

Agro-meteorological Bulletin and Assessment for Farmers and Livestock Producers of Trinidad and Tobago for the First Dekad (1st - 10th) of December, 2021

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 Bulletin for Farmers and Livestock Producers of Trinidad and Tobago for the 15-day period (1st – 15th) of December 2021

Date	Weather	Temperature	Heat Real Feel	Day Moisture (Relative) (Humidity)	Wind











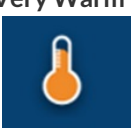


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1 st	 70% chance of showers	10.0 to 25.0 mm of rainfall with higher amounts in the western coast of Trinidad/Tobago	Partly cloudy to cloudy with showers	Very Warm  Max Temp 32.0°C	Feels like 39-44°C	79-83%	 Moderate northeasterly 20 km/h Gust 30 km/h
2 nd	 60% chance of showers	0.1 to 3.0 mm of rainfall is possible	Partly cloudy with one or two showers	Very Warm  Max Temp 32.5°C	Feels like 41-46°C	69-76%	 Moderate northeasterly 20 km/h Gust 30 km/h
3 rd	 40% chance of showers	0.1 to 3.0 mm of rainfall is possible	Partly cloudy with one or two showers	Very Warm  Max Temp 32.5°C	Feels like 41-46°C	67-76%	 Weak easterly 10 km/h Gust 20 km/h
4 th	 40% chance of showers	0.1 to 3.0 mm of rainfall is possible	Partly cloudy with one or two showers	Very Warm  Max Temp 33.0°C	Feels like 40-45°C	65-74%	 Weak easterly 10 km/h Gust 20 km/h
5 th	 40% chance of showers	0.1 to 3.0 mm of rainfall is possible	Partly cloudy with one or two showers	Very Warm  Max Temp	Feels like	77-83%	 Weak easterly 10 km/h Gust











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				32.5°C	43-46°C		20 km/h
6 th	 40% chance of showers	0.1 to 3.0 mm of rainfall is possible	Partly cloudy with one or two showers	Very Warm  Max Temp 32.5°C	Feels like 41-44°C	67-75%	 Weak easterly 10 km/h Gust 20 km/h
7 th	 40% chance of showers	0.1 to 3.0 mm of rainfall is possible	Partly cloudy with one or two showers	Very Warm  Max Temp 32.0°C	Feels like 42-45°C	74-79%	 Weak easterly 10 km/h Gust 20 km/h
8 th	 60% chance of showers	0.1 to 5.0 mm of rainfall is possible	Partly cloudy with one or two showers	Very Warm  Max Temp 32.0°C	Feels like 44-46°C	79-84%	 Weak easterly 10 km/h Gust 20 km/h
9 th	 60% chance of showers	0.1 to 5.0 mm of rainfall is possible	Partly cloudy with one or two showers	Very Warm  Max Temp 32.0°C	Feels like 42-46°C	77-82%	 Weak easterly 10 km/h Gust 20 km/h
				Very Warm			 Moderate




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10 th	 65% chance of showers	1.0 to 9.0 mm of rainfall is possible	Partly cloudy with showers	 Max Temp 32.0°C	Feels like 35-44°C	72-75%	northeasterly 20 km/h Gust 30 km/h
11 th	 68% chance of showers	1.0 to 9.0 mm of rainfall is possible	Partly cloudy with showers	Very Warm  Max Temp 32.0°C	Feels like 40-44°C	64-69%	☀☀☀ Moderate northeasterly 20 km/h Gust 30 km/h
12 th	 75% chance of light/moderate/heavy showers	10.0 to 20.0 mm of rainfall with higher amounts in eastern, and southern parts of Trinidad	Partly cloudy to cloudy with light to moderate/heavy showers	Warm  Max Temp 31.5°C	Feels like 33-38°C	72-80%	☀☀☀ Moderate northeasterly 20 km/h Gust 30 km/h
13 th	 78% chance of light/moderate/heavy showers	10.0 to 40.0 mm of rainfall with higher amounts in eastern, and southern parts of Trinidad	Partly cloudy to cloudy with light to moderate/heavy showers	Warm  Max Temp 31.0°C	Feels like 33-38°C	88-95%	☀☀☀ Weak easterly 10 km/h Gust 20 km/h
14 th	 75% chance of light/moderate/heavy showers	10.0 to 40.0 mm of rainfall with higher amounts in eastern, and southern parts	Partly cloudy to cloudy with light to moderate/heavy showers	Warm  Max Temp 33-38°C	Feels like 33-38°C	80-86%	☀☀☀ Weak northeasterly 10 km/h Gust

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		of Trinidad		31.5°C			20 km/h
15 th	 60% chance of showers	1.0 to 8.0 mm of rainfall is possible	Partly cloudy with showers	Very Warm  Max Temp 32.5°C	Feels like 37-44°C	75-84%	 Weak easterly 10 km/h Gust 20 km/h

Trinidad Rainfall Forecast for the 15-day period of December (1st-15th) 2021

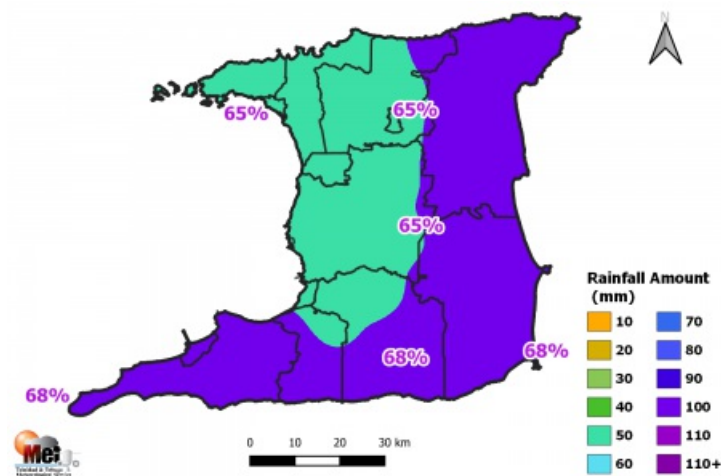


Figure 1. Rainfall map of Trinidad showing expected mean rainfall totals for districts across Trinidad during the 15-day

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period (1st-15th) December 2021 and percentage probability of occurrence.

Eastern, and North-Eastern areas

Moderate chance (68%) of mean daily rainfall up to 9.8 mm.

South-Eastern areas

Moderate chance (68%) of mean daily rainfall up to 10.0 mm.

Southern areas

Moderate chance (68%) of mean daily rainfall up to 9.4 mm.

South-Western areas

Moderate chance (68%) of mean daily rainfall up to 9.1 mm.

Central, West-Central, and inland areas

Moderate chance (65%) of mean daily rainfall up to 5.0 mm.

Northern, North-Western areas

Moderate chance (65%) of mean daily rainfall up to 5.0 mm.

Tobago Rainfall Forecast for the 15-day period of December (1st-15th) 2021

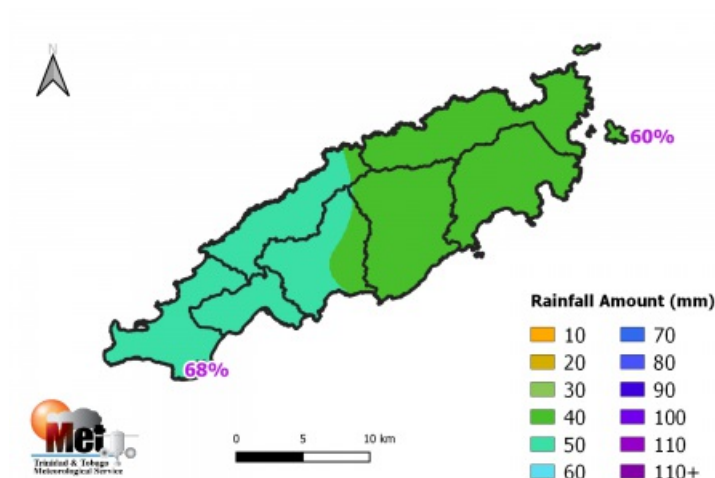


Figure 2. Rainfall map of Tobago showing expected mean rainfall totals for districts across Trinidad during the 15-day period (1st-15th) December 2021 and percentage probability of occurrence.

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North-Eastern areas

Moderate chance (68%) of mean daily rainfall up to 4.4 mm.

South-Western areas

Moderate chance (60%) of mean daily rainfall up to 3.0 mm.

Sun and Moon Positions in the Sky December (1st-15th) 2021

The sun is presently at 21.5 degrees South latitude and with this position, the day-length or number of sunlight hours in Trinidad and Tobago from December 1st will be 11 hours and 33 minutes, reducing steadily to 11 hours and 30 minutes by the 15th of December. During the days that may have patchy or partly cloudy skies and particularly during the hours of 12:00 pm to 2:00 pm, moderate solar radiation intensity will be experienced and therefore there is a moderate probability of heat stroke occurring in young or sick animals. If possible, animals should be moved to well-ventilated, shaded areas for those few hours.

According to the moon phases the 5th, 6th, 9th, 10th (First Quarter phase), 14th and 15th of December are good days for planting aboveground crops, while the 1st and 2nd of December are good days for planting belowground crops. However, the 3rd, 4th (New Moon phase), 7th, 8th, 11th, 12th and 13th of December are poor planting days. These days should be used for removing weeds, clearing land and ploughing fields.

Highlighted Possible Impacts on Agriculture:

Farmlands in Trinidad and Tobago received moderate to low amounts of rainfall during the third dekad (21st-29th) of November. During this first 15-day forecast period of (1st to 15th) December, expect similar rainfall amounts to occur as compared to the third 15-day 21st to 5th November/December forecast period. Mostly sunny mornings and afternoons will give way to increasingly cloudy evenings with slightly wetter conditions mostly on the northeastern, southeastern and southwestern parts of Trinidad and southwestern Tobago. The moderate to light winds and moderate to low rainfall amounts in this first 15-day period of December will sustain average evaporation and evapotranspiration rates overall.

There is a moderate probability (60%) chance for crop irrigation measures presently, due to the moderate to low rainfall amounts and moderate to low soil moisture content at times. However, livestock should be provided with fresh cool water particularly on hot drier periods to rehydrate. There is a low to moderate probability (40%) chance of heat stress in young livestock, newly germinated and transplanted seedlings onto fields. There is also a moderate probability (45%) chance for fungi spread, insect pests and warm weather diseases to develop in crop beds. There is also a low probability (20%) chance of root rot and fruit rot on crops due to the expected moderate/low amount of rainfall.

Although there are a few rainy days, the potential for localized flooding still exists. River levels will move from low to moderate levels at times, particularly on wet days. Therefore, farmers should remain prepared with necessary flood alleviating actions such as using portable water pumps, sandbags and elevated structures on the ground to store animals, seedlings, machinery and other equipment.

Weather Assessment for the period November (21st -29th) 2021.

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Mostly dry conditions occurred across Trinidad and Tobago during the period November 21st to 29th. During the four days, 24th, 26th, 27th and 28th of November were rainy days in some parts of Trinidad, while on other days mostly sunny conditions with few showers prevailed. Mostly very warm days, warm winds, low river levels and moderate to low moisture content in soils may have stimulated crop growth and development in general in agricultural lands and vegetation growth in pastures. The rainfall totals maps for the period 21st to 29th of November for Trinidad and Tobago are located below as figure 1 and figure 2.

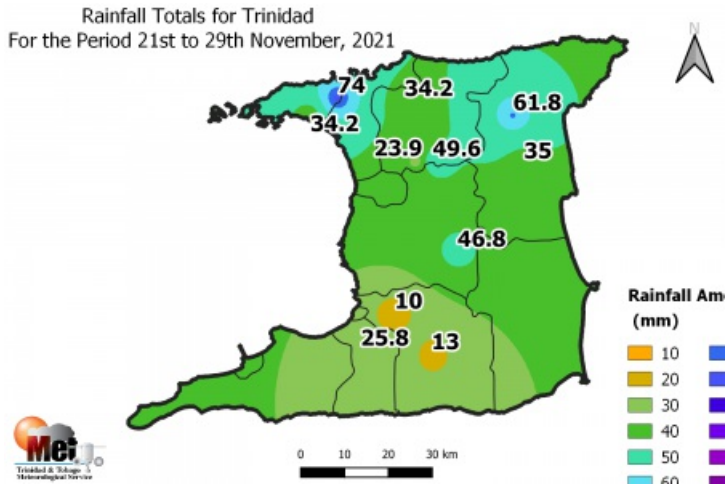


Figure 1. Rainfall map of Trinidad showing measured rainfall totals for varying districts during the period 21st to 29th November.

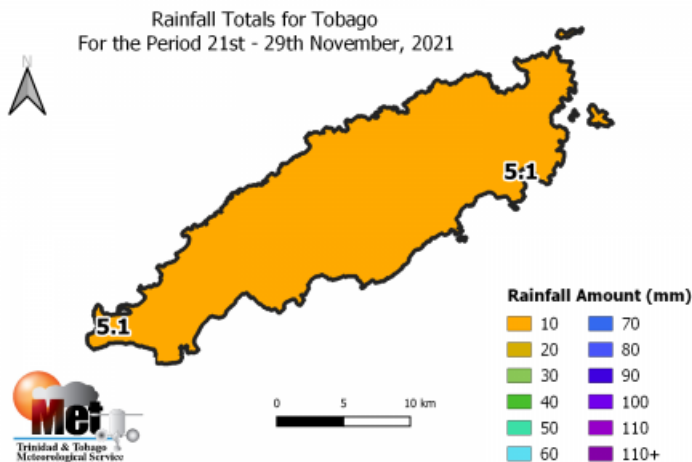


Figure 2. Rainfall map of Tobago showing measured rainfall totals for varying districts during the period 21st to 29th November.

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Temperatures:

Temperatures remained warm to very warm during the period as maximum daytime temperatures ranged between 30.9 °C and 33.0 °C, in Trinidad.

In Tobago, temperatures were warm to very warm, with maximum daytime temperatures ranging between 31.1 °C and 32.9 °C.

Summary

Summary of Expected Weather: Moderate rainfall amounts are expected on four of the fifteen days. Wet days (rainfall amounts greater than 10.0 mm), are expected on the 1st, 12th, 13th and 14th of December, with higher amounts in northeastern, southeastern and southwestern parts of Trinidad. However, eleven relatively wet days with rainfall amounts of 0.1 mm to 9.0 mm are expected on the 2nd, 3rd, 4th, 5th, 6th, 7th, 8th, 9th, 10th, 11th and 15th of December 2021. Trinidad: Partly cloudy to cloudy spells are expected on the 1st, 12th, 13th and 14th of December, which will likely bring light to moderate/heavy rainfall across farmlands in the northeastern, southeastern and southwestern parts of Trinidad. The daily rainfall totals are forecast to be greater than 10.0 mm across different farmlands, with 15-day rainfall totals ranging between 50.0 mm and 100.0 mm. The heaviest and most long-lasting rains are expected over farmlands in the northeastern areas of Sangre Grande, Fishing Pond, Plum Mitan; southeastern areas of Mayaro, Guayaguayare and Moruga; and southwestern areas of Penal, Point Fortin, La Brea, Palo Seco, Granville and Cedros. However, on the 2nd, 3rd, 4th, 5th, 6th, 7th, 8th, 9th, 10th, 11th and 15th of December 2021, partly cloudy conditions are expected with few light to moderate showers and daily rainfall amounts ranging between 0.1 mm to 9.0 mm. Tobago: Farmers should expect relatively wet days throughout the forecast period of the 1st-15th of December. The daily rainfall totals are forecast to be between 0.1 mm and 9.0 mm across farmlands on the island. The 15-day rainfall totals will range between 30.0 mm to 50.0 mm across the island. Temperatures & Winds: Maximum temperatures are expected to remain warm (31.5oC) to very warm (32.5oC) throughout the period of the 1st-15th of December, due to expected afternoon/evening cloud cover, but can reach 33.0 oC on the 4th of December. However, temperatures are expected to have a real-feel or feels-like between 33.0oC to 44.0oC on most days. Mostly moderate to weak northeasterly to easterly winds with an average speed ranging between 10 km/h and 20 km/h are expected, with gusts ranging between 30 km/h to 60 km/h particularly during heavy showers or thundershowers. Moderate to low rainfall totals, mostly average wind speeds, warm days and moderate feels-like temperatures will sustain average evapo-transpiration rates in crops ranging between 3.0 to 10.0 mm per day. Moisture levels: Over the 15-day period across Trinidad and Tobago, moisture levels are expected to be moderate to low, with average daytime relative humidity values in the low-60s to mid-70s, in terms of percentage. While during possible rainy days (1st, 12th, 13th and 14th), average daytime relative humidity values will be in the low-80s to mid-90s, in terms of percentage.

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