

## Agro-meteorological Bulletin and Assessment for Farmers and Livestock Producers of Trinidad and Tobago for the Second Dekad (11th - 20th) of December, 2020

### 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 Assessment for the period (1<sup>st</sup> -9<sup>th</sup>) of December 2020.

During the period 1<sup>st</sup> to 9<sup>th</sup> of December, mostly relatively wet days occurred over Trinidad and only relative wet days occurred Tobago. In Trinidad, certain areas experience wet days on the 1<sup>st</sup>, 4<sup>th</sup> and 7<sup>th</sup>. These wet days were due to convergence bands of clouds and localize effects. Rainfall totals' maps for the period 1<sup>st</sup> to 9<sup>th</sup> of December are located below as figure 1 and figure 2.

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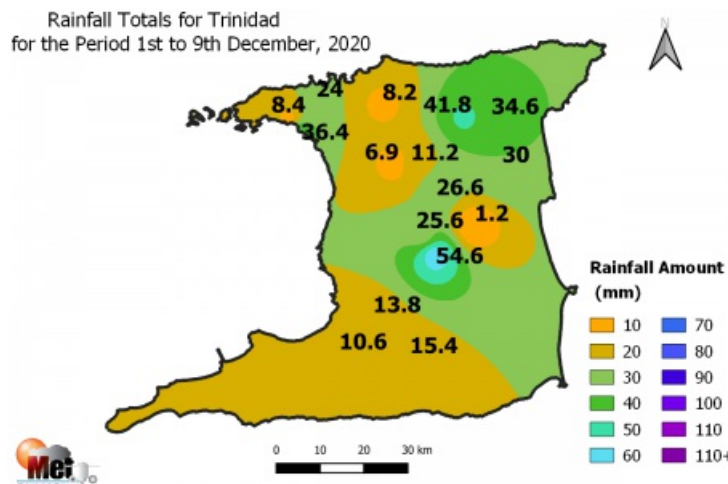


Figure 1. Rainfall map of Trinidad showing measured rainfall totals for varying districts during period 1<sup>st</sup> to 9<sup>th</sup> of December 2020.

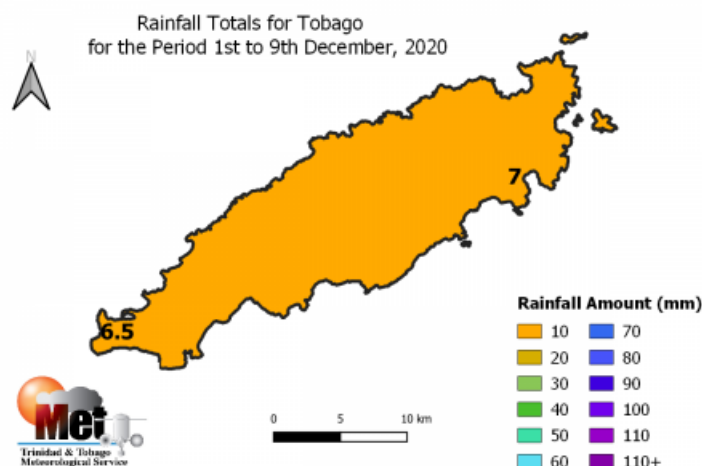


Figure 2. Rainfall map of Tobago showing measured rainfall totals for varying districts during period 1<sup>st</sup> to 9<sup>th</sup> of December 2020.

The observed temperatures (maximum/minimum), average relative humidity (maximum/minimum) and long-term

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**10-day (10dys) averages for Piarco International Airport and ANR Robinson International Airport during first dekad of December 2020.**

Location	Maximum Temperature °C/ Long term 10 dys average °C	Minimum Temperature °C /Long term 10 dys average °C	Average maximum Relative humidity (%)/ Long term 10 dys average (%)	Average minimum Relative humidity (%)/Long term 10 dys average (%)
Trinidad (Piarco International airport)	32.6/31.0 (1981-2010)	21.6/22.7 (1981-2010)	83/97 (1990-2010)	75/70 (1990-2010)
Tobago (ANR Robinson International airport)	31.8/30.2 (1981-2010)	23.1/23.5 (1981-2010)	84/90 (1990-2010)	77/69 (1990-2010)

**Table 1 shows the expected weather conditions during the Second Dekad (11<sup>th</sup> -20<sup>th</sup>) of December 2020, for Trinidad and Tobago.**

**Table 1.**

Days:	Expected weather:
11 <sup>th</sup>	Intermittent cloudy patches with a moderate probability (55%) of showers.
12 <sup>th</sup>	Cloudy periods with a moderate probability (70%) of light to moderate showers.
13 <sup>th</sup>	Intermittent cloudy patches with a moderate probability (55%) of showers.
14 <sup>th</sup>	Cloudy periods with a moderate probability (70%) of light to moderate showers.
15 <sup>th</sup>	Cloudy periods with a moderate probability (70%) of light to moderate showers.

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16 <sup>th</sup>	Intermittent cloudy patches with a moderate probability (55%) of showers
17 <sup>th</sup>	Intermittent cloudy patches with a moderate probability (40%) of showers
18 <sup>th</sup>	Intermittent cloudy patches with a moderate probability (40%) of showers.
19 <sup>th</sup>	Intermittent cloudy patches with a moderate probability (40%) of showers
20 <sup>th</sup>	Intermittent cloudy patches with a moderate probability (40%) of showers.

Table 2 shows the expected temperatures, humidity and dust haze days during the Second Dekad of December 2020 for Piarco, Trinidad.

Table 2.

Day	Maximum Temperature °C	Minimum Temperature °C	Average Relative humidity (%)	Dust Haze Yes/No
11 <sup>th</sup>	32.3	21.5	75	Yes
12 <sup>th</sup>	31.5	23.0	83	No
13 <sup>th</sup>	32.3	22.5	75	Yes
14 <sup>th</sup>	31.5	23.0	83	No
15 <sup>th</sup>	31.5	23.0	83	No
16 <sup>th</sup>	32.3	21.5	75	Yes
17 <sup>th</sup>	32.3	21.5	75	Yes
18 <sup>th</sup>	32.3	21.5	75	Yes
19 <sup>th</sup>	32.3	21.0	75	Yes
20 <sup>th</sup>	32.3	21.0	75	Yes

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Table 3 shows the expected temperatures, humidity and dust haze days during the Second Dekad of December 2020 for the ANR Robinson, Tobago.

**Table 3**

Day	Maximum Temperature °C	Minimum Temperature °C	Average Relative humidity (%)	Dust Haze Yes/No
11 <sup>th</sup>	31.3	23.0	75	Yes
12 <sup>th</sup>	30.5	23.5	83	No
13 <sup>th</sup>	31.3	23.5	75	Yes
14 <sup>th</sup>	30.5	23.0	83	No
15 <sup>th</sup>	30.5	23.0	83	No
16 <sup>th</sup>	31.3	23.0	75	Yes
17 <sup>th</sup>	31.3	23.0	75	Yes
18 <sup>th</sup>	31.3	23.0	75	Yes
19 <sup>th</sup>	31.3	23.0	75	Yes
20 <sup>th</sup>	31.3	23.0	75	Yes

**Trinidad's Mean Daily Rainfall Forecast for the Second Dekad of December (11<sup>th</sup> -20<sup>th</sup>) 2020.**

**Northern & Northwestern areas:**

Moderate chance (60%) of mean daily rainfall up to 3.1 mm.

**North-Eastern and Eastern areas:**

Moderate chance (65%) of mean daily rainfall up to 5.3 mm.

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

Moderate chance (65%) of mean daily rainfall up to 4.2 mm.

**South-Eastern areas:**

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

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## Southern areas:

Moderate chance (65%) of mean daily rainfall up to 4.8 mm.

## South-Western areas:

Moderate chance (60%) of mean daily rainfall up to 3.8 mm.

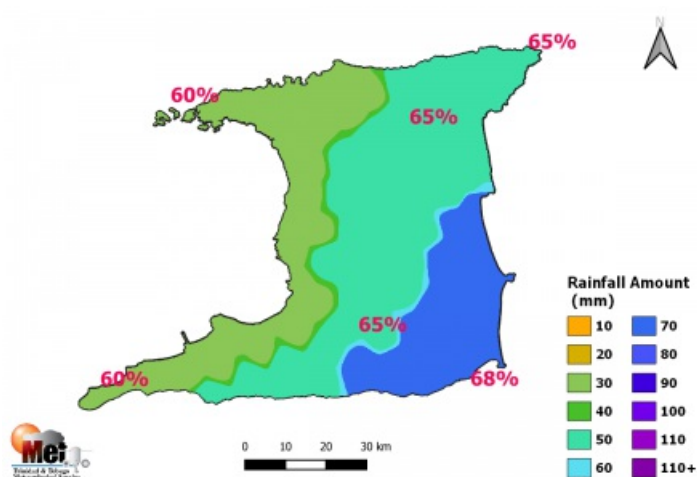


Figure 3. Rainfall map of Trinidad showing possible rainfall totals for varying districts during the second dekad of December 2020 and percentage probability of occurrence.

Tobago's Mean Daily Rainfall Forecast for the Second Dekad of December (11<sup>th</sup> -20<sup>th</sup>) 2020.

## Northeastern areas:

Moderate chance (68%) of mean daily rainfall up to 4.0 mm.

## South-Western areas:

Moderate chance (68%) of mean daily rainfall up to 4.0 mm.

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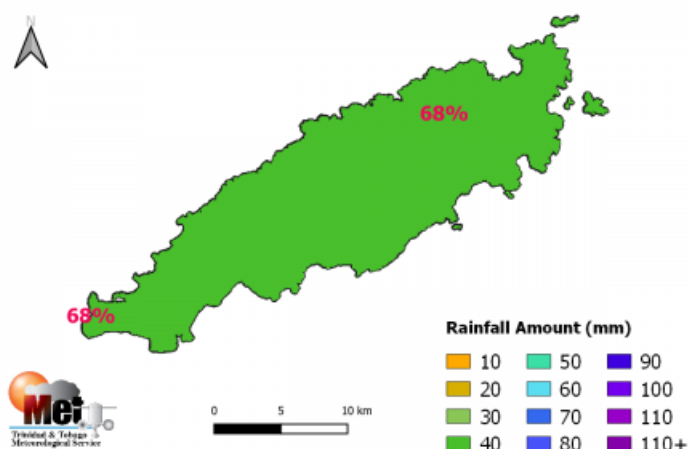


Figure 4. Rainfall map of Tobago showing possible rainfall totals for varying districts during the second dekad of December 2020 and percentage probability of occurrence.

## Impacts on Agriculture:

During the second dekad of December 2020, relatively wet days are expected on the 11<sup>th</sup>, 13<sup>th</sup>, 16<sup>th</sup>, 17<sup>th</sup>, 18<sup>th</sup>, 19<sup>th</sup> and 20<sup>th</sup>; while wet days are expected on the 12<sup>th</sup>, 14<sup>th</sup> and 15<sup>th</sup>. There is a moderate (60%) probability that the anticipated rainfall will return sufficient soil moisture across Trinidad and Tobago. The expected rainfall events may return rivers to moderate levels. There is a moderate (55%) probability that some areas will become water-logged especially in low-lying areas during the dekad. Shrubs and grass-growth will continue at a fast pace. Additionally, with lowering average temperatures at this time and moist vegetation, there is a moderate (50%) probability for fungi spread, insect pests and warm weather diseases to develop.

## Sun and Moon positions in the sky:

The sun is presently at a latitude of approximately 23.0 degrees South, and with this position, the day-length will be 11.4 hours. There is moderate probability (40%) of intense solar radiation during this second dekad of December, when the sky is generally cloud free. There is also moderate probability (40%) of heat stress on a variety of plant seedlings and young/sick/elderly animals from direct exposure to solar radiation, high temperatures with occasional calm winds. Additionally, the moon's new moon phase will be on the 14<sup>th</sup> of December. As a result, there will be medium to low moon illumination over crop fields and livestock at night during the dekad.

## Summary

During the second dekad of December 2020, relatively wet days are expected on the 11<sup>th</sup>, 13<sup>th</sup>, 16<sup>th</sup>, 17<sup>th</sup>, 18<sup>th</sup>, 19<sup>th</sup> and 20<sup>th</sup>; while wet days are expected on the 12<sup>th</sup>, 14<sup>th</sup> and 15<sup>th</sup>. On relatively wet days expect intermittent cloudy patches with a moderate probability range (40% to 55%) of showers and on wet days expect cloudy periods with a

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moderate probability of 70% of light to moderate showers.

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