

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








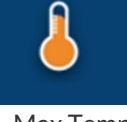






## Weather Bulletin for Farmers and Livestock Producers of Trinidad and Tobago for the 15-Day period (1<sup>st</sup> – 15<sup>th</sup>) of September 2021

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

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Issue date: 2021-09-01

1 <sup>st</sup>	 65% chance of showers	1.0 to 10.0 mm of rainfall is possible	Partly cloudy with light to moderate/heavy showers	<b>Hot</b>  Max Temp 34.0°C	Feels like 40-46°C	54-62%	 Weak easterly 10 km/h Gust 20 km/h
2 <sup>nd</sup>	 70% chance of light/moderate showers	1.0 to 10.0 mm of rainfall is possible	Partly cloudy with light to moderate/heavy showers	<b>Very Warm</b>  Max Temp 33.0°C	Feels like 42-47°C	75-80%	 Weak north-easterly 12 km/h Gust 24 km/h
3 <sup>rd</sup>	 65% chance of showers	1.0 to 10.0 mm of rainfall is possible	Partly cloudy with light to moderate/heavy showers	<b>Very Warm</b>  Max Temp 33.0°C	Feels like 44-47°C	70-77%	 Weak easterly 10 km/h Gust 20 km/h
4 <sup>th</sup>	 75% chance of light/moderate showers	10.0 to 20.0 mm of rainfall with higher amounts on the east coast of Trinidad/Tobago	Cloudy with light to moderate/heavy showers	<b>Warm</b>  Max Temp 32.0°C	Feels like 32-40°C	60-82%	 Weak easterly 10 km/h Gust 20 km/h
		1.0 to 5.0 mm of	Partly cloudy with light to	<b>Hot</b>			 Weak south-













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5 <sup>th</sup>	65% chance of showers	rainfall is possible	moderate/heavy showers	 Max Temp 34.0°C	Feels like 44-47°C	65-70%	easterly 10 km/h Gust 20 km/h
6 <sup>th</sup>	 40% chance of showers	0.0 to 1.0 mm of rainfall is possible	Patchy cloudy skies with a light shower or two	<b>Hot</b>  Max Temp 34.5°C	Feels like 44-48°C	60-66%	 Weak south-easterly 10 km/h Gust 20 km/h
7 <sup>th</sup>	 55% chance of showers	1.0 to 2.0 mm of rainfall is possible	Partly cloudy with light/moderate shower or two	<b>Very warm</b>  Max Temp 33.5°C	Feels like 41-45°C	63-74%	 Weak south-easterly 10 km/h Gust 20 km/h
8 <sup>th</sup>	 75% chance of light/moderate showers	10.0 to 15.0 mm of rainfall with higher amounts on the east coast of Trinidad/Tobago	Partly cloudy with light to moderate/heavy showers	<b>Warm</b>  Max Temp 32.0°C	Feels like 40-45°C	67-75%	 Weak south-easterly 10 km/h Gust 20 km/h
		1.0 to 5.0 mm of		<b>Hot</b>			 Weak south-








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9 <sup>th</sup>	60% chance of light/moderate showers	rainfall is possible	Partly cloudy with showers	 Max Temp 34.0°C	Feels like 42-47°C	60-65%	easterly 10 km/h Gust 20 km/h
10 <sup>th</sup>	 40% chance of light/moderate showers	0.0 to 1.0 mm of rainfall is possible	Patchy cloudy skies with a shower or two	<b>Hot</b>  Max Temp 34.5°C	Feels like 38-48°C	55-61%	 Weak south-easterly 10 km/h Gust 20 km/h
11 <sup>th</sup>	 40% chance of light/moderate showers	0.0 to 1.0 mm of rainfall is possible	Patchy cloudy skies with a shower or two	<b>Hot</b>  Max Temp 34.5°C	Feels like 38-48°C	65-70%	 Weak south-easterly 10 km/h Gust 20 km/h
12 <sup>th</sup>	 60% chance of light/moderate showers	1.0 to 5.0 mm of is rainfall possible	Few cloudy patches with showers	<b>Very Warm</b>  Max Temp 33.0°C	Feels like 42-45°C	67-71%	 Weak south-easterly 10 km/h Gust 20 km/h
				<b>Very Warm</b>			 Weak

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13 <sup>th</sup>	60% chance of light/moderate showers	1.0 to 5.0 mm of rainfall is possible	Partly cloudy to cloudy with showers	 Max Temp 32.5°C	Feels like 35-45°C	60-74%	south-easterly 10 km/h Gust 20 km/h
14 <sup>th</sup>	 75% chance of light/moderate showers	10.0 to 20.0 mm of rainfall with higher amounts on the east coast of Trinidad/Tobago	Cloudy with light to moderate/heavy showers	<b>Warm</b>  Max Temp 31.0°C	Feels like 32-40°C	67-76%	 Weak south-easterly 10 km/h Gust 20 km/h
15 <sup>th</sup>	 55% chance of light/moderate showers	1.0 to 5.0 mm of rainfall is possible	Partly cloudy with few showers	<b>Very Warm</b>  Max Temp 33.0°C	Feels like 37-42°C	60-65%	 Weak south-easterly 10 km/h Gust 20 km/h

## Trinidad Rainfall Forecast for the 15-Day period of September (1<sup>st</sup> – 15<sup>th</sup>) 2021

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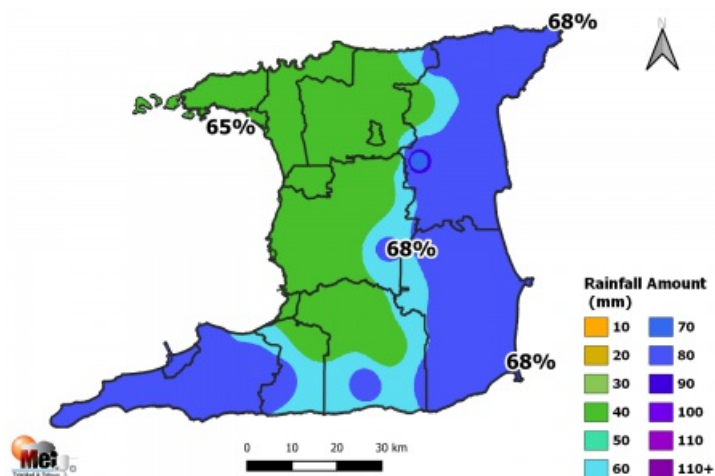


Figure 1. Rainfall map of Trinidad showing expected mean rainfall totals for districts across Trinidad during the 15-day period (1<sup>st</sup>-15<sup>th</sup>) September 2021 and percentage probability of occurrence.

## Eastern, and North-Eastern areas

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

## South-Eastern areas

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

## Southern areas

Moderate chance (68%) of mean daily rainfall up to 6.3 mm.

## South-Western areas

Moderate chance (68%) of mean daily rainfall up to 6.1 mm.

## Central, West-Central, and inland areas

Moderate chance (65%) of mean daily rainfall up to 3.4 mm.

## Northern, North-Western areas

Moderate chance (65%) of mean daily rainfall up to 3.0 mm.

## **Tobago Rainfall Forecast for the 15-Day period of September (1<sup>st</sup> – 15<sup>th</sup>) 2021**

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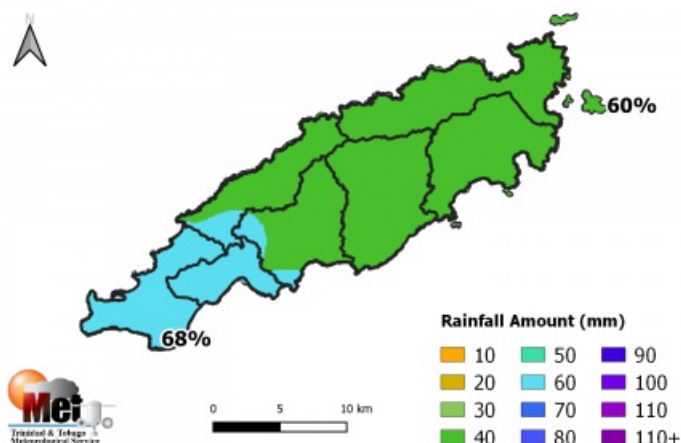


Figure 2. Rainfall map of Tobago showing expected mean rainfall totals for districts across Trinidad during the 15-day period (1<sup>st</sup>-15<sup>th</sup>) September 2021 and percentage probability of occurrence.

### North-Eastern areas

Moderate chance (68%) of mean daily rainfall up to 4.8 mm.

### South-Western areas

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

### Sun and Moon Positions in the Sky September (1<sup>st</sup> to 15<sup>th</sup>) 2021

The sun is presently at 8.5 degrees North latitude and with this position, the day-length or number of sunlight hours in Trinidad and Tobago from September 1<sup>st</sup> will be 12 hours 19 minutes, reducing steadily to 12 hours and 11 minutes by the 15<sup>th</sup> September. During the days that may have patchy or partly cloudy skies, high solar radiation intensity will be experienced, particularly during the hours 11:00 am to 3:00 pm. Farmers must be proactive at these times, to prevent heat stroke and other heat related ailments from affecting young, sick livestock and seedlings. Therefore, sufficient shade and ventilation, together with fresh cool water provided to livestock when necessary, will be essential.

According to the moon phases, days 7<sup>th</sup>, 8<sup>th</sup>, 9<sup>th</sup>, 10<sup>th</sup>, 11<sup>th</sup>, 14<sup>th</sup> and 15<sup>th</sup> are good days for planting aboveground crops, while the days 1<sup>st</sup> and 2<sup>nd</sup> of September are good days for planting belowground crops. However, days 3<sup>rd</sup>, 4<sup>th</sup>, 5<sup>th</sup>, 6<sup>th</sup> (New Moon phase), 12<sup>th</sup> and 13<sup>th</sup> (First Quarter phase) of September 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 had received moderate amounts of rainfall during the last dekad (21<sup>st</sup>-29<sup>th</sup>) of August. During this first fifteen-day forecast period of September, expect significantly less rainfall to occur. The hot and sunny

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days, light winds and low to moderate rainfall amounts in this first fifteen-day period of September will sustain average evaporation and average evapotranspiration rates overall.

On very warm to hot days there is a high probability (80%) chance of heat stress in young livestock, and seedlings that have been newly germinated and transplanted onto fields. There is also a high probability (80%) chance for fungi spread, fruit and/or root rot, insect pests and warm weather diseases to develop in crop beds.

During this fifteen-day period, river levels and soil moisture will become moderate to low, enabling the drying of any remaining waterlogged soils in fields and pastures. However, the potential of flooding still exists. Therefore farmers should remain prepared with necessary flood alleviating actions such as portable water pumps, sandbags and elevated structures on the ground to store animals, seedlings, machinery and other equipment.

## Weather Assessment for the period August (21<sup>st</sup>-29<sup>th</sup>) 2021.

On the 21<sup>st</sup>, 22<sup>nd</sup>, 23<sup>rd</sup>, 24<sup>th</sup>, 25<sup>th</sup>, 27<sup>th</sup>, 28<sup>th</sup>, and 29<sup>th</sup> a mixture of low, moderate and high rainfall amounts occurred across Trinidad, while moderate rainfall amounts occurred over Tobago. The saturated soils and moderate to high river levels may have hindered crop growth in agricultural lands and vegetation growth in pastures. On others days, mostly relatively wet conditions predominated over both islands. The rainfall totals maps for the period 21<sup>st</sup> to 29<sup>th</sup> of August for Trinidad and Tobago are located below as figure 1 and figure 2.

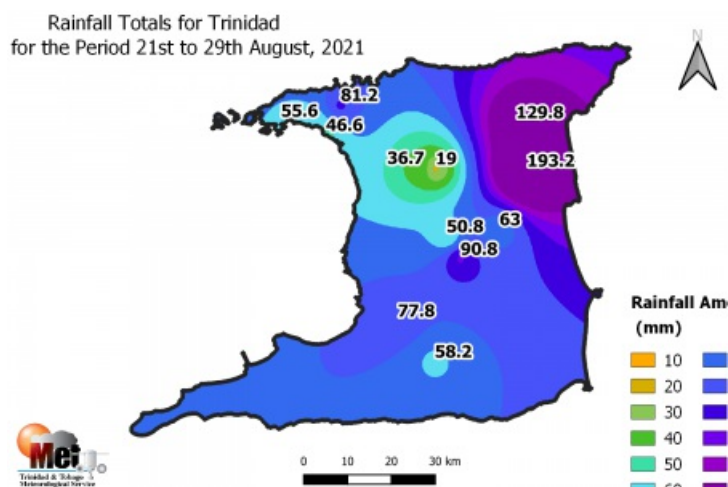


Figure 1. Rainfall map of Trinidad showing measured rainfall totals for varying districts during period 21<sup>st</sup> to 29<sup>th</sup> of August 2021.

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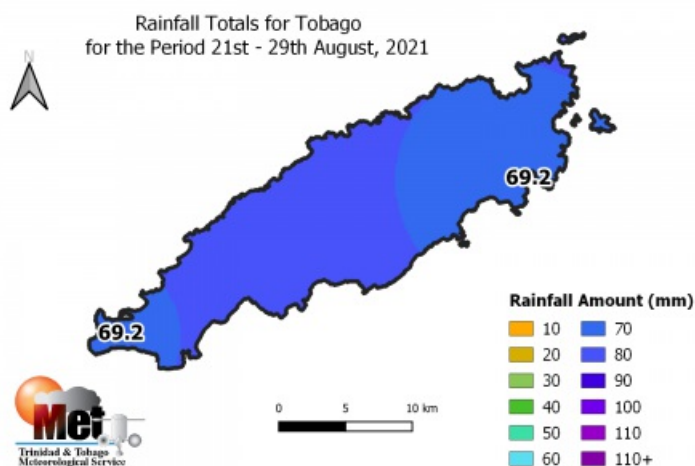


Figure 2. Rainfall map of Tobago showing measured rainfall totals for varying districts during period 21<sup>st</sup> to 29<sup>th</sup> of August 2021.

## Temperatures:

Temperatures remained warm during the period as maximum daytime temperatures ranged between 31.1 °C and 33.5 °C, in Trinidad.

In Tobago, temperatures were warm, with maximum daytime temperatures ranging between 30.9 °C and 32.4 °C.

## Summary

Summary of Expected Weather: Low to moderate rainfall amounts are expected on twelve of the fifteen days. Mostly relatively wet days with rainfall amounts ranging between 1.0 mm to 10.0 mm are expected for the 15-day period 1st to 15th of September 2021. The three wet days with rainfall amounts greater than 10.0 mm are expected on the 4th, 8th and 14th, particularly in northwestern, northeastern, eastern, southeastern and southern parts of Trinidad and southwestern Tobago. However, nine relatively wet days with rainfall amounts of 1.0 mm to 10.0 mm are expected on the 1st, 2nd, 3rd, 5th, 7th, 9th, 12th, 13th and 15th and three relatively dry days with rainfall amount of 1.0 mm or less are expected on 6th, 10th and 11th. Trinidad: Partly cloudy to cloudy spells are expected on the 4th, 8th and 14th, which will likely bring light to occasionally moderate/heavy rainfall across farmlands in the northwestern, northeastern, eastern, southeastern, southern and south-western areas of Trinidad. Daily rainfall totals are forecast to be between 10.0 mm and 20.0 mm across different farmlands, with fifteen-day rainfall totals ranging between 30.0 mm and 70.0 mm. The heaviest and most long-lasting rains are expected over farmlands in the northeastern areas of Sangre Grande, Fishing Pond, Plum Mitán and Vega De Oropouche; eastern areas of Biche; southeastern/southern areas of Mayaro and Moruga, southwestern areas of Point Fortin, La Brea and Penal. On the 1st, 2nd, 3rd, 5th, 7th, 9th, 12th, 13th and 15th, expect partly cloudy conditions with light to moderate showers with daily rainfall amounts ranging between 1.0 mm to 10.0 mm, while on the 6th, 10th and 11th expect patchy cloudy skies with one or two showers with daily rainfall amounts of 1.0 mm or less. Tobago: Tobago will experience drier conditions as a whole as compared to

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Trinidad. Farmers should expect three days of light to moderate/heavy rainfall amounts particularly on the 4th, 8th and 14th. The daily rainfall totals are forecast to be between 10.0 mm and 20.0 mm across southwestern farmlands. The fifteen-day rainfall totals will range between 30.0 mm to 60.0 mm across the island. However, on the 1st, 2nd, 3rd, 5th, 7th, 9th, 12th, 13th and 15th, expect partly cloudy conditions with few light to moderate showers with daily rainfall amounts ranging between 1.0 mm to 10.0 mm, while on the 6th, 10th and 11th, expect patchy cloudy skies with one or two showers with daily rainfall amounts 1.0 mm or less. Temperatures & Winds: Maximum temperatures are expected to remain warm (32.0oC) to very warm (33.5oC) throughout most of the period but can reach (34.0oC or higher) on the 1st, 5th, 6th, 9th, 10th, 11th, of September. However, temperatures are expected to have a real-feel or feels-like between 37.0oC to 48.0oC on most days. Mostly weak southeasterly winds of an average speed of 10 km/h are expected, with gusts ranging between 20 km/h to 24 km/h at times. Low to moderate rainfall totals, mostly low wind speeds, very warm to hot days and moderate to high feels-like temperatures will sustain average evapo-transpiration rates in crops ranging between 4.0 to 10.0 millimeters per day. Crop irrigation should be done when necessary, particularly on hot drier periods. Livestock should be provided with fresh cool water particularly on hot drier days to rehydrate. Moisture levels: Over the fifteen-day period across Trinidad and Tobago, moisture levels are expected to be low to moderate, with average daytime relative humidity values in the low-50s to low-60s, in terms of percentage. During possible rainy days (4th, 8th and 14th), average daytime relative humidity values will be in the low-70s to low-80s, in terms of percentage.

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