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Weather & Climate

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June 2023

Summary

- Rainfall for May 2023 was below the normal range.
- The Caribbean Heat Season continues, heat wave frequency expected to increase this summer.
- No drought concern expected by the end of August for St. Maarten.
- An El Niño watch is in effect, El Niño conditions are predicted to continue through early 2024.

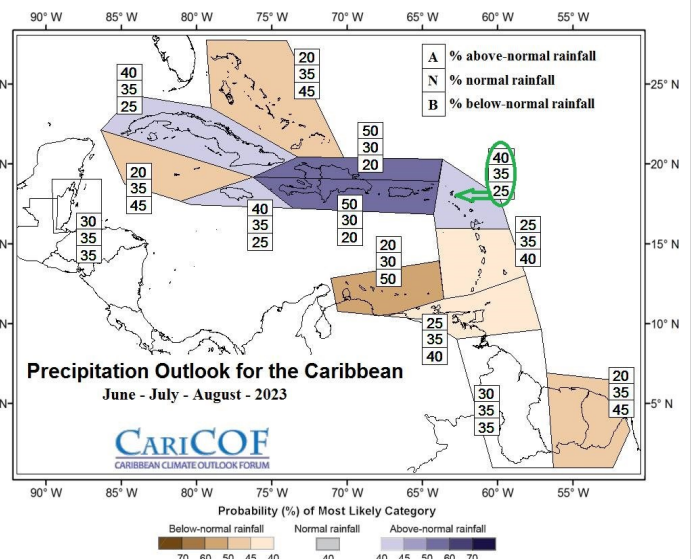
Seasonal Outlook for June to August (JJA) 2023

Rainfall Forecast

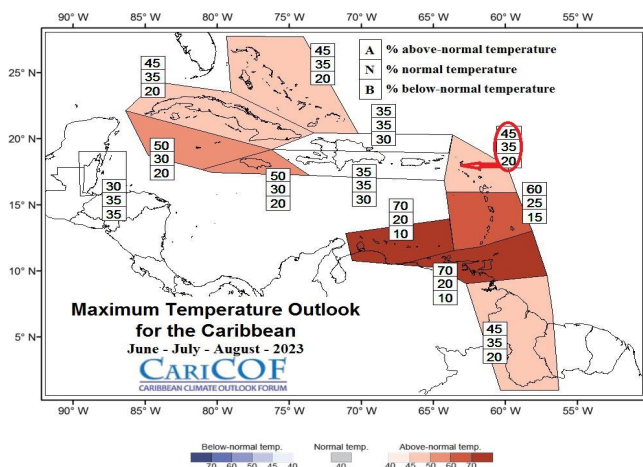
Models are indicating that rainfall totals for the season Jun-Jul-Aug 2023 are likely to be above normal the normal range in St. Maarten and the rest of the Leeward islands.

The normal rainfall for Jun-Jul-Aug season on St. Maarten ranges 201mm–267mm/8-11 inches, with 30 to 40 wet days. In June, we enter the wet season where rainfall may be more frequent, in July there is often a summer dry spell and in August heavy and more frequent showers.

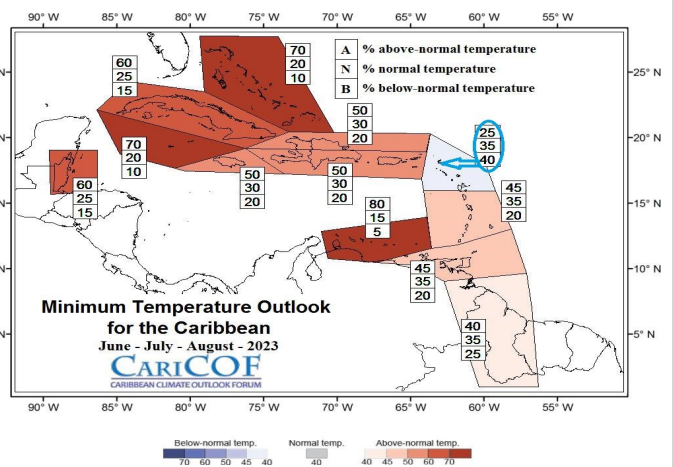
The forecast is for up to 5 (7-day) wet spells, up to 3 very wet spells and about 5 (7-day) dry spells on St. Maarten during this season.



Temperature Forecast



Day-time Temperatures



Night-time Temperatures

Day-time and night-time temperatures will become uncomfortable this season. Heat and humidity will increase drastically by August along with heat waves making this summer as hot as 2020 or even hotter.

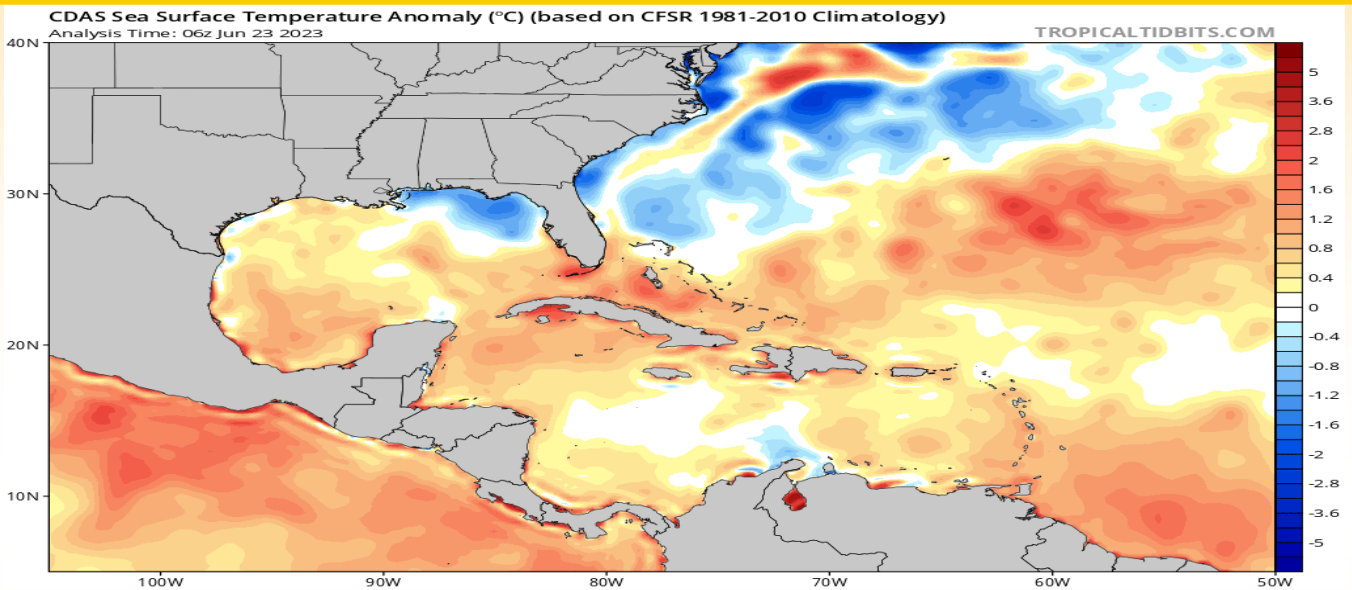
For more information on other Caribbean Outlooks go to <http://rcc.cimh.edu.bb/long-range-forecasts/caricof-climate-outlooks/>

WHAT INFLUENCES THIS SEASON'S CLIMATE?

In mid May, the previous negative sea surface temperatures (SST) anomalies in the central Pacific dissipated and is currently characterized by warmer sea surface temperatures. The key atmospheric variables are now consistent with developing El Nino conditions. An El Nino watch which was issued in April remains in effect.

Majority of the forecast models predict that an El Nino will persist through early 2024.

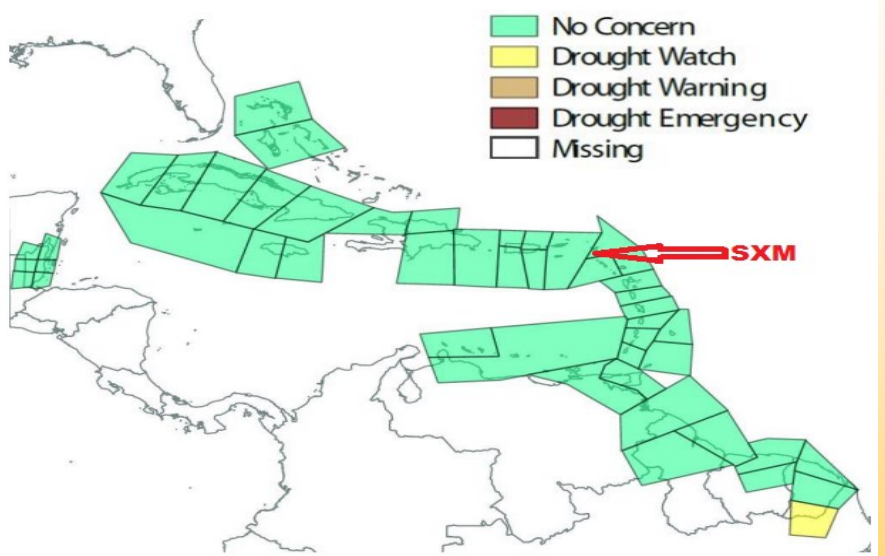
El Nino more often than not is marked by a warmer heat season, drier summer, and reduced tropical cyclone activity especially from September to November. Warm SSTs in and around the Caribbean tend to contribute to higher air temperatures with above average humidity and increase frequency of heatwaves. El Nino slows down deep convection for the development of storms/hurricanes, the current unusually high SSTs may increase such activity.



Drought Alerts

Drought conditions may not be a concern across the Caribbean by the end of August except in French Guiana.

In the long-term, by the end of November drought will evolve across Cuba, NW Puerto Rico and St. Vincent and might be possible in Barbados parts of Belize, Dominican Republic and Grenada.



Short term drought alert levels at the end of August 2023

MAY 2023 IN REVIEW

Total Rainfall	64.2 mm	2.5 in
2023 Cumulative Rainfall	222.1 mm	8.7 in.
Max. 24-Hr. Rainfall	30.3 mm	1.2in.
No. Rain Days (≥1.0 mm)	12 days	
No. Heavy Rain Days (≥10.0 mm)	1 day	
No. Thunderstorm Days	2 days	
Avg. Wind Speed	9 kt.	10 mph
Max. Wind Gust	22 kt.	25 mph
Avg. Temperature	28.3°C	83°F
Max. Temperature	31.9°C	89°F
Min. Temperature	22.9°C	73°F

Long /Short Term Seasonal Review

Year in Review (June 2022 – May 2023)

Total rainfall over the past twelve (12) months was below the normal range. (958 –1180mm). A total of 789mm/31in. of rainfall was recorded at the Princess Juliana International Airport.

Seasonal Review (Mar –Apr –May 2023)

Total rainfall for the last three (3) months was 105mm/4in, this amount was below the normal range (148-250mm). There was only one (1) day with heavy rainfall (>10mm) during that period.

For the month of May, rainfall was within the normal range while temperatures above the normal range.

The warmest day in May was the 26th with an average temperature of 28.9°C/84°F. The coolest day was the 24th with an average temperature of 27.1°C/81°F.

The day with the most sunshine hours in May was the 1st & 4th (12hrs:00min).

The day with the least sunshine hours was the 24th, (6hrs:36min)

The windiest day in May was the 20th with a daily average wind speed of 15kt./17mph.

The day with the highest wind gust was the 19th (22kt./25mph).

Skies were partly cloudy throughout May.

There were twelve (12) days with rainfall in May one (1) of which had heavy rainfall (>10mm).

The longest dry spell in May was nine (9) days long. (2nd to 10th).

May 7th recorded the highest maximum temperature (31.9°C/89°F)

There was one (1) warm night in May (9th) with 27.2°C/ 81°F.

NORMAL JUNE CONDITIONS

Rainfall Total	35 – 59 mm	1-2 in.
Avg. No. of Rain days	9 days	
Daily Average Temperature	28.4°C	83°F
Avg. Max. Temperature	31.3°C	88°F
Avg. Min. Temperature	26.2°C	79°F
Avg. Daily Hours of Sunshine	8 hrs	

Implication of Forecast for Sectors

Energy/Water Sector

Energy demand for cooling purposes will continue to increase this season.

Tourism Sector

- On hot days, there will be an increase demand for cooling & hydration.

Agriculture

- Irrigation should be considered during dry spells.
- There should be no drought concern by the end of August.
- Increase cooling and ventilation for livestock.

Health

- UV radiation will continue to increase this season. Excessive UV exposure can cause skin damage across the population on sunny days.
- Keep hydrated and limit outdoor activity between 11am and 3pm.

2023 Atlantic Hurricane Season

Models are predicting with very high confidence that an El Nino will develop and peak in the August to October season which is also the peak of the Atlantic Hurricane season and will last through early 2024. Historically, El Nino seasons have produced less tropical cyclones overall due to the strong wind shear it produces over the Atlantic. Hence the reason for the slightly low activity being predicted this year.

On the other hand, sea surface temperatures (SST) across the Atlantic and Caribbean are warmer than normal in some cases more than 2 degrees above normal. Warm SSTs can provide energy for storm development. Additionally, there is also the potential for an above normal west African monsoon season this year. The monsoons generate on average about 60 tropical waves every year which propagates westwards across the Atlantic and are the genesis for storms and hurricanes.

Therefore, being prepared is extremely important as it only takes one hurricane to make landfall in our area to make it an active season for us. Whatever the predictions, the level of preparation should remain high every season.

The Meteorological Department St. Maarten (MDS) will continue to monitor the development of all tropical systems closely, issue watches or warnings when it becomes necessary and inform the public using various communication mediums such as radio, newspaper, website (www.meteosxm.com) and via social media (facebook.com/sxmweather).

It is also critical that the public seek and rely on credible information from official sources in order to make timely decisions that will help protect life and property.



 2023 Atlantic Storm Names		
Arlene	Harold	Ophelia
Bret	Idalia	Philippe
Cindy	Jose	Rina
Don	Katia	Sean
Emily	Lee	Tammy
Franklin	Margot	Vince
Gert	Nigel	Whitney