

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

### Definitions used in the forecast and bulletin:











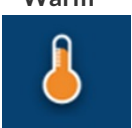




Term	Meaning	
Dekad	10 day rainfall measuring period	
Rain Day	A day with 1.0 mm or more of rainfall amount	
Wet Day	A day with 10.0 mm or more rainfall amount	
Extremely Wet Day	A day with 25.0 mm or more of rainfall amount	
Normal Rainfall	Between 75% and 125% of the average	
Below Normal Rainfall	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 (1<sup>st</sup> – 15<sup>th</sup>) of July 2022.

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














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1 <sup>st</sup>	 80% chance of showers	10.0 to 40.0 mm of rainfall is possible	Cloudy with light/mod occasional heavy showers	<b>Warm</b>  Max/Min Temperatures °C 26.0/22.0	Feels like 28-32°C	88-91%	 Weak easterly 10 km/h Gust 15 km/h
2 <sup>nd</sup>	 70% chance of showers	1.0 to 9.0 mm of rainfall is possible	Partly cloudy with few showers	<b>Warm</b>  Max/Min Temperatures °C 28.0/22.5	Feels like 32-33°C	78-86%	 Weak south-easterly 15 km/h Gust 25 km/h
3 <sup>rd</sup>	 65% chance of showers	1.0 to 3.0 mm of rainfall is possible	Partly cloudy with few showers	<b>Warm</b>  Max/Min Temperatures °C 28.0/23.0	Feels like 32-34°C	78-90%	 Weak south-easterly 15 km/h Gust 25 km/h
4 <sup>th</sup>	 65% chance of showers	1.0 to 5.0 mm of rainfall is possible	Partly cloudy with few showers	<b>Warm</b>  Max/Min Temperatures °C 29.0/23.0	Feels like 32-34°C	66-75%	 Weak south-easterly 15 km/h Gust 25 km/h
5 <sup>th</sup>	 65% chance	1.0 to 5.0 mm of rainfall is possible	Partly cloudy with few showers	<b>Warm</b> 	Feels like		 Weak south-easterly 15 km/h















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	of showers	possible		Max/Min Temperatures °C 30.0/23.0	36- 39°C	74-85%	Gust 25 km/h
6 <sup>th</sup>	 80% chance of showers	10.0 to 15.0 mm of rainfall is possible	Cloudy with light/mod occasional heavy showers	<b>Warm</b>  Max/Min Temperatures °C 29.0/22.5	Feels like 34- 37°C	77-88%	 Weak easterly 10 km/h Gust 15 km/h
7 <sup>th</sup>	 65% chance of showers	1.0 to 3.0 mm of rainfall is possible	Partly cloudy with few showers	<b>Warm</b>  Max/Min Temperatures °C 28.0/23.0	Feels like 32- 34°C	78-90%	 Weak south- easterly 15 km/h Gust 25 km/h
8 <sup>th</sup>	 80% chance of showers	10.0 to 25.0 mm of rainfall is possible	Cloudy with light/mod occasional heavy showers	<b>Warm</b>  Max/Min Temperatures °C 26.0/23.0	Feels like 28- 30°C	87-91%	 Weak south- easterly 15 km/h Gust 25 km/h
9 <sup>th</sup>	 60% chance of showers	1.0 to 9.0 mm of rainfall is possible	Partly cloudy with few showers	<b>Warm</b>  Max/Min Temperatures °C 31.0/23.0	Feels like 35- 40°C	60-78%	 Moderate easterly 20 km/h Gust 30 km/h
				<b>Warm</b>			




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10 <sup>th</sup>	 65% chance of showers	1.0 to 5.0 mm of rainfall is possible	Partly cloudy with one or two showers	 Max/Min Temperatures °C 31.5/23.5	Feels like 37-42°C	62-79%	Moderate easterly 20 km/h Gust 30 km/h
11 <sup>th</sup>	 65% chance of showers	1.0 to 8.0 mm of rainfall is possible	Partly cloudy with one or two showers	<b>Warm</b>  Max/Min Temperatures °C 31.5/23.0	Feels like 38-43°C	66-81%	 Moderate easterly 20 km/h Gust 30 km/h
12 <sup>th</sup>	 80% chance of showers	10.0 to 25.0 mm of rainfall is possible	Cloudy with light/mod occasional heavy showers	<b>Warm</b>  Max/Min Temperatures °C 29.0/23.0	Feels like 34-36°C	78-86%	 Weak south-easterly 15 km/h Gust 25 km/h
13 <sup>th</sup>	 80% chance of showers	10.0 to 15.0 mm of rainfall is possible	Cloudy with light/mod occasional heavy showers	<b>Warm</b>  Max/Min Temperatures °C 31.5/23.5	Feels like 37-42°C	64-79%	 Moderate easterly 20 km/h Gust 30 km/h
14 <sup>th</sup>	 65% chance	1.0 to 9.0 mm of rainfall is possible	Partly cloudy with few showers	<b>Warm</b> 	Feels like		 Moderate easterly 20 km/h

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	of showers	possible		Max/Min Temperatures °C 31.5/23.5	37- 40°C	64-72%	Gust 30 km/h
15 <sup>th</sup>	 80% chance of showers	10.0 to 25.0 mm of rainfall is possible	Cloudy with light/mod occasional heavy showers	<b>Warm</b>  Max/Min Temperatures °C 31.0/23.5	Feels like 38- 43°C	70-86%	 Weak easterly 10 km/h Gust 15 km/h

Trinidad Rainfall Forecast for the 15-Day period of July (1<sup>st</sup> - 15<sup>th</sup>) 2022.

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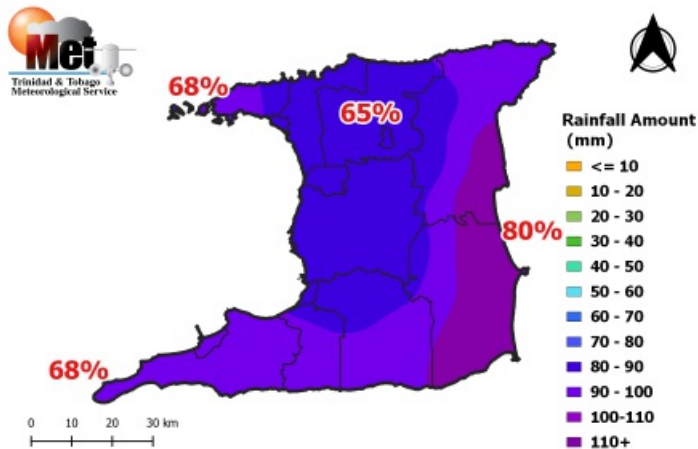


Figure 1. Rainfall map of Trinidad showing expected mean rainfall totals for districts across Trinidad during the 15-day period (1<sup>st</sup>-15<sup>th</sup>) July 2022 and percentage probability of occurrence.

**Eastern, and North-Eastern areas**

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

**South-Eastern areas**

High chance (78%) of mean daily rainfall up to 12.5 mm.

**Southern areas**

Moderate chance (68%) of mean daily rainfall up to 10.1 mm.

**South-Western areas**

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

**Central, West-Central, and inland areas**

Moderate chance (65%) of mean daily rainfall up to 7.0 mm.

**Northern, North-Western areas**

Moderate chance (68%) of mean daily rainfall up to 8.2 mm.

**Tobago Rainfall Forecast for the 15-Day period of July (1<sup>st</sup> – 15<sup>th</sup>) 2022**

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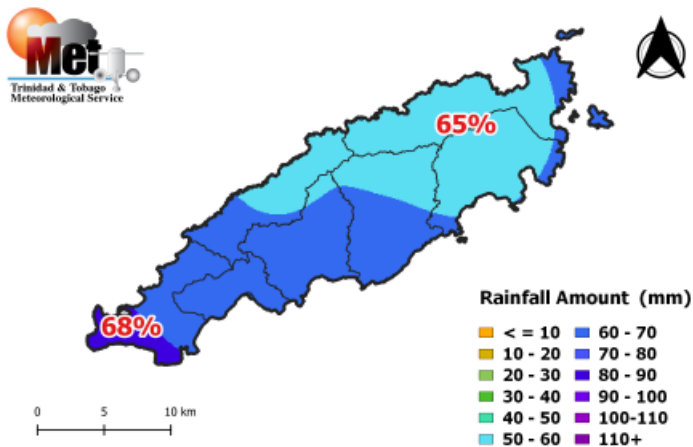


Figure 2. Rainfall map of Tobago showing expected mean rainfall totals for districts across Tobago during the 15-day period (1<sup>st</sup>-15<sup>th</sup>) July 2022 and percentage probability of occurrence.

#### North-Eastern areas

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

#### South-Western areas

Moderate chance (68%) of mean daily rainfall up to 6.5 mm.

#### **Sun and Moon Positions in the Sky July (1<sup>st</sup>-15<sup>th</sup>) 2022.**

The sun is presently at 23.1 degrees North latitude and with this position, the day-length or number of sunlight hours in Trinidad and Tobago from July 1<sup>st</sup> will be 12 hours and 44 minutes, decreasing slightly to 12 hours and 41 minutes by 15<sup>th</sup> July 2022. According to the moon's phases, the 5<sup>th</sup>-9<sup>th</sup> and 12<sup>th</sup> of July are good days for planting aboveground crops while the 13<sup>th</sup> is a good day for planting belowground crops. However, the 1<sup>st</sup>-4<sup>th</sup>, 10<sup>th</sup>-11<sup>th</sup> and 14<sup>th</sup>-15<sup>th</sup> of July 2022, 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 (1<sup>st</sup> to 15<sup>th</sup>) July 2022, again expect similarly wet conditions to occur as compared to the last two consecutive 15-day forecast periods. There is a low probability (28%) chance for crop irrigation measures to take place owing to already heavily moist soils and expected rains during this forecast period. However, livestock should be provided with fresh cool water during this forecast period to rehydrate particularly during warmer and drier periods. On drier days, there is a low probability (25%) chance of heat stress in young livestock, newly germinated and transplanted seedlings onto fields due to frequent cloud cover. There is also a high probability (85%) chance for fungi spread, root and/or fruit rot, insect pests and warm weather diseases to develop in crop beds. River levels will remain at generally low/moderate levels during this forecast period but will become high at times during the 1<sup>st</sup>, 6<sup>th</sup>, 8<sup>th</sup>, 12<sup>th</sup>, 13<sup>th</sup>

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and 15<sup>th</sup> of July. There is always a high risk of flooding, especially during the west season. Farmers should be proactive and store seeds, animals and machinery in elevated locations to minimize losses in the event of flooding.

## Weather Assessment for the period June (21<sup>st</sup>-30<sup>th</sup>) 2022

Wet days occurred on the 21<sup>st</sup>, 24<sup>th</sup>, 26<sup>th</sup>-30<sup>th</sup> of June over Trinidad and Tobago. The moderate to high rainfall amounts that occurred across the islands allowed for moderate to high moisture content in soils, moderate to high river levels and flash/riverine flooding events. In Trinidad reports of flooding in southern areas such as Cedros, Penal and northwestern areas such as Grande Riviere occurred on the 29<sup>th</sup> of July. Crop growth and development rates in general across agricultural lands and vegetation growth in pastures had increased significantly. The rainfall totals maps for the period, 21<sup>st</sup> to 30<sup>th</sup> of July for Trinidad and Tobago are located below as figure 1 and figure 2.

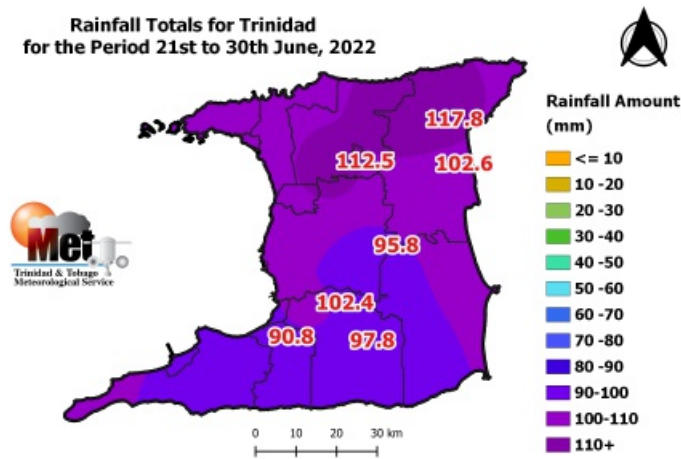
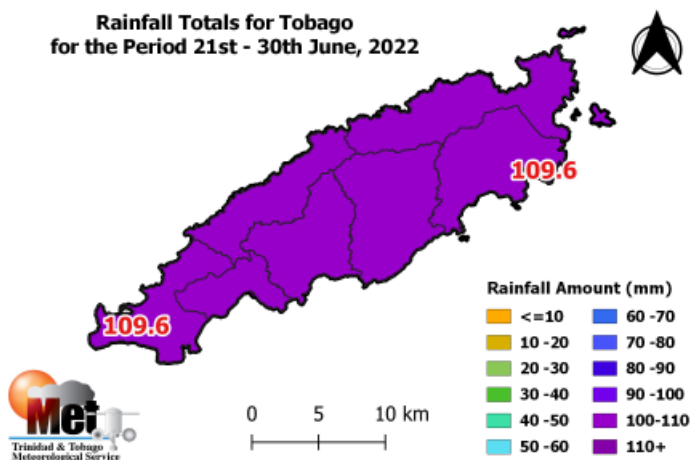


Figure 1. Rainfall map of Trinidad showing measured rainfall totals for varying districts from 21<sup>st</sup> to 30<sup>th</sup> June 2022.



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**Figure 2. Rainfall map of Tobago showing measured rainfall totals for varying districts during the period 21<sup>st</sup> to 30<sup>th</sup> June 2022.**

### Temperatures:

Temperatures were cool to warm during the period 21<sup>st</sup> to 30<sup>th</sup> June, as the minimum nighttime temperature fell to 21.9 °C and the maximum daytime temperature rose to 32.3 °C, in Trinidad.

Similarly, Tobago temperatures were cool to warm during the period 21<sup>st</sup> to 30<sup>th</sup> June, with the minimum nighttime temperature fell to 22.2 °C and the maximum daytime temperature rose to 31.2 °C.

### Summary

#### Summary of Expected Weather:

**Moderate to high rainfall amounts are expected on six of the fifteen days.**

Six wet days with rainfall amounts ranging between 10.0 mm and 40.0 mm are expected on the 1<sup>st</sup>, 6<sup>th</sup>, 8<sup>th</sup>, 12<sup>th</sup>, 13<sup>th</sup> and 15<sup>th</sup> of July while, nine relatively wet days with rainfall amounts ranging between 1.0 mm and 9.0 mm are expected on the 2<sup>nd</sup>-5<sup>th</sup>, 7<sup>th</sup>, 9<sup>th</sup>-11<sup>th</sup> and 14<sup>th</sup> of July 2022.

#### Trinidad:

Six wet days with rainfall amounts ranging between 10.0 mm and 40.0 mm are expected on the 1<sup>st</sup>, 6<sup>th</sup>, 8<sup>th</sup>, 12<sup>th</sup>, 13<sup>th</sup> and 15<sup>th</sup> of July while, nine relatively wet days with rainfall amounts ranging between 1.0 mm and 9.0 mm are expected on the 2<sup>nd</sup>-5<sup>th</sup>, 7<sup>th</sup>, 9<sup>th</sup>-11<sup>th</sup> and 14<sup>th</sup> of July 2022. The daily rainfall totals are forecast to range between 1.0 mm to 40.0 mm across different farmlands, with fifteen-day rainfall totals ranging between 70.0 mm and 125.0 mm. The impactful rainfall events will mostly occur across the northeastern, eastern, southeastern, southwestern and northwestern parts of Trinidad. There is a high (90%) probability that flash and riverine flooding will occur during/after heavy rainfall events.

#### Tobago:

Similar to Trinidad, Tobago will experience six wet days with rainfall amounts ranging between 10.0 mm and 40.0 mm are expected on the 1<sup>st</sup>, 6<sup>th</sup>, 8<sup>th</sup>, 12<sup>th</sup>, 13<sup>th</sup> and 15<sup>th</sup> of July while, nine relatively wet days with rainfall amounts ranging between 1.0 mm and 9.0 mm are expected on the 2<sup>nd</sup>-5<sup>th</sup>, 7<sup>th</sup>, 9<sup>th</sup>-11<sup>th</sup> and 14<sup>th</sup> of July 2022. The daily rainfall totals are forecast to range between 1.0 mm to 40.0 mm across different farmlands particularly southwestern areas, with fifteen-day rainfall totals ranging between 50.0 mm and 70.0 mm.

#### Temperatures & Winds:

The maximum temperatures are expected to remain warm, with temperatures ranging between 26.0°C to 31.5°C throughout the period. However, temperatures are expected to have a real-feel or feels-like between 28.0°C to 42.0°C on most days. The minimum temperatures will range between 22.2°C to 23.5°C during most nights/early mornings, dropping lower in rural areas and valleys.

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Mostly weak easterly to south-easterly winds of an average speed of 10-20 km/h are expected, with gusts of 25-30 km/h at times. 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 1.4 to 6.0 millimeters per day.

**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-60s to lower-90s, in terms of percentage.

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