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# Meteorological Department St. Maarten

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## Weather & Climate

Volume 8, Issue 2

March 2023

### Summary

- Rainfall & Temperatures for February 2023 were near normal.
- March 23<sup>rd</sup> is World Meteorological Day.
- Drought conditions are possible by the end of May 2023.
- An El Niño event may develop in the coming months after three consecutive years of La Nina.

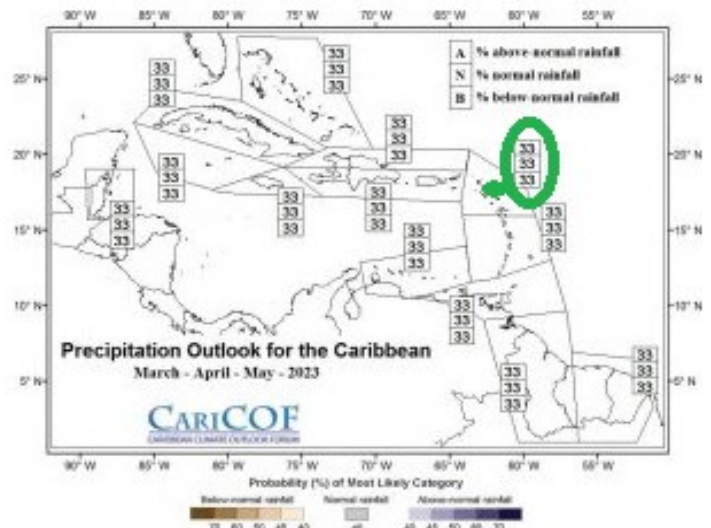
### Seasonal Outlook for March to May (MAM) 2023

#### Rainfall Forecast

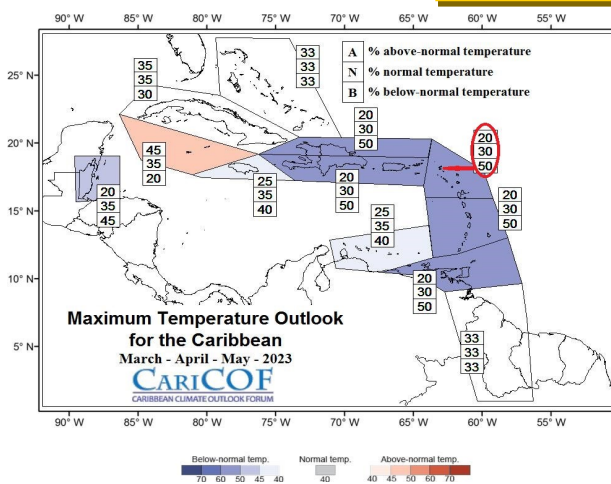
Models are indicating that rainfall totals for the season Mar-Apr -May 2023 are likely to be near the normal range in St. Maarten and the rest of the Caribbean.

The normal rainfall for Mar-Apr-May season on St. Maarten ranges 148mm-250mm/6-10 inches, with 22 to 30 wet days. We are in the dry season therefore, mostly sunny day with a few showers are expected. We transition to the wet season during the month of May.

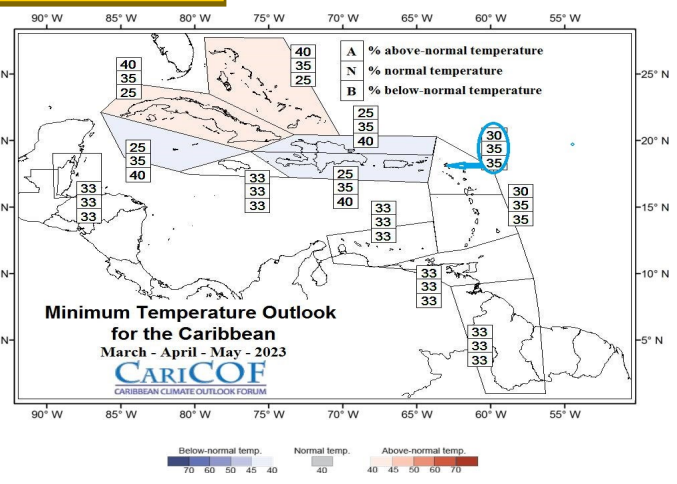
The forecast is for up to 4 (7-day) wet spells, up to 2 very wet spells and about 7 (7-day) dry spells on St. Maarten during this season.



#### Temperature Forecast



Day-time Temperatures



Night-time Temperatures

Day-time and night-time temperatures are expected to be near the usual or slightly lower this season. Heat stress is not expected to be of major concern through March however by April and May heat will be on the rise.

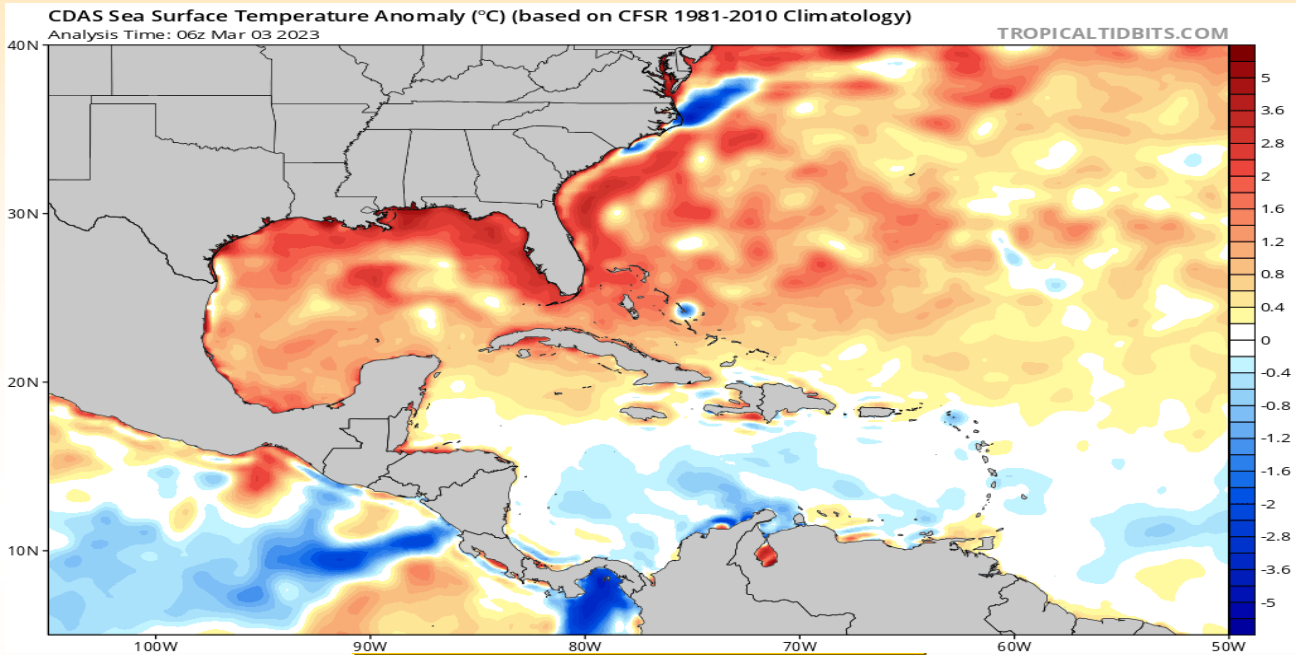
For more information on other Caribbean Outlooks go to <http://rcc.cimh.edu.bb/long-range-forecasts/caricof-climate-outlooks/>

## WHAT INFLUENCES THIS SEASON'S CLIMATE?

In mid February, sea surface temperatures (SST) in the east-central Pacific weakened further but remained at La Nina threshold ( $-0.5^{\circ}\text{C}$ ). The key atmospheric variables also remained consistent with continued La Nina conditions though there are signs of weakening. The La Nina Advisory remained in place.

Majority of the forecast models predict that SSTs will transition from La Nina levels to the neutral state during March to May season. The likelihood of El Nino remains low in March to May and increases in probability thereafter.

SSTs remained around  $0.5^{\circ}\text{C}$  above average in much of the sub-tropical North Atlantic but was near average in the Caribbean Sea and the Tropical north Atlantic. Models are suggesting that SST will remain between  $0^{\circ}\text{C}$  to  $0.5^{\circ}\text{C}$  above average around the Caribbean Sea and in the tropical North Atlantic.



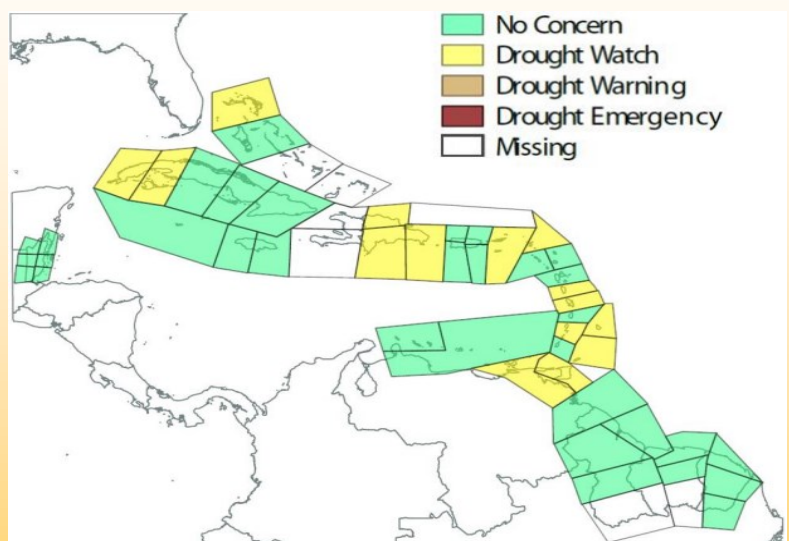
### Drought Watch

Currently short term drought has developed in parts of Cuba, Jamaica and Martinique.

Short-term drought is possible in several other countries across the Caribbean including St. Maarten by the end of May 2023.

Some actions that need to be taken in the meanwhile are to:

- ◆ Keep Updated on the situation
- ◆ Implement management plans
- ◆ Monitor and repair infrastructure
- ◆ Maintain adequate water level in Ponds for fish survival.
- ◆ Check and repair fire hydrants
- ◆ Set up irrigation systems



### Short term drought alert levels at the end of May 2023

**FEBRUARY 2023 IN REVIEW**

<b>Total Rainfall</b>	<b>50.6 mm</b>	<b>2.0 in</b>
<b>2023 Cumulative Rainfall</b>	<b>117.4 mm</b>	<b>4.6 in.</b>
<b>Max. 24-Hr. Rainfall</b>	<b>10.7 mm</b>	<b>0.4in.</b>
<b>No. Rain Days (≥1.0 mm)</b>	<b>13 days</b>	
<b>No. Heavy Rain Days (≥10.0 mm)</b>	<b>1 day</b>	
<b>No. Thunderstorm Days</b>	<b>None</b>	
<b>Avg. Wind Speed</b>	<b>11 kt.</b>	<b>13 mph</b>
<b>Max. Wind Gust</b>	<b>31 kt.</b>	<b>36 mph</b>
<b>Avg. Temperature</b>	<b>25.5°C</b>	<b>78°F</b>
<b>Max. Temperature</b>	<b>29.5°C</b>	<b>85°F</b>
<b>Min. Temperature</b>	<b>21.5°C</b>	<b>71°F</b>

**Long /Short Term Seasonal Review****Year in Review  
(March 2022 – February 2023)**

Total rainfall over the past twelve (12) months was within the normal range. (987 –1222mm). A total of 1110mm/44in. of rainfall was recorded at the Princess Juliana International Airport.

**Seasonal Review  
(Dec-Jan-Feb 2022/23)**

Total rainfall for the last three (3) months was 156mm/6in, this amount was slightly below the normal range (160-249mm). There were two (2) days with heavy rainfall (>10mm) during that period.

Rainfall and temperatures for the month of February were all within the normal range.

The warmest day in February was the 14<sup>th</sup> with an average temperature of 26.0°C/79°F. The coolest day was the 27<sup>th</sup> with an average temperature of 24.9°C/77°F.

The day with the most sunshine hours in February was the 28<sup>th</sup> (11hrs:18min).

The day with the least sunshine hours was the 27<sup>th</sup>, (6hrs:12min)

The windiest day in February was the 17<sup>th</sup> with a daily average wind speed of 15kt./17mph.

The day with the highest wind gust was the 9<sup>th</sup> (31kt./36mph).

Skies were Mostly fair.

There were thirteen (13) days with rainfall in February with only one (1) heavy rainfall day (>10mm).

There were no significant dry spells in February.

There were no hot days or warm nights in February.

There were ten (10) cool nights in February with the 28<sup>th</sup> recorded as the coolest with 21.5°C/ 71°F.

**NORMAL  
MARCH CONDITIONS**

<b>Rainfall Total</b>	<b>24 – 58 mm</b>	<b>1-2 in.</b>
<b>Avg. No. of Rain days</b>	<b>8 days</b>	
<b>Daily Average Temperature</b>	<b>25.8°C</b>	<b>78°F</b>
<b>Avg. Max. Temperature</b>	<b>29.0°C</b>	<b>84°F</b>
<b>Avg. Min. Temperature</b>	<b>23.5°C</b>	<b>74°F</b>
<b>Avg. Daily Hours of Sunshine</b>	<b>9 hrs</b>	

## Implication of Forecast for Sectors

### Energy/Water Sector

Energy demand for cooling purposes will gradually increase through May.

### Tourism Sector

- Fewer interruptions to outdoor activities are possible.

### Agriculture

- Frequent dry spells are expected this season. Irrigation should be considered.
- Drought is possible by the end of May.
- Pest and disease may increase in extreme dry and wet conditions. Monitor and employ recommended treatments as necessary.

### Health

- UV radiation will gradually increase this season. Excessive UV exposure can cause skin damage across the population on sunny days.
- Proper management of water storage containers e.g. covering with protective mesh helps to reduce the risk of mosquito breeding.



WORLD METEOROLOGICAL DAY 23 MARCH 2023

# THE FUTURE OF WEATHER, CLIMATE AND WATER ACROSS GENERATIONS



WORLD  
METEOROLOGICAL  
ORGANIZATION



World Meteorological Day 2023 coincides this year with the World Meteorological Organization's (WMO) 150<sup>th</sup> anniversary. In its anniversary celebration, the WMO highlights past achievements, present progress and future potential - from the late 19th century telegraphs and shipping forecasts to supercomputers and space technology. The Meteorological Department St. Maarten (MDS) also celebrates 10 years of establishment this year. In 2013 the MDS took over all meteorological responsibilities from Meteorological Department Curaçao.

Throughout this time, National Meteorological and Hydrological Services have worked around the clock to collect and standardize data which underpin the weather forecasts we now take for granted. The history of WMO data exchange is a remarkable story of scientific vision, technological development and, most of all, of a unique system of cooperation to serve society.

Our weather, climate and water cycle will be different in the future than in the past. Weather, climate and hydrological services will help us tackle the associated challenges and seize the opportunities.

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