

## Agro-meteorological Bulletin and Assessment for Farmers and Livestock Producers of Trinidad and Tobago for the first dekad (01<sup>st</sup> – 10<sup>th</sup>) of March 2020

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 of 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

Definitions used in the forecast and bulletin:

## Weather Assessment for the third dekad of February (21<sup>st</sup> - 29<sup>th</sup>) 2020

Apart from beneficial rainfall on the 24<sup>th</sup> in Trinidad and the 22<sup>nd</sup> in Tobago, the expected drying continued during the last nine (9) days of February, as hot weather dominated across the country. Even though rainfall for rain-fed agriculture was observed on these days, rainfall totals over the last nine days of February remained relatively small with only 4.0 mm recorded at Piarco which is about a quarter of the total recorded in the previous dekad. Similarly, while Crown Point recorded double the amount of rainfall measured at <u>Disclaimer</u>



Piarco, the last nine days of the February rainfall total of 9.0 mm was still just about one third of the total recorded during the previous ten days.

The dryness observed during the period was accompanied by maximum temperatures, which remained above  $31.0^{\circ}$  C in Trinidad on eight of the nine days to peak at  $31.8^{\circ}$  C and above  $30.0^{\circ}$  C in Tobago to peak at  $30.6^{\circ}$  C. Meanwhile relative humidity percentage values remained in the high 40s and low 50s percentages during daylight hours across both islands.

The conditions observed during the last nine days of February is taken as a deterioration of conditions for agriculture and remained a cause for concern for rain-fed agriculture, especially for the health of young and newly transplanted seedlings and crops, given the increasing temperatures and short-term drying observed. In the absence of adequate watering of crops, these conditions would have increased heat and water stress in crops, and as a result, wilting, dropping of leaves and flowers would have increased, which tend to affect crop yields. Similarly, these conditions were likely cause heat stress conditions in categories of livestock and poultry, such as dairy, pigs, layers and broilers, and hence likely negatively affect livestock production.

# Expected Weather for the First Dekad $(01^{st} - 10^{th})$ of March 2020 and Likely Impact on Agriculture.

The forecast for the first ten days of March shows little or no improvement in dry and hot conditions across Trinidad and Tobago, as exceptional dry conditions are set to continue affecting rain-fed agriculture and livestock farming over both islands. Conditions are set to become harsher in Tobago while areas in Trinidad are forecasted to experience weather that is similar to the last 9 days of February. Although conditions are forecast to be particularly dry, periodic overnight to early morning light showers, increase in cloudiness and relative humidity are forecasted for day's two to five, with possibilities of daylight showers on day seven. These brief episodes of rainfall should dampen to some degree, the dominant hot and dry weather expected.

There is a 65% chance that the ten-day rainfall will remain below 12.0 mm and range between 3.0 mm and 10.0 mm in most agriculture basins across the country. When averaged over the ten days, daily rainfall amounts are expected to be largest in northeast Trinidad where daily totals could average about 1.0 mm. Elsewhere, daily rainfall totals are expected to be smaller, varying between 0.3 mm and 0.8 mm.

Meanwhile, relative humidity percentage values during daylight hours are forecasted to remain low and range between the high 40s to 50s in both islands. Wind speeds are expected to continue being moderate to strong (6 to 11 meters per second) at 2.0 meters from the surface. Temperatures are expected to increase during the period with average daytime temperatures ranging between 29.0 °C and 32.0 °C in both islands. Daily maximum temperatures in Trinidad are forecasted to peak around 32.0 °C on most days while they are likely to peak near 31.0 °C in Tobago. When taken together, these conditions will result in high pan evaporation rates, which translate to high evapotranspiration rates in crops.

#### <u>Disclaimer</u>

This information is provided with the understanding that the Trinidad and Tobago Meteorological Service makes no warranties, either expressed or implied, concerning the accuracy, completeness, reliability, or suitability of the forecast or outlook contained in this document. The information may be used freely by the public with appropriate acknowledgement of its source, but shall not be modified in content and then presented as original material.



Although episodes of brief rainfall are expected to occur especially during the first five days, the anticipated mostly dry and hot conditions will require water management practices such as placing dry grass over crop root areas (mulching) after wetting or rain events, to retain the top soil moisture longer and to keep crops cooler. With the high temperatures, farmers should expect to see evidence of water and heat stress in crops. Some of these evidences will include wilting and leaf-drop, especially in newly planted and transplanted seedlings and younger plants on hot dry days. Plants like tomatoes, squash, peppers, melons, cucumbers, pumpkins, and beans tend to drop their flowers in exceptionally high temperatures, which will eventually affect crop yields. At the same time, farmers should conserve water by using water saving methods such as drip-irrigation and seek shade for livestock. The expected increase in heat is also likely to cause heat stress in livestock of all forms, which is likely to affect production in general.

## Preliminary Rainfall and Temperature Outlook for Second Ten Days of March 2020

The preliminary forecast for the second ten days of March indicates increased drying is likely during the first three days, while maximum temperatures are expected to continue being hotter than usual.



## Trinidad Rainfall Forecast for the First Dekad of March $(01^{st} - 10^{th})$ 2020

Figure 1. Rainfall Map of Trinidad showing expected mean rainfall totals for districts across Trinidad during the first ten days of March 2020 and percentage probability of occurrence.

#### <u>Disclaimer</u>



<u>Eastern and North-Eastern areas</u> Moderate chance (65 %) of mean daily rainfall up to 1.0 mm. <u>South-Eastern areas</u>

Moderate chance (65 %) of mean daily rainfall up to 1.0 mm. <u>Southern areas</u> Moderate chance (65 %) of mean daily rainfall up to 0.9 mm. <u>South-Western areas</u> Moderate chance (65%) of mean daily rainfall up to 0.5 mm. <u>Northern, North-Western areas</u> Moderate chance (65 %) of mean daily rainfall up to 0.6 mm.

## Central, West-Central and inland areas

Moderate chance (65 %) of mean daily rainfall up to 1.0 mm.

## Tobago Rainfall Forecast for the First Dekad of March (01<sup>st</sup> - 10<sup>th</sup>) 2020



## Figure 2. Rainfall Map of Tobago showing expected mean rainfall totals for districts across Tobago during the first ten days March 2020 and percentage probability of occurrence.

#### North-Eastern areas

Moderate chance (65 %) of mean daily rainfall up to 0.8 mm.

#### <u>Disclaimer</u>



## South-Western areas

Moderate chance (65 %) of mean daily rainfall up to 0.8 mm.

## **Temperatures**

#### Trinidad Temperature Forecast for the first dekad of March (01<sup>st</sup> – 10<sup>th</sup>) 2020

High chance (80 % chance) for daily maximum temperatures to exceed 31.0°C and peak near 32.0°C.

High chance (75%) for minimum night temperatures between 22.0 °C and 23.5°C.

Tobago Temperature Forecast for the first dekad of March (01<sup>st</sup> – 10<sup>th</sup>) 2020

High chance (75 % chance) for daily maximum temperatures to exceed 30.0°C and peak near 31.0°C.

High chance (80 % chance) for minimum nighttime temperatures between 22.0 °C and 24.5 °C.

**Summary:** During the first ten days of March, farmers should expect dry and hot conditions to dominate with episodes of overnight to early morning showers likely on day's two to five. Ten-day rainfall totals are favoured to remain below 12.0 mm. Temperatures are expected to remain warmer than average with maximum temperatures likely to peak at  $32.0^{\circ}$  C in Trinidad and  $31.0^{\circ}$  C in Tobago. Given the anticipated dry conditions, farmers should aim to keep crops cooler and retain moisture in crop root areas for longer periods after wetting by covering crops root areas with grass (mulching) while seeking shade for livestock.

#### <u>Disclaimer</u>