of the dekad, since the expected rainfall was in agreement with what was observed. But as the day's progressed, moderate to heavy rainfall and some cases very heavy rainfall amounts fell over long periods, for both Trinidad and Tobago. This resulted in saturated soils, riverine and street flooding over most areas. In Trinidad, unofficial reports of flooded areas were in Manzanilla, Mayaro, Caroni and Barrackpore. In Tobago, unofficial reports of flooded areas were Friendfield, Turtle beach, Carnbee and Scarborough.

Expected Weather for Third Dekad (1st-10th) of January, 2018 and Likely Impact on Agriculture.

The forecast for the first dekad of January indicates that farmers can expect lesser amounts of rainfall as compared to the last dekad. Farmers can expect relatively dry weather during days 2nd, 3rd, 4th, and 5th of the dekad. Increasing rainfall occurrences from day 6th till day 9th, followed by decrease rainfall occurrence on day 10th. The ten-day period totals are forecasted to range between 20.0 mm and 50.0 mm, with a moderate chance of northeastern and eastern districts of Trinidad such as El Reposo and Brasso Vernado will receive slightly more than 50.0 mm of rainfall. However, northwestern, western and southwestern areas of Trinidad such as Carenage, Carapichama and Chatham will receive slightly less than 20.0mm of rainfall.

Eastern areas of Tobago such as Speyside, Roxborough and environs may experience slightly more rainfall than 35.0 mm. While the leeward side of Tobago, preferably, along the main ridge such as Mount Moriah and Arnos Vale and Les Coteaux will receive slightly less than 25.0 mm of rainfall.

The average daily temperatures across Trinidad and Tobago are likely to range between 25.0 °C and 27.4 °C. Expect the highest maximum temperature over the dekad to peak near 31.6 °C in Trinidad while the lowest night to early morning minimum temperature could dip below 20.6 °C in Trinidad. Especially along the foothills and valleys during relatively cloud free nights. During the dekad, in

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Tobago, the highest maximum temperature will peak near 30.7 °C, while the lowest minimum temperature will be dip below 23.1 °C, mostly during relatively cloud free nights.

For both Trinidad and Tobago, the day time relative humidity (RH) is likely to range between 60% to 69%, but during wetter days, RH percentage values will range around 70% to 88%. At the same time, winds speeds are expected to be mostly moderate at 16-28km/h or 4-8m/s. Also, evaporation rates are expected to be in the range from 2.0 mm/day to 7.0 mm/day but can be slightly more during warmer and windier periods. However, slightly less during wetter and still periods.

The anticipated mixed conditions over the dekad and the present saturated soils will likely decrease the need for irrigation during the first half of the dekad. Warm conditions, following episodes of rainfall, will be favourable for agricultural insect pests, fungi and diseases to develop and thrive. Moreover, the expected day times wind speeds, could hamper some types of fertilizer application.

Trinidad's Mean Daily Rainfall Forecast for the First Dekad of January (1st-10th) 2018.

Northern & Northwestern areas:

Moderate chance (64%) of mean daily rainfall up to 3.3 mm.

North-Eastern and Eastern areas:

Moderate chance (66%) of mean daily rainfall up to 5.0 mm.

Central, West-Central and inland areas:

Moderate chance (63%) of mean daily rainfall up to 2.8 mm.

South-Eastern areas:

Moderate chance (68%) of mean daily rainfall up to 4.9 mm.

Southern areas:

Moderate chance (65%) of mean daily rainfall up to 3.6 mm.

South-Western areas:

Moderate chance (61%) of mean daily rainfall up to 2.4 mm.

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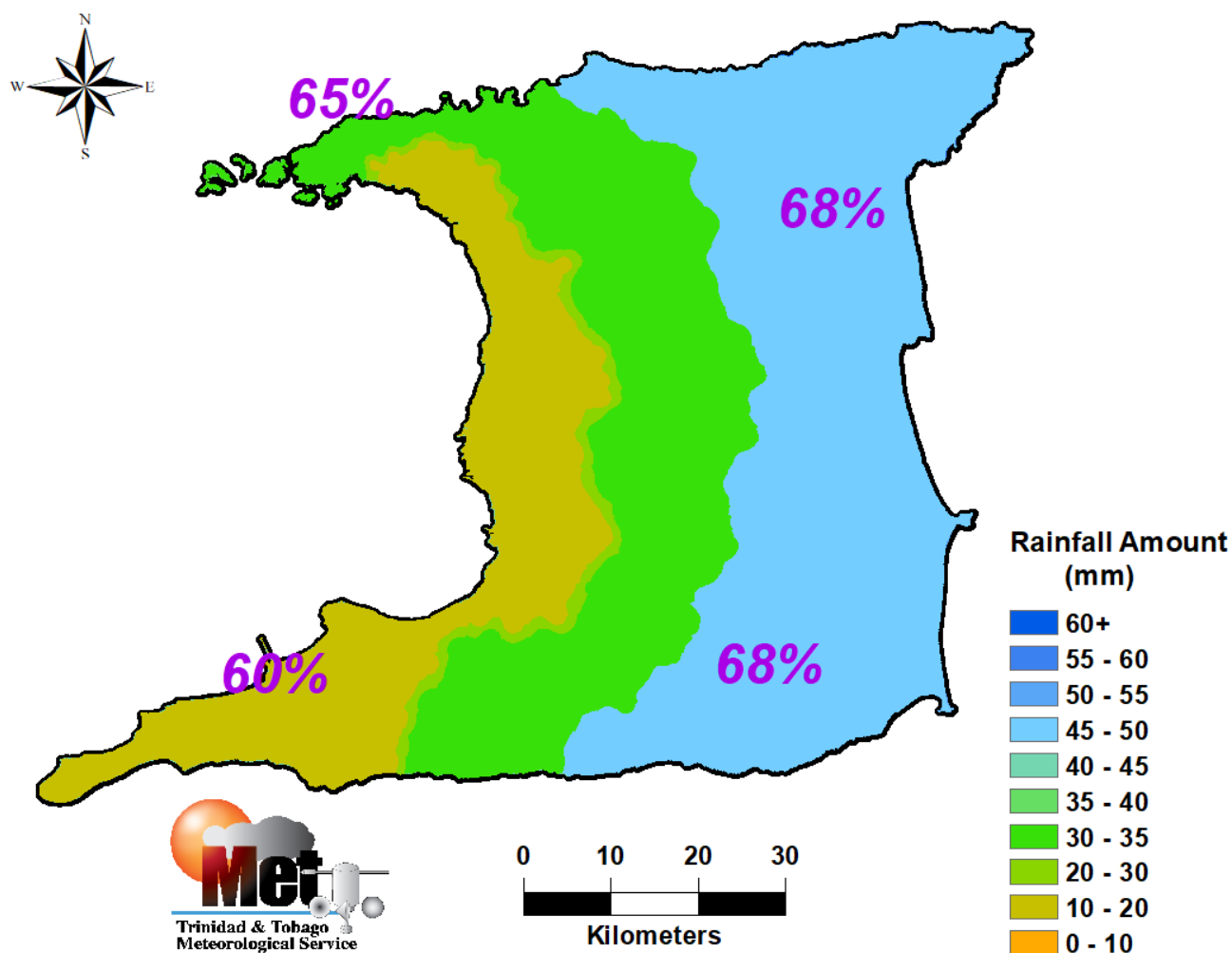


Figure 1. Rainfall Map of Trinidad showing possible rainfall totals for varying districts during First dekad of January, 2018 and percentage probability of occurrence.

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Tobago's Mean Daily Rainfall Forecast for the First Dekad of January (1st-10th) 2018.

Northeastern areas:

Moderate chance (67%) of mean daily rainfall up to 3.3 mm.

South-Western areas:

Moderate chance (66%) of mean daily rainfall up to 2.8 mm.

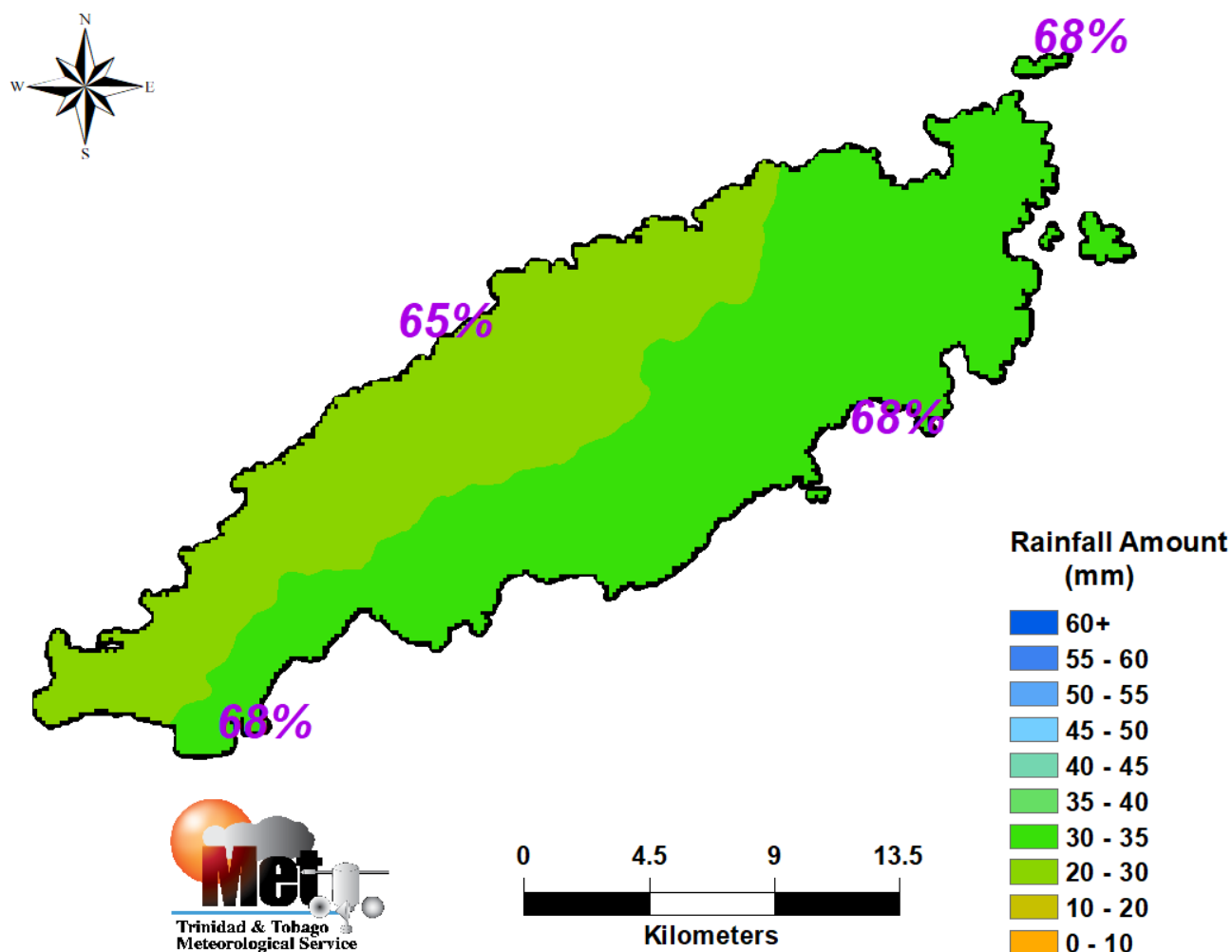


Figure 2. Rainfall Map of Tobago showing possible rainfall totals for varying districts during First dekad of January, 2018 and percentage probability of occurrence.

Temperatures:

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Trinidad's Temperature Forecast for the First Dekad of January (1st-10th) 2018.

Moderate chance (70%) of daily maximum temperatures to exceed 30.7 °C, peaking near 31.6 °C.

Moderate chance (70%) of daily minimum temperatures to be below 22.1 °C, dropping as low as 20.6 °C.

Tobago's Temperature Forecast for the First Dekad of January (1st-10th) 2018.

Moderate chance (70%) of daily maximum temperatures to exceed 29.9 °C, peaking near 30.7 °C.

Moderate chance (70%) of daily minimum temperatures to be below 23.1 °C, dropping as low as 22.0 °C.

Summary:

The outlook for the first dekad of January calls for mostly drier weather during first half of dekad with exception of New Year's day. Mostly patchy cloudiness with one or two episodes of rainfall are expected to occur. After which, successive days with increasing rainfall events, with pronounced wet weather from days 6th until the 9th. A return to drier conditions on day 10th of the dekad. Overall, temperatures are expected to be cooler with average temperatures ranging between 25.0 °C and 27.4 °C in both islands. The highest maximum temperatures are likely to reach 31.6 °C in Trinidad and 30.7 °C in Tobago. While, the lowest minimum temperatures are likely reach 20.6 °C in Trinidad and 22.0 °C in Tobago. As the season transitions to drier conditions, opportunities for water harvesting are likely to become less, hence any opportunities to harvest and store rainwater should be undertaken, while irrigation processes continue.

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