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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 March, 2023

Definitions used in the forecast and bulletin:

| Term | | Meaning | | | | |
|--------------------------------|--------------------|---|--|--|--|--|
| Dekad : | | 10 day rainfall measuring period | | | | |
| | | 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 | | | | |
| Much Above Normal Rainfa | 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(1st-15th) of March 2023.

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

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| 1 st | 20% chance of showers | Less than 1.0 mm of rainfall is possible | Occasional patchy cloudiness with a light shower | Max/Min Temperatures °C 32.0/21.0 | Feels like 32- 36°C | 48-58% | Moderate north- easterly 20 km/h Gust |
|-----------------|-----------------------|---|--|---|------------------------------|--------|---|
| 2 nd | 65% chance of showers | Less than 3.0 mm of rainfall is possible | Partly cloudy with few showers | Warm Max/Min Temperatures °C 32.0/21.0 | Feels like 38- 42°C | 62-70% | Moderate north-easterly 20 km/h Gust 30 km/h |
| 3 rd | 20% chance of showers | Less than 1.0 mm of rainfall is possible | Patchy cloudiness with a shower | Warm Max/Min Temperatures °C 32.5/20.0 | Feels like 32- 38°C | 61-70% | Moderate north- easterly 20 km/h Gust 30 km/h |
| 4 th | 20% chance of showers | Less than 1.0 mm of rainfall is possible | Patchy cloudiness with a shower | Warm Max/Min Temperatures °C 32.5/21.0 | Feels like 32- 37°C | 45-65% | Moderate north- easterly 20 km/h Gust 30 km/h |
| | | | | Warm Disclaimer | | | Moderate |



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| 5 th | 25% chance of showers | Less than 1.0 mm of rainfall is possible | Patchy cloudiness with a shower | Max/Min Temperatures °C 32.0/21.0 | Feels like 32- 36°C | 50-60% | north- easterly 20 km/h Gust 30 km/h |
|-----------------|-----------------------|---|--|---|------------------------------|--------|--|
| 6 th | 25% chance of showers | Less than 1.0 mm of rainfall is possible | Patchy cloudiness with a shower | Warm Max/Min Temperatures °C 32.0/20.0 | Feels like 32- 35°C | 54-60% | Moderate north- easterly 20 km/h Gust 30 km/h |
| 7 th | 25% chance of showers | Less than 1.0 mm of rainfall is possible | Occasional patchy cloudiness with a light shower | Warm Max/Min Temperatures °C 31.5/21.0 | Feels like 32- 35°C | 55-59% | Moderate north- easterly 20 km/h Gust 30 km/h |
| 8 th | 25% chance of showers | Less than 1.0 mm of rainfall is possible | Patchy cloudiness with a shower | Warm Max/Min Temperatures °C 32.0/23.0 | Feels like 32- 35°C | 53-60% | Moderate north- easterly 20 km/h Gust 30 km/h |
| | | | | Warm | | | Moderate |

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| 9 th | 25% chance of showers | Less than 1.0 mm of rainfall is possible | Occasional patchy cloudiness with a light shower | Max/Min Temperatures °C 32.0/23.0 | Feels like 32- 36°C | 53-60% | north- easterly 20 km/h Gust 30 km/h |
|------------------|-----------------------|---|--|---|------------------------------|--------|--|
| 10 th | 25% chance of showers | Less than 1.0 mm of rainfall is possible | Occasional patchy cloudiness with a light shower | Warm Max/Min Temperatures °C 32.0/23.0 | Feels like 32- 36°C | 55-72% | Moderate north- easterly 20 km/h Gust 30 km/h |
| 11 th | 25% chance of showers | Less than 1.0 mm of rainfall is possible | Patchy cloudiness with a shower | Warm Max/Min Temperatures °C 32.5/24.0 | Feels like 32- 38°C | 64-70% | Moderate north- easterly 20 km/h Gust 30 km/h |
| 12 th | 55% chance of showers | Less than 1.0 mm of rainfall is possible | Patchy cloudiness with a shower | Warm Max/Min Temperatures °C 32.5/24.0 | Feels like 32- 38°C | 64-70% | Moderate north- easterly 20 km/h Gust 30 km/h |
| | | Less than | Patchy | Warm | | | Moderate |

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| 13 th | 25% chance of showers | 1.0 mm of rainfall is possible | cloudiness with a shower | Max/Min Temperatures °C 32.5/24.0 | Feels like 32- 36°C | 49-58% | north- easterly 20 km/h Gust 30 km/h |
|------------------|-----------------------|---|--|---|------------------------------|--------|--|
| 14 th | 20% chance of showers | Less than 1.0 mm of rainfall is possible | Occasional patchy cloudiness with a light shower | Warm Max/Min Temperatures °C 32.5/24.0 | Feels like 32- 36°C | 49-58% | Moderate north- easterly 20 km/h Gust 30 km/h |
| 15 th | 25% chance of showers | Less than 1.0 mm of rainfall is possible | Patchy cloudiness with a shower | Warm Max/Min Temperatures °C 32.5/23.0 | Feels like 32- 36°C | 53-64% | Moderate north- easterly 20 km/h Gust 30 km/h |

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Trinidad Rainfall Forecast for the 15-Day period of March (1st -15th) 2023.

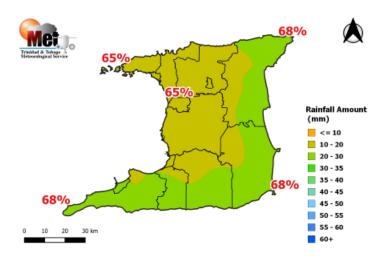


Figure 1. Rainfall map of Trinidad showing expected mean rainfall totals for districts across Trinidad during the 15-day period (1st-15th) March 2023 and percentage probability of occurrence.

Eastern, and North-Eastern areas

Moderate chance (68%) of mean daily rainfall up to 2.5 mm.

South-Eastern areas

Moderate chance (68%) of mean daily rainfall up to 2.5 mm.

Southern areas

Moderate chance (68%) of mean daily rainfall up to 2.6 mm.

South-Western areas

Moderate chance (68%) of mean daily rainfall up to 2.5 mm.

Central, West-Central, and inland areas

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

Northern, North-Western areas

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

Tobago Rainfall Forecast for the 15-Day period of March (1st -15th) 2023.

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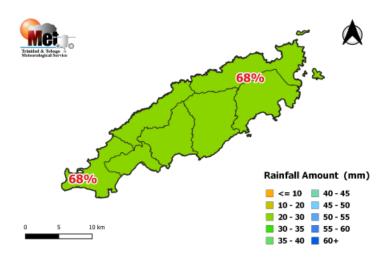


Figure 2. Rainfall map of Tobago showing expected mean rainfall totals for districts across Tobago during the 15-day period (1st-15th) March 2023 and percentage probability of occurrence.

North-Eastern areas

Moderate chance (68%) of mean daily rainfall up to 2.5 mm.

South-Western areas

Moderate chance (68%) of mean daily rainfall up to 2.5 mm.

Sun and Moon Positions in the Sky March (1st -15th) 2023.

The sun is presently at 7.8 degrees South latitude and with this position, the day-length or number of sunlight hours in Trinidad and Tobago from March 1st will be 11 hours and 55 minutes, increasing slightly to 12 hours and 04 minutes by 15th March 2023. According to the moon's phases, the 1st-2nd of March are good days for planting aboveground crops. While the 8th-12th and 15th are good days for planting belowground crops. However, the 3rd-7th (Full Moon Phase) and 13th-14th (Third Quarter Phase) 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 (1st-15th) March 2023, expect dry conditions to occur similar to the last 15-day forecast period of February. Due to the expected drying out of soils, frequent irrigation of fields will be necessary at this time to maintain soil moisture. In addition, stronger winds may hamper fertilizer and insecticide spraying routines. Temperatures are expected to become warmer, there is a moderate probability (40%) chance of heat stress in young

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livestock, newly germinated and transplanted seedlings onto fields. There is also a moderate probability (40%) chance for fungi spread, insect pests and warm weather diseases to develop in crop beds.

Weather Assessment for the period February (21st-28th) 2023.

Very little rainfall occurred during the last eight days resulting in widespread drying. The rainfall total maps for the period, 21st to 28th of February for Trinidad and Tobago are located below as figure 1 and figure 2.

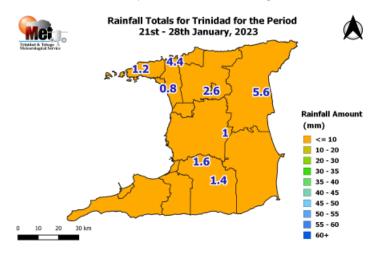
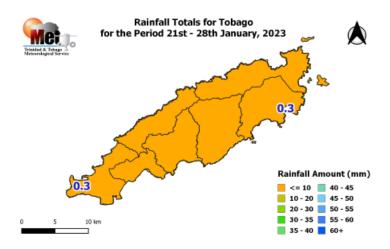


Figure 1. Rainfall map of Trinidad showing measured rainfall totals for varying districts during the period 21st to 28th February 2023.



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Figure 2. Rainfall map of Tobago showing measured rainfall totals for varying districts during the period 21st to 28th February 2023.

Temperatures:

Temperatures were cool to warm during the period 21st to 28th of February, with the minimum nighttime temperature falling to 18.7 °C and the maximum daytime temperature rising to 31.7 °C, in Trinidad.

Similarly, Tobago temperatures were cool to warm during the period 21^{st} to 28^{th} of February, with the minimum nighttime temperature falling to $20.9\,^{\circ}$ C and the maximum daytime temperature rising to $30.0\,^{\circ}$ C.

Summary

Low rainfall amounts are expected during the fifteen days.

One relatively wet day with rainfall amounts less than 3.0 mm is expected on the 2^{nd} of February, otherwise relatively dry days with rainfall amounts less than 1.0 mm are expected during the rest of the period.

Trinidad and Tobago:

One relatively wet day with rainfall amounts less than 3.0 mm is expected on the 2^{nd} of February, otherwise relatively dry days with rainfall amounts less than 1.0 mm are expected during the rest of the period. The daily rainfall totals are forecast to range between 0.0 mm to 3.0 mm across different farmlands across the island, especially along the coastal areas with fifteen-day rainfall totals ranging between 10.0 mm and 25.0 mm in Trinidad, and 25.0 mm in Tobago.

Temperatures & Winds:

The maximum temperatures are expected to remain warm, with temperatures ranging between $31.5\,^{\circ}\text{C}$ to $32.5\,^{\circ}\text{C}$ throughout the period. However, temperatures are expected to have a real-feel or feels-like between $32.0\,^{\circ}\text{C}$ to $38.0\,^{\circ}\text{C}$ on most days. The minimum temperatures will range between $20.0\,^{\circ}\text{C}$ to $24.0\,^{\circ}\text{C}$ during most nights/early mornings, dropping lower in rural areas and valleys.

In general, mostly moderate northeasterly winds of an average speed of 20 km/h are expected, however, gusts can range between 30-50 km/h. Low rainfall totals, mostly moderate wind speeds, warmer days, and warmer feels-like temperatures will sustain average evapotranspiration rates in crops ranging between 5.0 to 9.0 mm per day.

Moisture levels:

Over the fifteen-day period across Trinidad and Tobago, moisture levels are expected to be low, with average daytime relative humidity values in the mid-40s to lower-70s, in terms of percentage.

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