



# Weather & Climate

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## KEY POINTS

- Rainfall for December 2023 was below the normal range.
- Below normal rainfall expected for the next 3 months.
- Temperatures are forecast to be above normal this season throughout the Caribbean.
- Globally, the past 9 years (2015-2023) were the warmest on record.

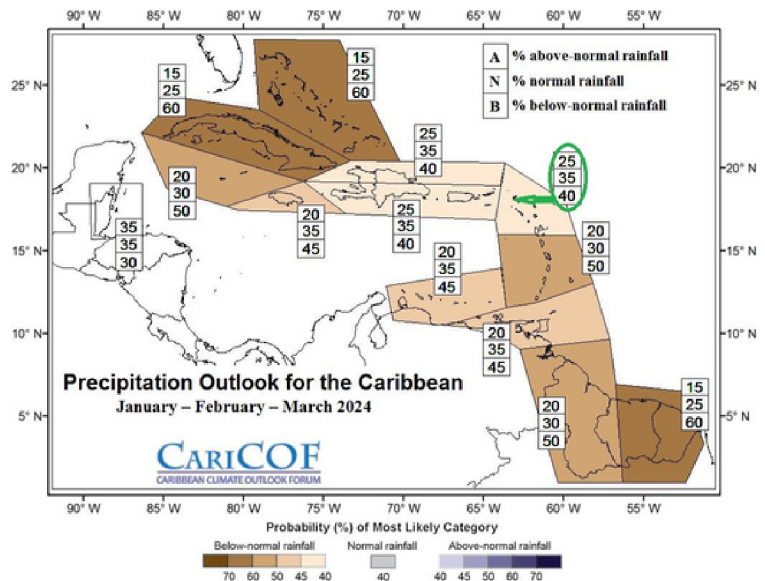
## SEASONAL OUTLOOK FOR JANUARY TO MARCH (JFM) 2024

# RAINFALL FORECAST

Models are indicating that rainfall totals for the season Jan-Feb-Mar 2024 are likely to be below the normal range in St. Maarten and the rest of the region.

The normal rainfall for the Jan-Feb-Mar season on St. Maarten ranges 136mm–180mm/5-7 inches, with 27-37 wet days. This season there are usually sunny days with some days with showers.

The forecast is for about 4 (7-day) wet spells and about 5 (7-day) dry spells on St. Maarten during this season.

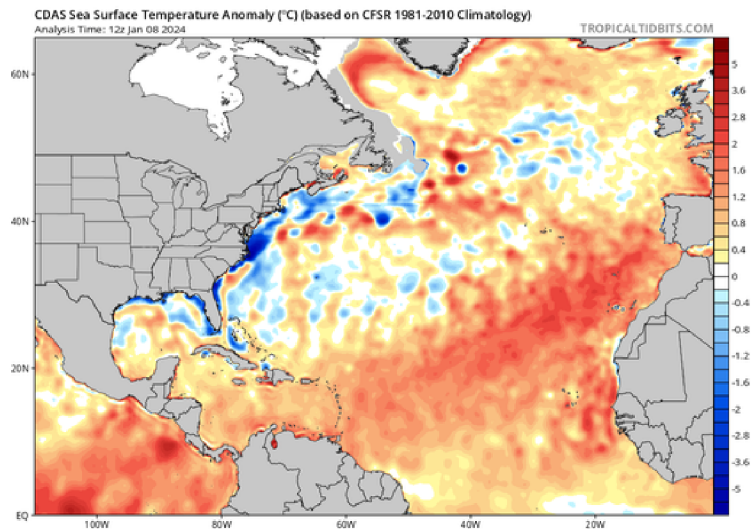


# TEMPERATURE FORECAST

Day-time and night-time temperatures are forecast to be higher than usual this season. No significant heat stress is expected, however, hot days / nights are likely in March in some areas.

## WHAT INFLUENCES THIS SEASON'S CLIMATE ?

In mid December, the El Nino conditions in the eastern and central Pacific remained strong with key oceanic and atmospheric variables consistent with the ongoing El Nino. The El Nino advisory remains in place and the majority of the forecast models predict that an El Nino will persist throughout this season followed by the neutral phase the most likely phase from April 2024 and the possibility of a La Nina by the August-October season.



El Nino more often than not is marked by a warmer cool season. Rainfall tends to be less than usual in the southern Caribbean but higher than usual in the far north.

## DROUGHT ALERT!

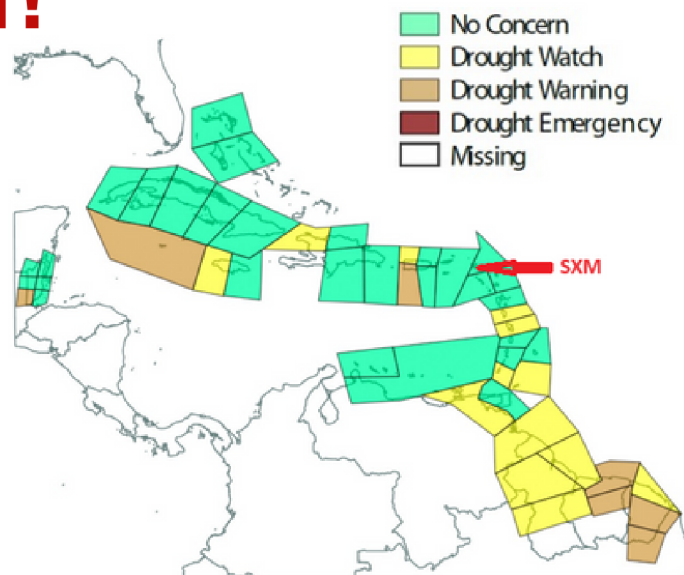
Drought conditions are not expected to be a major concern by the end of March 2024 in St. Maarten and the rest of the Leeward Islands.

Based on the forecast most countries in the southern Caribbean could experience some drought conditions.

At this time resources should be monitored, management plans should be ratified and updated while infrastructure upgraded.

*Please Note:*

Due to low rainfall expected it is likely that there will be some depletion in the water levels at the ponds and potential for bush fires will increase by March.



**Short term drought alert levels  
at the end of March 2024**



## DECEMBER 2023 IN REVIEW

**Warmest day:** December 4th  
Average temperature of 27.9°C/82°F

**Coollest day:** December 15th  
Average temperature of 25.7°C/78°F

**Sunshine hours:**  
**Most:** December 9th (10hrs:30min)  
**Least:** December 15th (3hr:30min)

**Windiest day:** December 13th  
Daily average wind speed of 16kt./18mph.

**Highest wind gust:** December 13th  
(31kt./36mph).

**Longest dry spell:** 15 days (17th-31st).

**Two cool nights:** 23rd & 30th  
Minimum temperature of 22.7°C/73°F.

<b>Total Rainfall</b>	56.5 mm   2.2 in
<b>2023 Cumulative Rainfall</b>	899.7 mm   35.4 in
<b>Maximum 24-hr. Rainfall</b>	19.3 mm   0.8 in
<b>No. of Rain Days</b>	5 days
<b>No. of Heavy Rain Days</b>	2 days
<b>No. of Thunderstorm Days</b>	0
<b>Average Wind Speed</b>	8 kt   9mph
<b>Maximum Wind Gust</b>	31 kt   36mph
<b>Average Temperature</b>	26.7°C   80°F
<b>Maximum Temperature</b>	32.0°C   90°F
<b>Minimum Temperature</b>	22.7°C   73°F

## NORMAL JANUARY CONDITIONS

<b>Total Rainfall</b>	60-85 mm   2-3 in
<b>Average No. of Rain Days</b>	13 days
<b>Daily Avg. Temperature</b>	25.7°C   78°F
<b>Avg. Max. Temperature</b>	28.7°C   84°F
<b>Avg. Min. Temperature</b>	23.3°C   74°F
<b>Avg. Daily Hrs. of Sunshine</b>	8 hours

## LONG/SHORT TERM SEASONAL REVIEW

### YEAR IN REVIEW (JAN-DEC 2023)

Total rainfall for 2023 was below the normal range. (976-1246mm). A total of 899.7mm/35in. of rainfall was recorded at the Princess Juliana International Airport.

### SEASONAL REVIEW (OCT-NOV-DEC 2023)

Total rainfall for the last three (3) months was 375.5mm/15in, this amount was within the normal range (325-415mm). There were nine (9) days with heavy rainfall (>10mm) during that period.

## IMPLICATION OF FORECAST FOR SECTORS

### HEALTH

Persons with respiratory illnesses should take the necessary precautions during Saharan dust episodes and monitor daily forecasts for more information.

### TOURISM

- Less interruptions to outdoor activities.
- Although we are in the cool season, daytime and nighttime temperatures are still forecast to remain up to 1-2 degrees Celsius higher than usual.

### AGRICULTURE

- Schedule irrigation during dry spells.
- Apply mulch for moisture conservation in the soil.
- Decrease in pests that thrive on surface moisture.

### ENERGY/WATER

Energy demand for cooling purposes may be slightly higher than usual for this time of year.

## THE STATE OF GLOBAL CLIMATE

The WMO provisional State of the Global Climate report confirms that 2023 is set to be the warmest year on record.

The past nine years, 2015 to 2023, were the warmest on record. "Greenhouse gas levels are record high. Global temperatures are record high. Sea level rise is record high. Antarctic sea ice is record low. It's a deafening cacophony of broken records," said the outgoing WMO Secretary-General Prof. Petteri Taalas.

"Extreme weather is destroying lives and livelihoods on a daily basis – underlining the imperative need to ensure that everyone is protected by early warning services," said Prof. Taalas.

Carbon dioxide levels are 50 % higher than the pre-industrial era, trapping heat in the atmosphere. The long lifetime of CO<sub>2</sub> means that temperatures will continue to rise for many years to come.

The rate of sea level rise from 2013-2022 is more than twice the rate of the first decade of the satellite record (1993-2002) because of continued ocean warming and melting of glaciers and ice sheets.

The maximum Antarctic sea-ice extent for the year was the lowest on record, a full 1 million km<sup>2</sup> (more than the size of France and Germany combined) less than the previous record low, at the end of southern hemisphere winter. Glaciers in North America and Europe once again suffered an extreme melt season. Swiss glaciers have lost about 10 percent of their remaining volume in the past two years, according to the WMO report.