

Agro-meteorological Bulletin and Assessment for Farmers and Livestock Producers of Trinidad and Tobago for the Second Dekad (11th-20th) of October, 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 First Dekad (1st – 10th) of October, 2018.

Mostly relatively dry to relative wet conditions dominated Trinidad and Tobago during the dekad, where both islands experienced some patchy cloudy to cloudy conditions at times with mostly light to moderate rainfall over few areas; On days 3rd, 6th, 7th and 9th the rainfall events were due to direct influence of Tropical Wave (TW) and/or Inter Tropical Convergence Zone (ITCZ), which produced light to moderate, sometimes heavy showers/Thundershowers particularly on days 6th and 7th of the dekad. Northeastern and eastern areas had rainfall totals as follows: Piarco (44.0 mm), Hollis (12.9 mm), Cumaca (32.4 mm) and Sangre Grande (19.6 mm) were below the forecasted range of 50.0 mm to 90.0 mm. Similarly, central areas had rainfall totals as follows: Chaguanas (42.0 mm), Flanagin Town (40.8 mm), Navet (118.0 mm), Tamana (45.0 mm) and which were mostly below the range forecasted of 50.0 mm to 90.0 mm.

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Furthermore, southern areas had the following rainfall amounts: Granville (5.5 mm), Point Fortin (24.4 mm), Barrackpore (1.4 mm), Penal (16.8 mm), CatsHill (7.2 mm) and Guayaguayare (28.3 mm) which were mostly well below the range forecasted of 40.0 mm to 90.0 mm. Likewise, northern areas such as Caura (10.8 mm) and St Anns (34.0 mm) had rainfall amounts well below the range 40.0 mm to 90.0 mm.

On the other hand, northwestern areas of Trinidad such as Moka (58.4 mm) and Diamond Vale (105.2 mm) within to above, the expected range of 40.0 mm to 90.0 mm.

Tobago had experienced some rainfall, central areas such as Mt. Pleasant had 35.0 mm while western areas such as Crown Point had rainfall totals around 44.1 mm, within the forecasted amount of 30.0 mm to 60.0 mm.

Trinidad's temperature was generally within expected range, maximum temperature went up to 33.0 °C, which was within the expected range of 32.4 °C to 35.5 °C. At the same time Tobago's maximum got up to 32.7 °C, within the range expected of 31.1 °C to 33.5 °C. Similarly, lowest temperatures recorded were 23.0 °C in Trinidad and 23.9 °C in Tobago. In Trinidad's case, the minimum temperature was within the expected range of 23.7 °C to 21.1 °C. Similarly, the minimum temperature was within the range of 24.5 °C to 23.9 °C for Tobago. The average humidity for both islands remained in the mid-seventies, falling lower during hot and breezy conditions and raising during cloudy, cool and relatively wet periods. Since mostly relative dry to relatively wet days occurred during the dekad, frequent irrigation may have been necessary.

Expected Weather for Second Dekad (11th – 20th) of October 2018 and Likely Impact on Agriculture.

The forecast for the second dekad of October indicates that farmers can expect similar conditions as compared to the first dekad of October. Expect relatively wet conditions on days: 15th, 16th, 17th, 18th, 19th and 20th; with wet conditions on days: 18th, 19th and 20th. During relatively wet to wet days, expect light to moderate rainfall and possible thundershowers which may result in flash flooding and water logged soils. The ten-day period rainfall totals, forecast to range between 40.0 mm and 80.0 mm in Trinidad and 50.0 mm to 70.0 mm in Tobago.

The average daily temperatures across Trinidad and Tobago are likely to range between 27.6 °C and 28.1 °C. Expect the highest maximum temperature over the dekad to peak near 35.0 °C in **Trinidad**, while the lowest night to early morning minimum temperature could dip below 21.2 °C. Especially along the foothills and valleys during relatively cloud-free nights. Likewise, during the dekad, in **Tobago**, the highest maximum temperature will peak near 33.1 °C, while the lowest minimum temperature will be dip below 22.6 °C, mostly during relatively cloud-free nights.

For both Trinidad and Tobago, the daytime relative humidity (RH) is likely to range between 63% and 76%. However, during relatively wet days, RH percentage values will range around 77% to

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100%. At the same time, wind speeds are expected to range between 16 km/h and 28 km/h but can gust to 36 km/h. In addition, evaporation rates are expected to range between 3.0 mm/day and 12.0 mm/day, but can be slightly more during warmer and windier periods and slightly less during relatively wet days. The mostly relatively dry to relatively wet days during the dekad, may warrant more frequent irrigation during the first half of the dekad followed by less frequent irrigation during the second dekad.

Impacts on Agriculture:

There is a moderate chance (65%) of lightning strikes, heavy down-pours, water logged soils and flash flooding in some areas especially on days 15th, 16th, 17th, 18th, 19th and 20th; with wet conditions on days 18th, 19th and 20th. There is also a moderate (65%) probability chance of frequent visitation of Saharan dust that will occasionally reduce visibility to less than 14.0 km, particularly during days: 11th, 12th, 13th and 14th.

Additionally, during the dekad, there is a moderate (58%) probability of some agricultural insects, pests, fungi and diseases to get a foot in and possibly develop and thrive. Moreover, the expected daytime wind speeds and specifically during down drafts from cloud clusters, together with the funneling effect of wind along narrow paths and undulating landscapes, may affect some seedlings negatively by causing seedlings' stems and leaves to be damaged. In addition, possible strong winds and high intensity rainfall may hamper some types of fertilizer, fungicide and insecticide application and retention.

Sun, Moon and bright objects in the sky:

The sun is presently at a latitude of 5 degrees south latitude and as a consequence of its position, the day length will range from 11.8 hours to 11.7 hours but more important than this, the intense solar irradiance episodes will start decreasing during daytimes when the sky is generally cloud free. There is medium probability of heat stress on certain variety plant seedlings and animals from direct exposure to solar radiation and hot temperatures. Additionally, the moon's first quarter phase will be on 16th, this will result in little illumination over fields and livestock at night. During the second dekad of October, as the sun sets in the west, two bright objects; planets Mars and Saturn will be seen in the night sky, with Saturn setting earlier in the west and leaving Mars in the horizon at night.

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Trinidad's Mean Daily Rainfall Forecast for the Second Dekad of October (11th–20th) 2018.

Northern & Northwestern areas:

Moderate chance (61%) of mean daily rainfall up to 5.4 mm.

North-Eastern and Eastern areas:

Moderate chance (68%) of mean daily rainfall up to 7.9 mm.

Central, West-Central and inland areas:

Moderate chance (63%) of mean daily rainfall up to 6.0 mm.

South-Eastern areas:

Moderate chance (68%) of mean daily rainfall up to 8.0 mm.

Southern areas:

Moderate chance (65%) of mean daily rainfall up to 6.8 mm.

South-Western areas:

Moderate chance (63%) of mean daily rainfall up to 6.2 mm.

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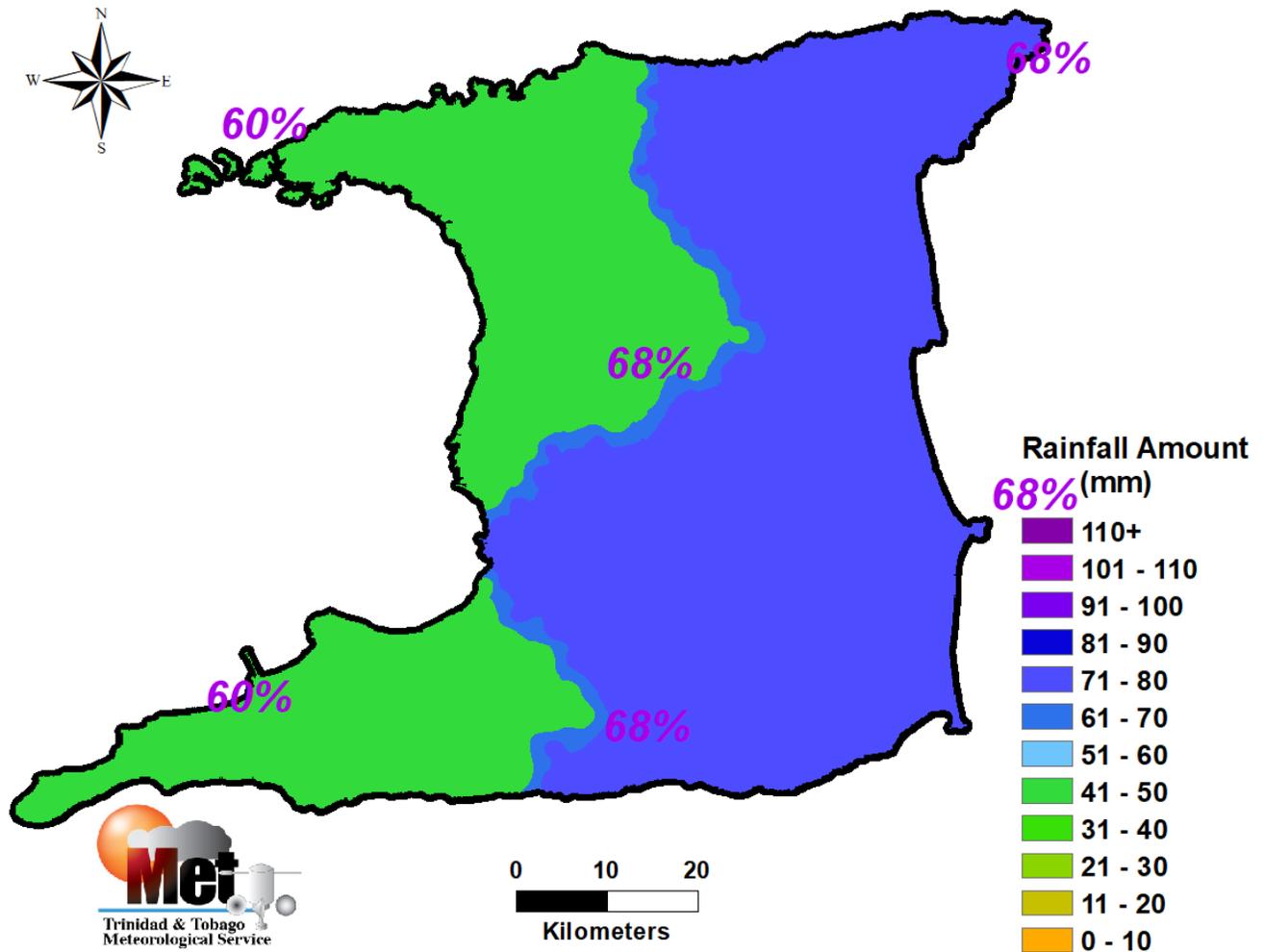


Figure 1. Rainfall Map of Trinidad showing possible rainfall totals for varying districts during second dekad of October 2018 and percentage probability of occurrence.

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Tobago's Mean Daily Rainfall Forecast for the Second Dekad of October (11th-20th) 2018.

Northeastern areas:

Moderate chance (63%) of mean daily rainfall up to 6.0 mm.

South-Western areas:

Moderate chance (68%) of mean daily rainfall up to 7.0 mm.

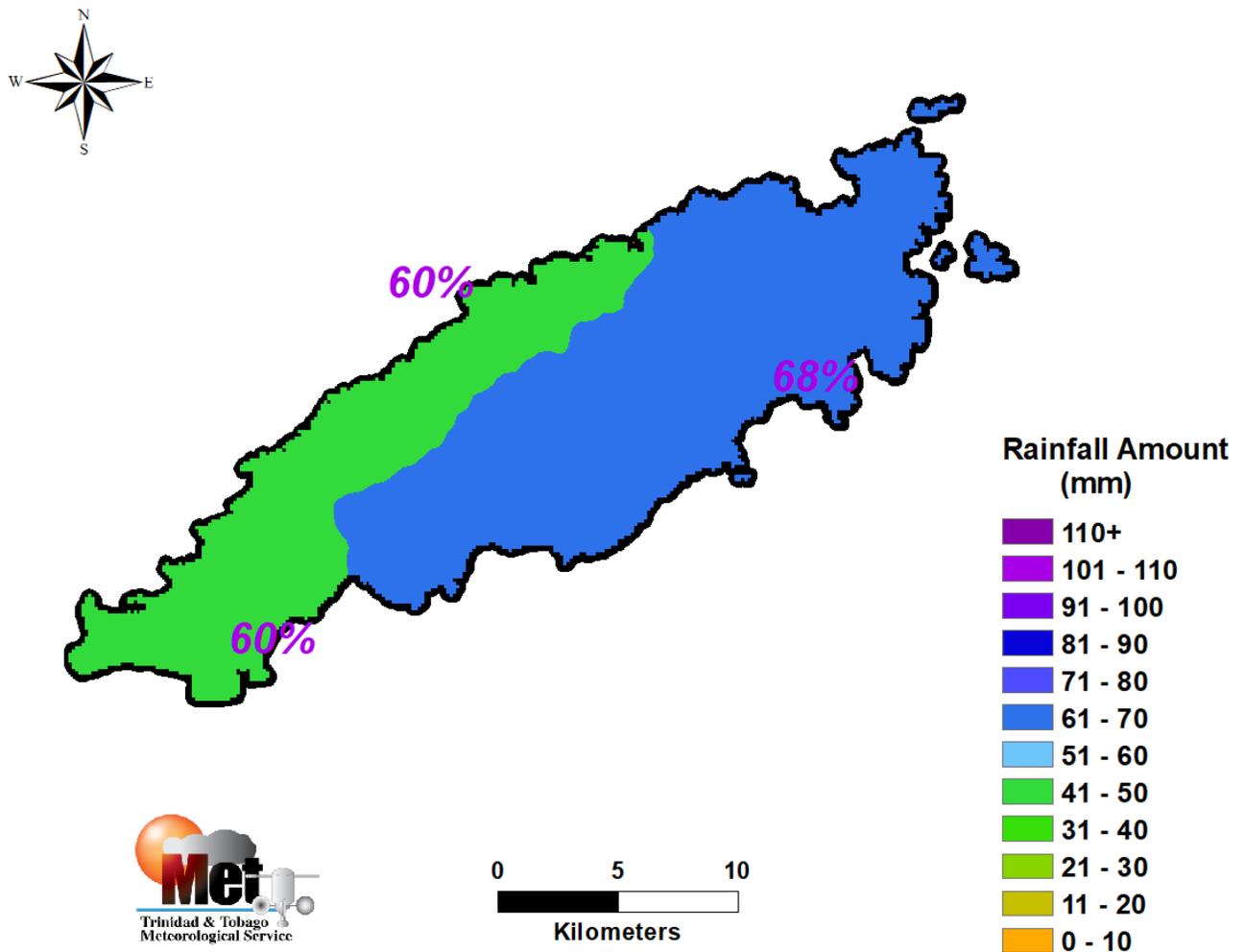


Figure 2. Rainfall Map of Tobago showing possible rainfall totals for varying districts during second dekad of October 2018 and percentage probability of occurrence.

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Temperatures:

Trinidad's Temperature Forecast for the Second Dekad of October (11th-20th) 2018.

Moderate chance (70%) of daily maximum temperatures to exceed 32.6 °C, peaking near 35.0 °C.

Moderate chance (70%) of daily minimum temperatures to be below 23.7 °C, dropping as low as 21.2 °C.

Tobago's Temperature Forecast for the Second Dekad of October (11th-20th) 2018.

Moderate chance (70%) of daily maximum temperatures to exceed 31.1 °C, peaking near 33.1 °C.

Moderate chance (70%) of daily minimum temperatures to be below 24.4 °C, dropping as low as 22.6 °C.

Summary:

The outlook for the second dekad of October calls for similar rainfall amounts as compared to first dekad of October. Expect relatively wet conditions on 15th, 16th, 17th, 18th, 19th and 20th; with wet conditions on days 18th, 19th and 20th. During relatively wet to wet days; expect light to moderate rainfall and possible thundershowers which may result in flash flooding and water logged soils. The ten-day period rainfall totals, forecast to range between 40.0 mm and 80.0 mm in Trinidad and 50.0 mm to 70.0 mm in Tobago.

Overall, **average** temperatures ranging between 27.6 °C and 28.1 °C in both islands over the full dekad. The maximum temperature is likely to reach 35.0 °C in Trinidad and 33.1 °C in Tobago. While, the lowest minimum temperatures are likely to reach 21.2 °C in Trinidad and 22.6 °C in Tobago. Opportunities for water harvesting will remain low during dekad.

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