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## Agro-meteorological Bulletin and Assessment for Farmers and Livestock Producers of Trinidad and Tobago for the First Dekad (1st - 10th) 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		
<b>Extremely Wet Day</b>		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 Rainfa	ıll	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		

During the period  $21^{st}$  to  $29^{th}$  of November, a mixture of relatively wet and wet days occurred over Trinidad and Tobago. In Trinidad, certain areas experience wet days on the  $21^{st}$ ,  $22^{nd}$ ,  $24^{th}$ ,  $26^{th}$ ,  $27^{th}$  and  $28^{th}$  while in Tobago wet days occurred on the  $21^{st}$ ,  $22^{nd}$  and  $27^{th}$ . These wet days were due to the passage of active tropical waves and/or visitation of the Inter tropical Convergence Zone (ITCZ). Rainfall totals' maps for the period  $21^{st}$  to  $29^{th}$  of November are located below as figure 1 and figure 2.

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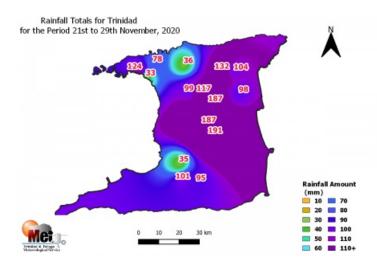


Figure 1. Rainfall map of Trinidad showing measured rainfall totals for varying districts during period 21<sup>st</sup> to 29<sup>th</sup> of November 2020.

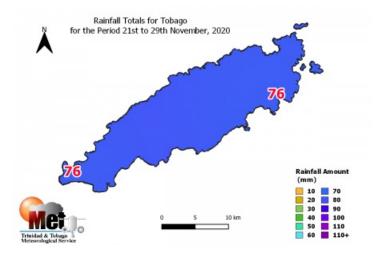


Figure 2. Rainfall map of Tobago showing measured rainfall totals for varying districts during period 21<sup>st</sup> to 29<sup>th</sup> of November 2020.

The observed temperatures (maximum/minimum), average relative humidity (maximum/minimum) and long-term 10-day (10dys) averages for Piarco International Airport and ANR Robinson International Airport during third dekad of November 2020.

Maximum	Minimum		
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Location		<sup>0</sup> C /Long term 10 dys average	(%)/ Long term 10	Average minimum Relative humidity (%)/Long term 10 dys average (%)
International			90/97	80/69 (1990-2010)
KODIIISOII	31.6/30.4		87/94 (1990-2010)	74/70 (1990-2010)

Table 1 shows the expected weather conditions during the First Dekad ( $1^{st}$ - $10^{th}$ ) of December 2020, for Trinidad and Tobago.

## Table 1.

Days:	Expected weather:
1 <sup>st</sup>	Intermittent cloudy patches with a moderate probability (40%) of showers.
2 <sup>nd</sup>	Intermittent cloudy patches with a moderate probability (40%) of showers.
3 <sup>rd</sup>	Intermittent cloudy patches with a moderate probability (40%) of showers.
4 <sup>th</sup>	Intermittent cloudy patches with a moderate probability (55%) of showers.
5 <sup>th</sup>	Cloudy periods with a moderate probability (70%) of light to moderate showers.
6 <sup>th</sup>	Intermittent cloudy patches with a moderate probability (55%) of showers
7 <sup>th</sup>	Cloudy periods with a moderate probability (70%) of light to moderate showers.

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8	3 <sup>th</sup>	Intermittent cloudy patches with a moderate probability (55%) of showers.
9	<b>)</b> th	Cloudy periods with a moderate probability (70%) of light to moderate showers.
1	lO <sup>th</sup>	Intermittent cloudy patches with a moderate probability (55%) of showers.

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

### Table 2.

Day	Maximum Temperature <sup>0</sup> C	Minimum Temperature <sup>0</sup> C	Average Relative	Dust Haze Yes/No
1 <sup>st</sup>	32.0	22.5	75	Yes
2 <sup>nd</sup>	32.0	22.5	75	Yes
3 <sup>rd</sup>	32.0	22.5	75	Yes
4 <sup>th</sup>	32.0	22.5	75	Yes
5 <sup>th</sup>	31.0	23.0	89	No
6 <sup>th</sup>	32.0	22.5	75	Yes
7 <sup>th</sup>	31.0	23.0	89	No
8 <sup>th</sup>	32.0	22.5	75	Yes
9 <sup>th</sup>	31.0	23.0	89	No
10 <sup>th</sup>	32.0	22.5	75	Yes

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





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Day	Maximum Temperature <sup>0</sup> C	Minimum Temperature <sup>0</sup> C	Average Relative humidity (%)	Dust Haze Yes/No
1 <sup>st</sup>	31.5	23.0	75	Yes
2 <sup>nd</sup>	31.5	23.0	75	Yes
3 <sup>rd</sup>	31.5	23.0	75	Yes
4 <sup>th</sup>	31.5	23.0	75	Yes
5 <sup>th</sup>	31.0	23.0	89	No
6 <sup>th</sup>	31.5	23.0	75	Yes
7 <sup>th</sup>	31.0	23.0	89	No
8 <sup>th</sup>	31.5	23.0	75	Yes
9 <sup>th</sup>	31.0	23.0	89	No
10 <sup>th</sup>	31.5	23.0	75	Yes

Trinidad's Mean Daily Rainfall Forecast for the First Dekad of December (1st -10th) 2020.

### Northern & Northwestern areas:

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

### North-Eastern and Eastern areas:

Moderate chance (68%) of mean daily rainfall up to 5.4 mm.

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

Moderate chance (60%) of mean daily rainfall up to 3.3 mm.

## South-Eastern areas:

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

## Southern areas:

Moderate chance (68%) of mean daily rainfall up to 5.9 mm.

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## South-Western areas:

Moderate chance (68%) of mean daily rainfall up to 5.8 mm.

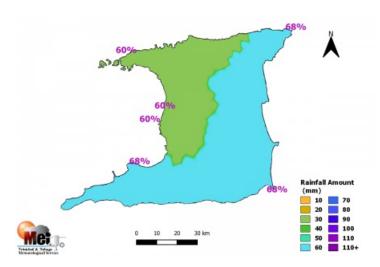


Figure 3. Rainfall map of Trinidad showing possible rainfall totals for varying districts during the first dekad of December 2020 and percentage probability of occurrence.

Tobago's Mean Daily Rainfall Forecast for the First Dekad of December (1st -10th) 2020.

### Northeastern areas:

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

### South-Western areas:

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

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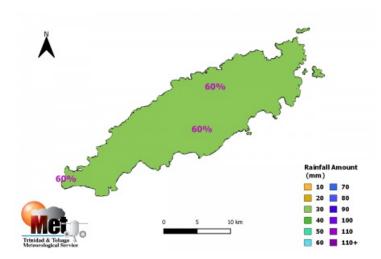


Figure 4. Rainfall map of Tobago showing possible rainfall totals for varying districts during the first dekad of December 2020 and percentage probability of occurrence.

### Impacts on Agriculture:

During the first dekad of December 2020, relatively wet days are expected on the  $1^{st}$ ,  $2^{nd}$ ,  $3^{rd}$ ,  $4^{th}$ ,  $6^{th}$ ,  $8^{th}$ , and  $10^{th}$ ; while wet days are expected on the  $5^{th}$ ,  $7^{th}$  and  $9^{th}$ . 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 (55%) 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 21.75 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 first 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 third quarter moon phase will be on the 7 th of December. As a result, there will be medium moon illumination over crop fields and livestock at night during the dekad.

## **Summary**

During the first dekad of December 2020, relatively wet days are expected on the 1st, 2nd, 3rd, 4th, 6th, 8th, and 10th; while wet days are expected on the 5th, 7th and 9th. 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 moderate probability

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of 70% of light to moderate showers.

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