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### Agro-meteorological Bulletin and Assessment for Farmers and Livestock Producers of Trinidad and Tobago for the Third Dekad (21st - 31st) of July, 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 Rainfa	I	Rainfall below 50% of the average				
<b>Much Above Normal Rainfa</b>	II	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 July/August 2021

Date	Weather		Temperature	Heat Real Feel	Day Moisture (Relative) (Humidity)	Wind
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21 <sup>st</sup>	60% chance of showers	1.0 to 5.0 mm of rainfall is possible	Few cloudy patches with a shower or two	Max Temp 32.5°C	Feels like 37-40°C	55-62%	Moderate northeasterly 30 km/h Gust 40 km/h
22 <sup>nd</sup>	80% chance of light/moderate showers	1.0 to 30.0 mm of rainfall with higher amounts on the east coast of Trinidad/Tobago	showers	Warm  Max Temp 29.0°C	Feels like 32-38°C	66-85%	Weak easterly 16 km/h Gust 26 km/h
23 <sup>rd</sup>	60% chance of showers	1.0 to 5.0 mm of rainfall is possible	Few cloudy patches with a shower or two	Warm  Max Temp 32.5°C	Feels like 37-44°C	57-75%	Moderate northeasterly 20 km/h Gust 30 km/h
24 <sup>th</sup>	40% chance of light/moderate showers	0.0 to 2.0 mm of rainfall is possible	Few cloudy patches with a shower or two	Very Warm  Max Temp 33.0°C	Feels like 38-44°C	55-70%	Moderate easterly 20 km/h Gust 30 km/h
25 <sup>th</sup>	40% chance of light/moderate	0.0 to 2.0 mm of rainfall is possible	Few cloudy patches with a shower or	Very Warm	Feels like 38-44°C	53-68%	Moderate easterly 20 km/h

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	showers		two	Max Temp 33.0°C			Gust 30 km/h
26 <sup>th</sup>	light/moderate	1.0 to 30.0 mm of rainfall with higher amounts on the east coast of Trinidad/Tobago	showers	Warm  Max Temp 30.0°C	Feels like 32-38°C	65-86%	Weak easterly 10 km/h Gust 20 km/h
27 <sup>th</sup>	70% chance of light/moderate showers	0.1 to 15.0 mm of rainfall is possible	Mostly cloudy with light to moderate/heavy showers	Warm  Max Temp 30.0°C	Feels like 33-40°C	59-75%	Moderate easterly 20 km/h Gust 30 km/h
28 <sup>th</sup>	light/moderate	1.0 to 30.0 mm of rainfall with higher amounts on the east coast of Trinidad/Tobago	showers	Warm  Max Temp 29.0°C	Feels like 31-35°C	72-85%	Weak easterly 10 km/h Gust 20 km/h
29 <sup>th</sup>	45% chance of light/moderate showers	0.1 to 3.0 mm of rainfall is possible	Few cloudy patches with showers	Warm  Max Temp 33.0°C	Feels like 31-35°C	50-67%	Moderate northeasterly 20 km/h Gust 30 km/h
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30 <sup>th</sup>	65% chance of light/moderate showers	0.1 to 5.0 mm of rainfall is possible	Few cloudy patches with showers	Max Temp 32.0°C	Feels like 37-44°C	60-70%	Moderate northeasterly 20 km/h Gust 30 km/h
31 <sup>st</sup>	light/moderate	1.0 to 30.0 mm of rainfall with higher amounts on the east coast of Trinidad/Tobago	showers	Warm  Max Temp 30.0°C	Feels like 32-35°C	70-81%	Weak easterly 10 km/h Gust 20 km/h
1 <sup>st</sup>	55% chance of light/moderate showers	0.1 to 3.0 mm of rainfall is possible	Few cloudy patches with showers	Warm  Max Temp 32.0°C	Feels like 38-42°C	60-70%	Moderate northeasterly 20 km/h Gust 30 km/h
2 <sup>nd</sup>	65% chance of light/moderate showers	1.0 to 10.0 mm of rainfall is possible	Partly cloudy to cloudy with showers	Warm  Max Temp 32.0°C	Feels like 36-42°C	60-80%	Moderate easterly 20 km/h Gust 30 km/h
			Few cloudy	Warm isclaimer			Moderate northeasterly



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3 <sup>rd</sup>	55% chance of light/moderate showers	0.1 to 3.0 mm of rainfall is possible	patches with showers	Max Temp 32.0°C	Feels like 31-42°C	60-70%	20 km/h Gust 30 km/h
4 <sup>th</sup>	65% chance of light/moderate showers		Partly cloudy to cloudy with showers	Warm  Max Temp 32.0°C	Feels like 36-42°C	60-80%	Moderate easterly 20 km/h Gust 30 km/h

Trinidad Rainfall Forecast for the 15-Day period of July/August (21st -4th) 2021

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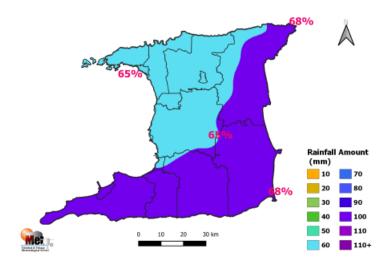


Figure 1. Rainfall map of Trinidad showing expected mean rainfall totals for districts across Trinidad during the 15-day period (21<sup>st</sup>-4<sup>th</sup>) July/August 2021 and percentage probability of occurrence.

#### **Eastern and North-Eastern areas**

Moderate chance (68%) of mean daily rainfall up to 8.8 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 9.8 mm.

### South-Western areas

Moderate chance (68%) of mean daily rainfall up to 9.7 mm.

### Central, West-Central, and inland areas

Moderate chance (65%) of mean daily rainfall up to 6.0 mm.

### Northern, North-Western areas

Moderate chance (65%) of mean daily rainfall up to 6.0 mm.

Tobago Rainfall Forecast for the 15-Day period of July/August (21st - 4th) 2021

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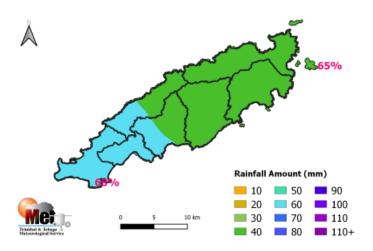


Figure 2. Rainfall map of Tobago showing expected mean rainfall totals for districts across Trinidad during the 15-day period (21<sup>st</sup>-4<sup>th</sup>) July/August 2021 and percentage probability of occurrence.

#### **North-Eastern areas**

Moderate chance (65%) of mean daily rainfall up to 4.0 mm.

### South-Western areas

Moderate chance (68%) of mean daily rainfall up to 5.1 mm.

### Sun and Moon Positions in the Sky July/August (21st to 4th) 2021

The sun is presently at the latitude of 22.0 degrees North latitude and with this position, the day-length or number of sunlight hours in Trinidad and Tobago from July 21 st will be 12 hours 40 minutes, reducing steadily to 12 hours and 33 minutes by the 4<sup>th</sup> August.

According to the moon phases, days 21<sup>st</sup> and 22<sup>nd</sup> are good days for planting above-ground crops, while the days 25<sup>th</sup>, 26<sup>th</sup>, 27<sup>th</sup>, 30<sup>th</sup>, 31<sup>st</sup> of July also 1<sup>st</sup> and 4<sup>th</sup> of August are good days for planting below-ground crops. However, the 28<sup>th</sup> and 29<sup>th</sup> of July are barren days, and the 23<sup>rd</sup> (Full Moon phase), 24<sup>th</sup> of July, also 2<sup>nd</sup> and 3<sup>rd</sup> of August are poor planting days. These days can be used for removing weeds, clearing land, and ploughing fields.

### Highlighted Possible Impacts on Agriculture:

Farmlands in Trinidad and Tobago had received low to moderate amounts of rainfall during the last dekad (11<sup>th</sup>-19<sup>th</sup>) of July. A continuation of this weather trend is expected for this third 15-day period of July/August. Expect mostly relatively wet days, with few wet days to occur during the period. The few sunny spells, light to moderate winds, and low to moderate rainfall amounts in this third fifteen-day period of July/August, will sustain average evaporation and average evapotranspiration rates overall.

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There is a moderate probability (68%) chance of heat stress in young livestock, newly germinated and transplanted seedlings onto fields. Warm to very warm days with high feel like temperatures and frequent periods of moist crop vegetation, will increase the chances for fungi spread, fruit or root rot, insect pests, and warm weather diseases to develop in crop beds.

During this 15-day period, river levels and soil moisture will become moderate to low, adding to the drying out of some waterlogged soils, fields, and pastures. However, there are a few wet days expected for this period. 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 July (11th -19th) 2021.

During the period (11<sup>th</sup> to 19<sup>th</sup>) of July 2021, low to moderate amounts of rain fell in many areas of Trinidad and Tobago. In Trinidad and Tobago on days 11<sup>th</sup> and 16<sup>th</sup> were the days that had moderate rainfall amounts. These rainfall days may have sustain soil moisture and moderate river levels, which have assisted rain-fed agricultural lands and pastures. On others days, mostly relatively wet conditions predominated over both islands. The rainfall totals maps for the period 11<sup>th</sup> to 19<sup>th</sup> of July for Trinidad and Tobago are located below as figure 1 and figure 2.

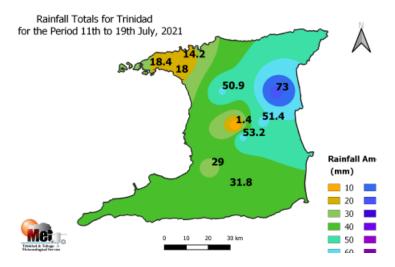


Figure 1. Rainfall map of Trinidad showing measured rainfall totals for varying districts during period 11<sup>th</sup> to 19<sup>th</sup> of July 2021.

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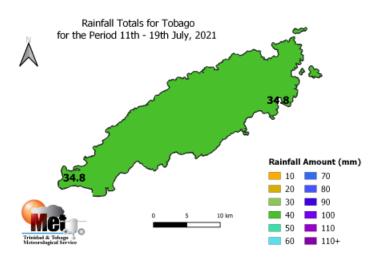


Figure 2. Rainfall map of Tobago showing measured rainfall totals for varying districts during the period 11<sup>th</sup> to 19<sup>th</sup> of July 2021.

### Temperatures:

Temperatures remained warm during the period as maximum daytime temperatures ranged between  $28.3\,^{\circ}$  C and  $32.0\,^{\circ}$  C, in Trinidad.

In Tobago, temperatures were warm, with maximum daytime temperatures ranging between 28.7 °C and 32.7 °C.

#### **Summary**

Summary of Expected Weather: Sufficient rainfall amounts are expected on seven of the fifteen days. A mixture of relative wet and wet days is expected for the 15-day period 21st to 4th of July/August 2021. Wet days with rainfall amounts 10.0 mm or greater are expected mainly on the 22nd, 26th, 27th, 28th, 31st, 2nd, and 4th, particularly in northeastern, eastern, south-eastern, and southern parts of Trinidad and over south-western areas of Tobago. However, relatively wet days with rainfall amounts of 5.0 mm or less are expected mainly on the 21st, 23rd, 24th, 25th, 29th, 30th, 1st, and 3rd. Trinidad: Partly cloudy to cloudy spells are expected on days 22nd, 26th, 27th, 28th, 31st, 2nd, and 4th, which will likely bring light to occasionally moderate/heavy rainfall across farmlands in the north-eastern, eastern, south-eastern, southern, and southern-western areas of Trinidad. Daily rainfall totals are forecasted to be between 1.0 mm and 30.0 mm across different farmlands, with fifteen-day rainfall totals ranging between 60.0 mm and 100.0 mm. The heaviest and most long-lasting rains are expected over farmlands in the northeast areas of Sangre Grande, Fishing Pond, Plum Mitan, and Vega De Oropouche; eastern areas of Biche; southeast/south of Mayaro and Moruga and southwest areas of Point Fortin and La Brea. Otherwise, on days 21st, 23rd, 24th, 25th, 29th, 30th, 1st, and 3rd, expect partly cloudy conditions with few showers. Tobago: Tobago will experience drier conditions as a whole as compared to Trinidad. The island will experience wet days and relatively wet days over the 15-day period mostly in the southwestern areas. Farmers should expect seven days of light to moderate/heavy rainfall amounts particularly on the 22nd, 26th, 27th, 28th, 31st, 2nd, and 4th. The daily rainfall totals are forecasted to be between 1.0 mm and 30.0 mm across

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different farmlands. The fifteen-day rainfall totals ranging between 40.0 mm and 60.0 mm across the island. However, on days 21st, 23rd, 24th, 25th, 29th, 30th, 1st, and 3rd, expect partly cloudy conditions with few showers. Temperatures & Winds: Maximum temperatures are expected to remain warm (29.0oC) to very warm (32.5oC) throughout most of the period but can reach (33.0oC) on the 24th, 25th, and 29th of July. However, temperatures are expected to have a real-feel or feels-like between 32.0oC to 44.0oC on most days. Moderate north-easterly to weak southeasterly winds of an average speed of 22 km/h are expected, with gusts ranging between 30 km/h to 40 km/h at times. Moderate rainfall totals, mostly moderate winds, warm to very warm days, and sensible feels-like temperatures will sustain average evapo-transpiration rates in crops ranging between 2.2 to 6.7 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 mid-50s to low-70s, in terms of percentage. While during possible rainy days of 22nd, 26th, 27th, 28th, 31st, 2nd, and 4th average daytime relative humidity values will be in the mid-70s to mid-80s, in terms of percentage.

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