

## Agro-meteorological Bulletin and Assessment for Farmers and Livestock Producers of Trinidad and Tobago for the Third Dekad (21st - 31st) 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 (21<sup>st</sup> – 4<sup>th</sup>) of December/January 2022

Date	Weather	Temperature	Heat Real Feel	Day Moisture (Relative)	Wind
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Issue date: 2021-12-20

						(Humidity)	
21 <sup>st</sup>	 78% chance of light/moderate/heavy showers	10.0 to 25.0 mm of rainfall with higher amounts on eastern, and southern parts of Trinidad	Partly cloudy to cloudy with light to moderate/heavy showers	<b>Warm</b>  Max Temp 31.0°C	Feels like 31-36°C	75-82%	 Weak northeasterly 10 km/h Gust 20 km/h
22 <sup>nd</sup>	 78% chance of light/moderate/heavy showers	10.0 to 25.0 mm of rainfall with higher amounts on eastern, and southern parts of Trinidad	Partly cloudy to cloudy with light to moderate/heavy showers	<b>Warm</b>  Max Temp 31.0°C	Feels like 31-36°C	88-92%	 Weak easterly 10 km/h Gust 20 km/h
23 <sup>rd</sup>	 70% chance of showers	1.0 to 9.0 mm of rainfall with higher amounts on the eastern coast of Trinidad/Tobago	Partly cloudy to cloudy with showers	<b>Very Warm</b>  Max Temp 32.0°C	Feels like 33-38°C	70-80%	 Weak easterly 10 km/h Gust 20 km/h
24 <sup>th</sup>	 60% chance of showers	1.0 to 5.0 mm of rainfall is possible	Partly cloudy with one or two showers	<b>Very Warm</b>  Max Temp 32.5°C	Feels like 34-38°C	68-73%	 Weak easterly 10 km/h Gust 20 km/h
25 <sup>th</sup>	 62% chance of showers	1.0 to 5.0 mm of rainfall is possible	Partly cloudy with one or two showers	<b>Very Warm</b>  Max Temp	Feels like 34-40°C	68-73%	 Weak easterly 10 km/h Gust

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				32.0°C			20 km/h
26 <sup>th</sup>	 45% chance of showers	1.0 to 3.0 mm of rainfall is possible	Partly cloudy with one or two showers	<b>Very Warm</b>  Max Temp 32.0°C	Feels like 33-40°C	60-73%	 Weak easterly 10 km/h Gust 20 km/h
27 <sup>th</sup>	 40% chance of showers	0.1 to 2.0 mm of rainfall is possible	Partly cloudy with one or two showers	<b>Very Warm</b>  Max Temp 32.0°C	Feels like 33-40°C	55-68%	 Weak easterly 10 km/h Gust 20 km/h
28 <sup>th</sup>	 60% chance of showers	1.0 to 6.0 mm of rainfall is possible	Partly cloudy with one or two showers	<b>Very Warm</b>  Max Temp 32.0°C	Feels like 34-40°C	69-78%	 Weak easterly 10 km/h Gust 20 km/h
29 <sup>th</sup>	 60% chance of showers	1.0 to 5.0 mm of rainfall is possible	Partly cloudy with one or two showers	<b>Warm</b>  Max Temp 31.5°C	Feels like 33-38°C	65-69%	 Weak easterly 10 km/h Gust 20 km/h
30 <sup>th</sup>	 40% chance of showers	1.0 to 3.0 mm of rainfall is possible	Partly cloudy with one or two showers	<b>Warm</b>  Max Temp 31.5°C	Feels like 33-38°C	73-80%	 Weak easterly 10 km/h Gust 20 km/h

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31 <sup>st</sup>	 40% chance of showers	1.0 to 3.0 mm of rainfall is possible	Partly cloudy with one or two showers	<b>Warm</b>  Max Temp 31.5°C	Feels like 33-36°C	57-64%	 Weak easterly 10 km/h Gust 20 km/h
1 <sup>st</sup>	 40% chance of showers	0.1 to 2.0 mm of rainfall is possible	Partly cloudy with one or two showers	<b>Warm</b>  Max Temp 31.5°C	Feels like 33-36°C	57-64%	 Weak easterly 10 km/h Gust 20 km/h
2 <sup>nd</sup>	 40% chance of showers	0.1 to 2.0 mm of rainfall is possible	Partly cloudy with one or two showers	<b>Warm</b>  Max Temp 31.5°C	Feels like 33-36°C	62-66%	 Weak easterly 10 km/h Gust 20 km/h
3 <sup>rd</sup>	 40% chance of showers	0.1 to 2.0 mm of rainfall is possible	Partly cloudy with one or two showers	<b>Warm</b>  Max Temp 31.5°C	Feels like 33-36°C	62-66%	 Weak easterly 10 km/h Gust 20 km/h
4 <sup>th</sup>	 40% chance of showers	0.1 to 2.0 mm of rainfall is possible	Partly cloudy with one or two showers	<b>Warm</b>  Max Temp 31.5°C	Feels like 33-36°C	59-68%	 Weak easterly 10 km/h Gust 20 km/h

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## Trinidad Rainfall Forecast for the 15-Day period of December/January (21<sup>st</sup>-4<sup>th</sup>) 2022

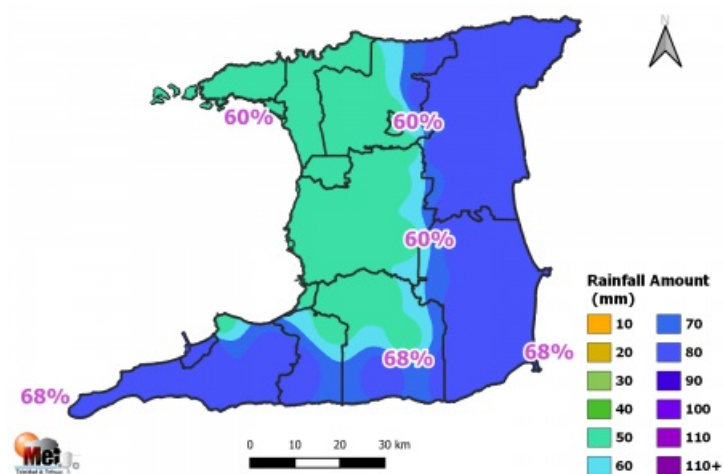


Figure 1. Rainfall map of Trinidad showing expected mean rainfall totals for districts across Trinidad during the 15-day period (21<sup>st</sup>-4<sup>th</sup>) December/January 2021 and percentage probability of occurrence.

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## Eastern, and North-Eastern areas

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

## South-Eastern areas

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

## Southern areas

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

## South-Western areas

Moderate chance (60%) of mean daily rainfall up to 6.8 mm.

## Central, West-Central, and inland areas

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

## Northern, North-Western areas

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

## Tobago Rainfall Forecast for the 15-Day period of December/January (21<sup>st</sup>–4<sup>th</sup>) 2022

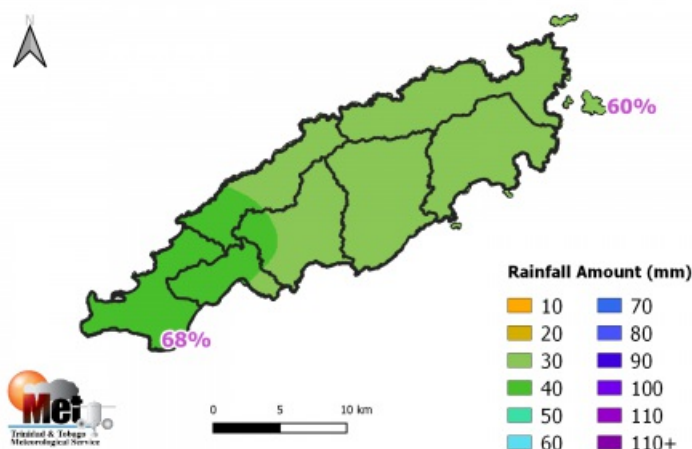


Figure 2. Rainfall map of Tobago showing expected mean rainfall totals for districts across Trinidad during the 15-day period (21<sup>st</sup>–4<sup>th</sup>) December/January 2021 and percentage probability of occurrence.

## North-Eastern areas

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Moderate chance (60%) of mean daily rainfall up to 2.5 mm.

#### **South-Western areas**

Moderate chance (68%) of mean daily rainfall up to 2.9 mm.

#### **Sun and Moon Positions in the Sky December/January (21<sup>st</sup>-4<sup>th</sup>) 2022**

The sun is presently at 23.3 degrees South latitude and with this position, the day-length or number of sunlight hours in Trinidad and Tobago from December 21<sup>st</sup> will be 11 hours and 30 minutes, increasing slowly to 11 hours and 32 minutes by 4<sup>th</sup> January 2022. According to the moon phases 2<sup>nd</sup> (New Moon Phase) of January is a good day for planting aboveground crops, while 26<sup>th</sup> (Third Quarter Phase), 27<sup>th</sup>, 28<sup>th</sup>, 29<sup>th</sup> of December 2021 and 1<sup>st</sup> of January 2022 are good days for planting belowground crops. However, 21<sup>st</sup>, 22<sup>nd</sup>, 23<sup>rd</sup>, 24<sup>th</sup>, 25<sup>th</sup>, 30<sup>th</sup>, 31<sup>st</sup> of December and the 3<sup>rd</sup> - 4<sup>th</sup> of January 2022, 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 high amounts of rainfall during the second dekad (11<sup>th</sup>-19<sup>th</sup>) of December. During this third fifteen-day forecast period of (21<sup>st</sup> to 4<sup>th</sup>) December/January 2022, expect lesser rainfall amounts to occur as compared to the second 15-day (11<sup>th</sup> to 25<sup>th</sup>) forecast period. Mostly sunny mid mornings and afternoons will give way to increasingly cloudy evenings and/or early mornings with wetter conditions mostly on the northeastern, southeastern and southwestern parts of Trinidad and southwestern Tobago. The light winds and moderate rainfall amounts in this third 15-day period of December/January will sustain average evaporation and evapotranspiration rates overall.

There is a moderate probability (45%) chance for crop irrigation measures at this time 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 warmer drier periods to rehydrate. 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 (35%) 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 amount of rainfall.

During those two rainy days, the potential for localized flash 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 December (11<sup>th</sup>-19<sup>th</sup>) 2021.**

A mixture of wet and dry conditions occurred across Trinidad and Tobago during the 11<sup>th</sup> to 19<sup>th</sup> of December. Wet days occurred on the 12<sup>th</sup>, 13<sup>th</sup>, 14<sup>th</sup>, 15<sup>th</sup> and 18<sup>th</sup> of December over Trinidad and Tobago, otherwise mostly sunny conditions with few showers. Few warm days, warm winds, moderate to 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

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pastures. The rainfall totals maps for the period 11<sup>th</sup> to 19<sup>th</sup> of December for Trinidad and Tobago are located below as figure 1 and figure 2.

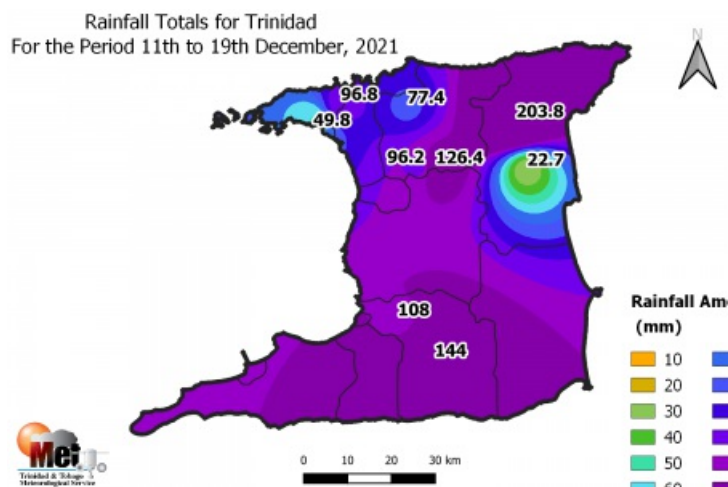


Figure 1. Rainfall map of Trinidad showing measured rainfall totals for varying districts during period 11<sup>th</sup> to 19<sup>th</sup> December.

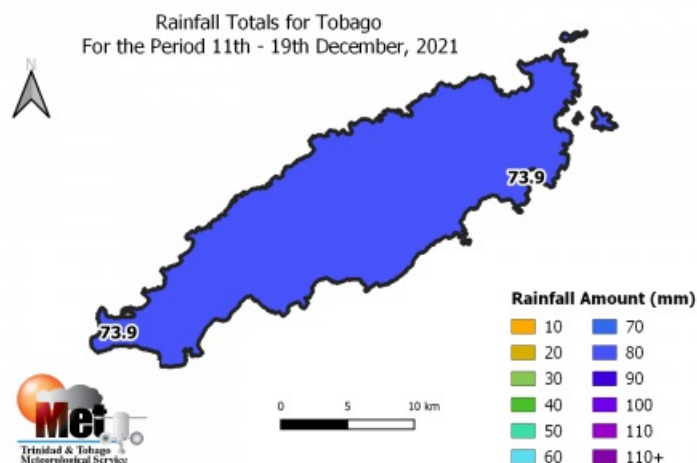


Figure 2. Rainfall map of Tobago showing measured rainfall totals for varying districts during period 11<sup>th</sup> to 19<sup>th</sup> December.

## Temperatures:

Temperatures were cool to warm during the period as maximum daytime temperatures ranged between 26.9 °C and 32.1

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°C, in Trinidad.

In Tobago, temperatures were cool to warm, with maximum daytime temperatures ranging between 29.0 °C and 31.2 °C.

### Summary

Summary of Expected Weather: Moderate rainfall amounts are expected on two of the fifteen days. Wet days (rainfall amounts greater than 10.0 mm), are expected on the 21st and 22nd of December, with higher amounts in northeastern, southeastern and southwestern parts of Trinidad. However, thirteen relatively wet days with rainfall amounts of 0.1 mm to 9.0 mm are expected from the 23rd to the 4th of December/January 2022. Trinidad: Partly cloudy to cloudy spells are expected on the 21st and 22nd of December, which is likely to bring light to moderate/heavy rainfall across farmlands across in northeastern, southeastern and southwestern parts of Trinidad. The daily rainfall totals are forecast to be greater than 10.0 mm across different farmlands, with fifteen-day rainfall totals ranging between 50.0 mm and 75.0 mm. The heaviest and most long-lasting rains are expected over farmlands in the northeastern areas of Sangre Grande, Fishing Pond, Plum Mitán; southeastern areas of Mayaro, Guayaguayare and Moruga; and southwestern areas of Penal, Point Fortin, La Brea, Palo Seco, Granville and Cedros. However, from the 23rd to 4th of December/January 2022, partly cloudy conditions are expected with few light to moderate showers with daily rainfall amounts ranging between 0.1 mm to 9.0 mm. Tobago: Similarly, to Trinidad, Tobago will experience partly cloudy to cloudy spells on the 21st and 22nd of December, which will likely bring light to moderate/heavy rainfall across farmlands mostly across southwestern parts of Tobago. The daily rainfall totals are forecast to be greater than 10.0 mm across different farmlands, with fifteen-day rainfall totals ranging between 25.0 mm and 35.0 mm. However, from the 23rd to 4th of December/January 2022, partly cloudy conditions are expected with few light to moderate showers with daily rainfall amounts ranging between 0.1 mm to 9.0 mm. Temperatures & Winds: Maximum temperatures are expected to remain warm (31.0°C) to very warm (32.5°C) throughout the period due to expected afternoon/evening cloud cover. However, temperatures are expected to have a real-feel or feels-like between 33.0°C to 40.0°C on most days. Mostly weak northeasterly to easterly winds of an average speed ranging between 10 km/h and 20 km/h are expected, with gusts ranging between 20 km/h to 60 km/h particularly in heavy showers or thundershowers. Moderate 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 7.0 millimeters per day. Moisture levels: Over the fifteen-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 upper-70s, in terms of percentage. While during possible rainy days (21st and 22nd), average daytime relative humidity values will be in the low-80s to low-90s, in terms of percentage.

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