

Agro-meteorological Bulletin and Assessment for Farmers and Livestock Producers of Trinidad and Tobago for the First Dekad (1st - 10th) of December, 2022

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 2022.

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

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Issue date: 2022-12-01

1 st	 45% chance of showers	0.1 to 3.0 mm of rainfall is possible	Partly cloudy with one or two showers	Warm  Max/Min Temperatures °C 31.0/22.0	Feels like 36-39°C	63-74%	 Weak easterly 10 km/h Gust 15 km/h
2 nd	 45% chance of showers	0.1 to 3.0 mm of rainfall is possible	Partly cloudy with one or two showers	Warm  Max/Min Temperatures °C 30.0/22.5	Feels like 33-36°C	78-82%	 Weak north-easterly 15 km/h Gust 25 km/h
3 rd	 45% chance of showers	1.0 to 5.0 mm of rainfall is possible	Partly cloudy with one or two showers	Warm  Max/Min Temperatures °C 30.0/22.5	Feels like 33-36°C	78-88%	 Weak north-easterly 15 km/h Gust 25 km/h
4 th	 45% chance of showers	1.0 to 5.0 mm of rainfall is possible	Partly cloudy with one or two showers	Warm  Max/Min Temperatures °C 31.0/21.0	Feels like 35-38°C	68-77%	 Weak northerly 15 km/h Gust 25 km/h
5 th	 45% chance	0.1 to 3.0 mm of rainfall is possible	Partly cloudy with one or two showers	Warm  Max/Min Temperatures °C 31.0/21.0	Feels like		 Weak northerly 15 km/h
















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	of showers	possible		Max/Min Temperatures °C 31.5/21.0	32- 38°C	56-65%	Gust 25 km/h
6 th	 45% chance of showers	0.1 to 2.0 mm of rainfall is possible	Partly cloudy with one or two showers	Warm  Max/Min Temperatures °C 31.0/21.0	Feels like 32- 38°C	59-68%	 Weak northerly 15 km/h Gust 25 km/h
7 th	 45% chance of showers	0.1 to 2.0 mm of rainfall is possible	Partly cloudy with one or two showers	Warm  Max/Min Temperatures °C 31.0/20.0	Feels like 32- 36°C	55-64%	 Weak northerly 15 km/h Gust 25 km/h
8 th	 45% chance of showers	0.1 to 2.0 mm of rainfall is possible	Partly cloudy with one or two showers	Warm  Max/Min Temperatures °C 31.5/20.0	Feels like 33- 36°C	58-68%	 Weak north- easterly 15 km/h Gust 25 km/h
9 th	 70% chance of showers	10.0 to 25.0 mm of rainfall is possible	Cloudy with light/mod occasional heavy showers	Warm  Max/Min Temperatures °C 30.0/22.0	Feels like 31- 35°C	74-83%	 Weak easterly 10 km/h Gust 15 km/h
				Warm			




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10 th	 70% chance of showers	10.0 to 25.0 mm of rainfall is possible	Cloudy with light/mod occasional heavy showers	 Max/Min Temperatures °C 31.5/22.5	Feels like 32-35°C	70-80%	 Weak easterly 10 km/h Gust 15 km/h
11 th	 65% chance of showers	10.0 to 15.0 mm of rainfall is possible	Partly cloudy with few showers	Warm  Max/Min Temperatures °C 31.5/23.0	Feels like 32-35°C	72-83%	 Weak north-easterly 15 km/h Gust 25 km/h
12 th	 65% chance of showers	10.0 to 25.0 mm of rainfall is possible	Partly cloudy with few showers	Warm  Max/Min Temperatures °C 31.0/23.5	Feels like 32-38°C	73-78%	 Weak north-easterly 15 km/h Gust 25 km/h
13 th	 65% chance of showers	1.0 to 5.0 mm of rainfall is possible	Partly cloudy with few showers	Warm  Max/Min Temperatures °C 30.0/23.5	Feels like 32-36°C	81-90%	 Weak easterly 10 km/h Gust 15 km/h
14 th	 65% chance	0.1 to 2.0 mm of rainfall is possible	Partly cloudy with few showers	Warm  Max/Min Temperatures °C 30.0/23.5	Feels like		 Weak south-easterly 20 km/h

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	of showers	possible		Max/Min Temperatures °C 30.0/23.5	33- 36°C	78-87%	Gust 25 km/h
15 th	 65% chance of showers	0.1 to 2.0 mm of rainfall is possible	Partly cloudy with few showers	Warm  Max/Min Temperatures °C 32.0/24.0	Feels like 33- 38°C	65-71%	 Weak north- easterly 15 km/h Gust 25 km/h

Trinidad Rainfall Forecast for the 15-Day period of December (1st–15th) 2022.

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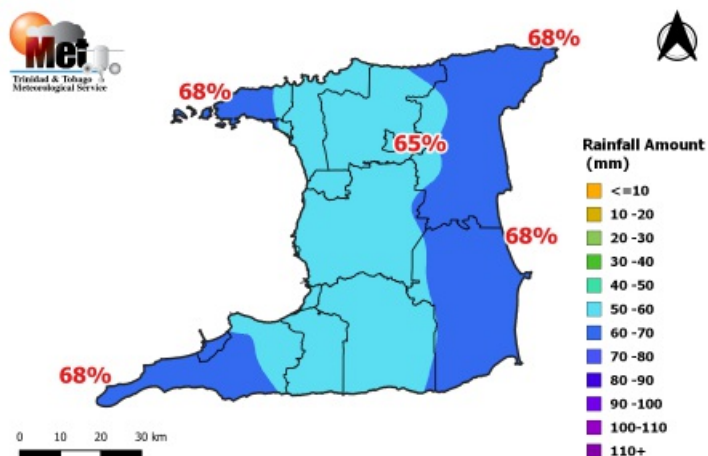


Figure 1. Rainfall map of Trinidad showing expected mean rainfall totals for districts across Trinidad during the 15-day period (1st-15th) December 2022 and percentage probability of occurrence.

Eastern, and North-Eastern areas

Moderate chance (68%) of mean daily rainfall up to 7.3 mm.

South-Eastern areas

Moderate chance (68%) of mean daily rainfall up to 7.5 mm.

Southern areas

Moderate chance (65%) of mean daily rainfall up to 6.9 mm.

South-Western areas

Moderate chance (68%) of mean daily rainfall up to 6.9 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 (68%) of mean daily rainfall up to 6.0 mm.

Tobago Rainfall Forecast for the 15-Day period of December (1st – 15th) 2022

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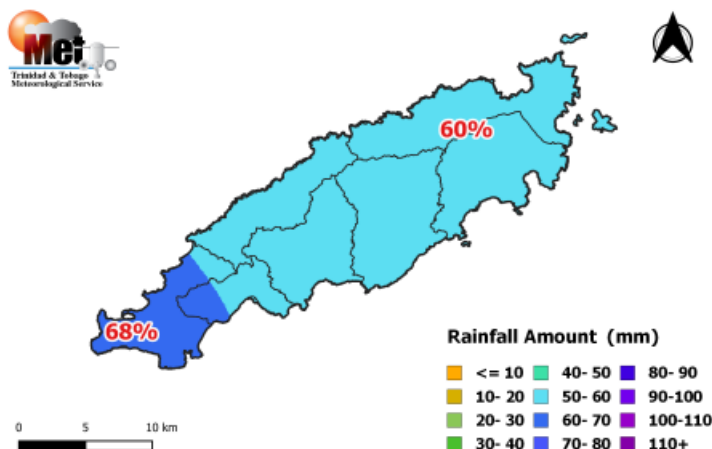


Figure 2. Rainfall map of Tobago showing expected mean rainfall totals for districts across Tobago during the 15-day period (1st-15th) December 2022 and percentage probability of occurrence.

North-Eastern areas

Moderate chance (60%) of mean daily rainfall up to 5.0 mm.

South-Western areas

Moderate chance (68%) of mean daily rainfall up to 6.6 mm.

Sun and Moon Positions in the Sky December (1st – 15th) 2022.

The sun is presently at 20.0 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, decreasing slightly to 11 hours and 31 minutes by 15th December 2022. According to the moon's phases, the 4th-5th of December are good days for planting aboveground crops. While 9th-10th are good days for planting belowground crops, the 1st-3rd, 6th-8th (Full Moon Phase) and 11th-15th of December are poor planting days. These days should be used for removing weeds, clearing land and ploughing fields.

Highlighted Possible Impacts on Agriculture:

During this first 15-day forecast period of (1st to 15th) December 2022, expect significantly less wet conditions to occur as compared to the third 15-day (21st to 4th) November/December forecast period. During the 9th to the 12th of the forecast period, moderate rainfall amounts are expected. This will result in flooding in water-logged soils and in some areas. River levels will become moderate to high at times and will return to low levels during the rest of the forecast period. There is a moderate probability (40%) chance for crop irrigation measures to take place during the first eight days of the forecast period, owing to water-logged soils from the last forecast period. During this forecast period, temperatures are expected to become warm, however there is a low probability (20%) chance of heat stress in young livestock, newly germinated and transplanted seedlings onto fields. There is also a moderate probability (60%) chance for fungi spread, root and/or fruit

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rot, insect pests and warm/hot weather diseases to develop in crop beds.

Weather Assessment for the period November (21st -30th) 2022

A mixture of wet and excessively wet days occurred from the 21st to the 28th of November mostly over Trinidad versus Tobago. Crop growth and development rates were stymied across most agricultural lands and vegetation growth in pastures due to consecutive to excessively wet days. Vegetation die-back may have occurred over large areas, due to very long periods of inundated fields with flood waters. The rainfall totals maps for the period, 21st to 30th of November for Trinidad and Tobago are located below as figure 1 and figure 2.

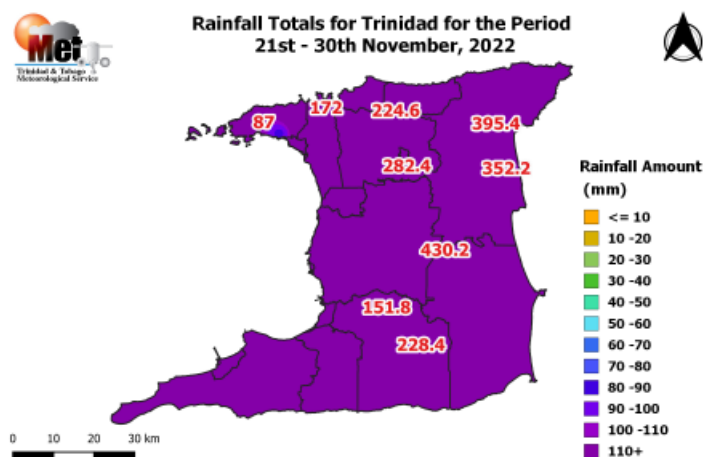


Figure 1. Rainfall map of Trinidad showing measured rainfall totals for varying districts during the period 21st to 30th November 2022.

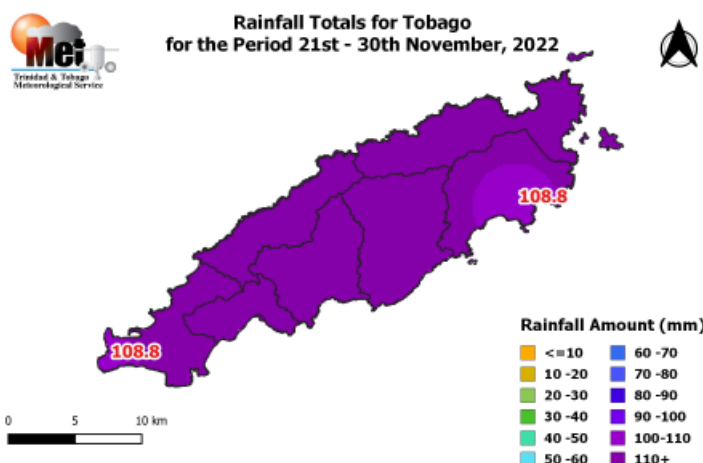


Figure 2. Rainfall map of Tobago showing measured rainfall totals for varying districts during the period 21st to 30th

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November 2022.

Temperatures:

Temperatures were cool to warm during the period 21st to 30th of November, with the minimum nighttime temperature falling to 22.1 °C and the maximum daytime temperature rising to 31.3 °C, in Trinidad.

Similarly, Tobago temperatures were cool to warm during the period 21st to 30th of November, with the minimum nighttime temperature falling to 23.0 °C and the maximum daytime temperature rising to 30.5 °C.

Summary

Summary of Expected Weather:

Low to Moderate rainfall amounts are expected on four of the fifteen days.

Four wet days with rainfall amounts ranging between 10.0 mm and 25.0 mm are expected on the 9th-12th of December, while eleven relatively wet days with rainfall amounts ranging between 0.1 mm and 5.0 mm are expected on the 1st-8th and 13th-15th of December 2022.

Trinidad:

Four wet days with rainfall amounts ranging between 10.0 mm and 25.0 mm are expected on the 9th-12th of December, while eleven relatively wet days with rainfall amounts ranging between 0.1 mm and 5.0 mm are expected on the 1st-8th and 13th-15th of December 2022. The daily rainfall totals are forecast to range between 0.1 mm to 25.0 mm across different farmlands, with fifteen-day rainfall totals ranging between 50.0 mm and 75.0 mm. The impactful rainfall events will mostly occur across the eastern, southeastern, southern, southwestern and northwestern parts specifically along coastal areas of Trinidad. There is a moderate (68%) probability that flash and riverine flooding will occur during/after heavy rainfall events.

Tobago:

Similar to Trinidad, Tobago will experience four wet days, with rainfall amounts ranging between 10.0 mm and 25.0 mm, on the 9th-12th December, while eleven relatively wet days with rainfall amounts ranging between 0.1 mm and 5.0 mm are expected on the 1st-8th and 13th-15th of December 2022. The daily rainfall totals are forecast to range between 0.1 mm to 25.0 mm across different farmlands throughout the island, especially along the southwestern coastal areas, with fifteen-day rainfall totals ranging between 50.0 mm and 75.0 mm.

Temperatures & Winds:

The maximum temperatures are expected to remain warm, with temperatures ranging between 31.0°C to 32.0°C throughout the period. However, temperatures are expected to have a real-feel or feels-like between 31.0°C to 39.0°C on most days. The minimum temperatures will range between 21.0°C to 24.0°C during most nights/early mornings, dropping

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lower in rural areas and valleys.

In general, mostly weak easterly to north-easterly winds of an average speed of 10-20 km/h are expected, however, gusts can reach speeds of up to 50-70 km/h, especially during heavy showers. Moderate to high rainfall totals, mostly low wind speeds, warm days, and warm feels-like temperatures will sustain average evapotranspiration rates in crops ranging between 3.5 and 11.0.

Moisture levels:

Over the fifteen-day period across Trinidad and Tobago, moisture levels are expected to be moderate to high, with average daytime relative humidity values in the lower-60's to mid-90's, in terms of percentage.

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