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# Meteorological Department St. Maarten

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## Weather & Climate

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July 2023

### Summary

- Rainfall and Temperatures for June 2023 were above the normal range.
- There were three (3) heat wave periods in June; the longest lasted six (6) days.
- The Caribbean Heat Season continues, heat wave frequency expected to increase this season.
- Expect Excessive Heat this Summer.

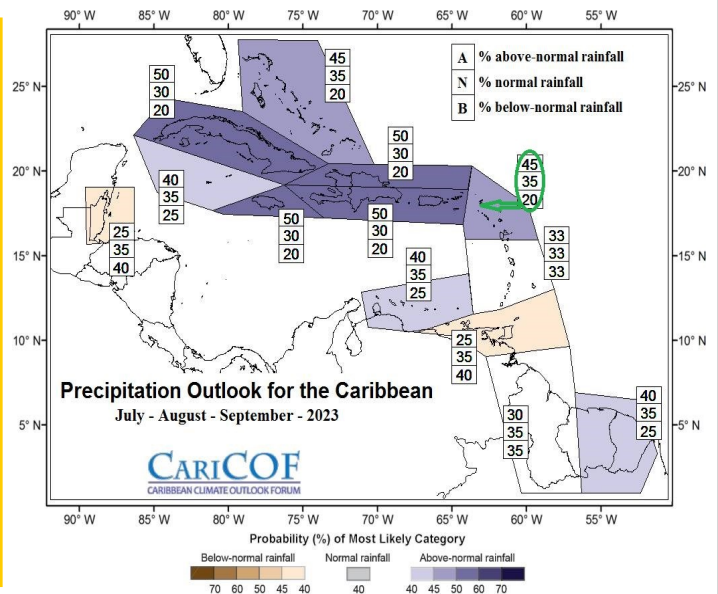
### Seasonal Outlook for July to September (JAS) 2023

#### Rainfall Forecast

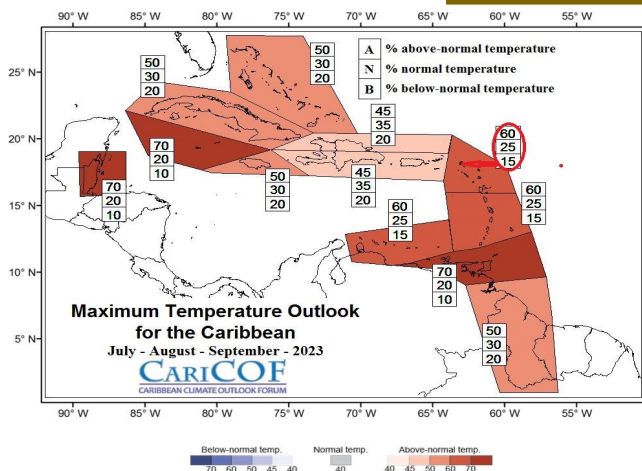
Models are indicating that rainfall totals for the season Jul-Aug-Sept 2023 are likely to be above normal the normal range in St. Maarten and the rest of the Leeward islands.

The normal rainfall for Jul-Aug-Sept. season on St. Maarten ranges 250mm–349mm/10-14 inches, with 37 to 45 wet days. In July, there is often a summer dry spell while in August and September heavy and more frequent showers occur.

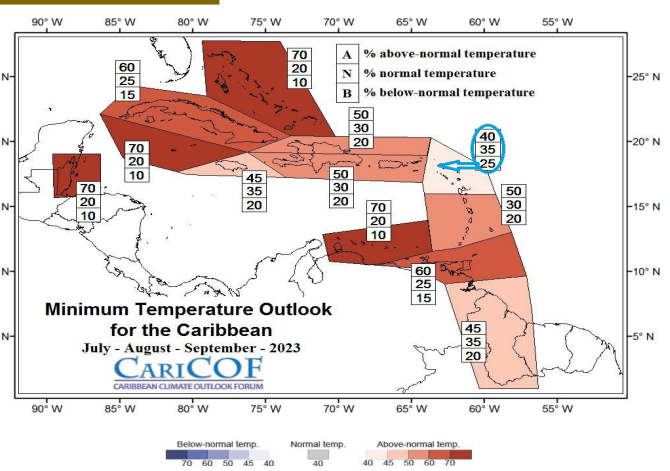
The forecast is for up to 6 (7-day) wet spells, up to 3 very wet spells and about 5 (7-day) dry spells on St. Maarten during this season.



#### Temperature Forecast



Day-time Temperatures



Night-time Temperatures

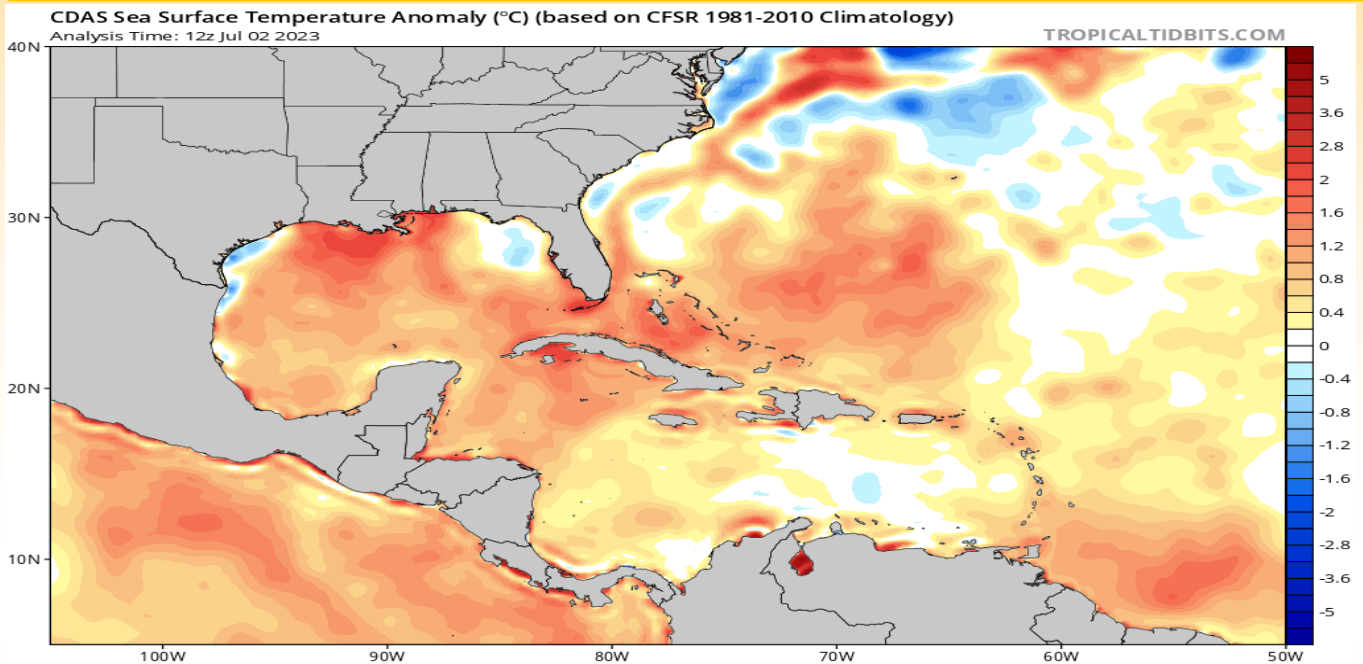
Day-time and night-time temperatures will become uncomfortable this season. Heat and humidity will increase drastically by August along with heat waves making this summer as hot as 2020 or even hotter.

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 June, the eastern and central Pacific have transitioned to warm El Nino conditions. The key atmospheric variables are consistent with the onset of El Nino. An El Nino advisory was issued in June and the 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, however, the current unusually high SSTs may increase such activity.



### 2023 Atlantic Hurricane Season

Three (3) named storms formed during the month of June.

T.S Arlene formed on June 2<sup>nd</sup> in the Gulf of Mexico and dissipated the following day.

T. S. Bret formed in the central Atlantic on June 19<sup>th</sup> and moved through the Windward Islands where watches and warnings were issued. Bret later dissipated in the Caribbean Sea without any major impacts.

T. S. Cindy formed in the central Atlantic on June 22<sup>nd</sup> and remained over ocean until it dissipated on June 25<sup>th</sup>.

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

## JUNE 2023 IN REVIEW

Total Rainfall	65.3 mm	2.6 in
2023 Cumulative Rainfall	287.4 mm	11.3 in.
Max. 24-Hr. Rainfall	11.5 mm	0.5 in.
No. Rain Days (≥1.0 mm)	8 days	
No. Heavy Rain Days (≥10.0 mm)	3 day	
No. Thunderstorm Days	3 days	
Avg. Wind Speed	10 kt.	12 mph
Max. Wind Gust	27 kt.	31 mph
Avg. Temperature	29.2°C	85°F
Max. Temperature	33.1°C	92°F
Min. Temperature	24.3°C	76°F

## Long /Short Term Seasonal Review

### Year in Review (July 2022—June 2023)

Total rainfall over the past twelve (12) months was slightly below the normal range. (942 – 1188mm). A total of 931mm/37in. of rainfall was recorded at the Princess Juliana International Airport.

### Seasonal Review (Apr –May–Jun 2023)

Total rainfall for the last three (3) months was 158mm/6in, this amount was within the normal range (148-252mm). There were four (4) day with heavy rainfall (>10mm) during that period.

For the month of June, rainfall and temperatures were all above the normal range. June 2023 was the warmest June since 1998.

The warmest days in June were the 8<sup>th</sup>, 9<sup>th</sup> & 10<sup>th</sup> with an average temperature of 29.6°C/85°F. The coolest day was the 29<sup>th</sup> with an average temperature of 27.8°C/82°F.

The day with the most sunshine hours in June was the 26<sup>th</sup> (12hrs:06min).

The day with the least sunshine hours was the 29<sup>th</sup>, (1hr:06min)

The windiest day in June was the 21<sup>st</sup> with a daily average wind speed of 13kt./15mph.

The day with the highest wind gust was the 12<sup>th</sup> (27kt./31mph).

Skies were partly cloudy throughout June.

There were eight (8) days with rainfall in June three (3) of which had heavy rainfall (>10mm).

The longest dry spell in June was twelve (12) days long. (1<sup>st</sup> to 12<sup>th</sup>).

June 25<sup>th</sup> recorded the highest maximum temperature (33.1°C/92°F)

There were three (3) heat wave periods in June the longest lasted six (6) days; June 22-27. Nineteen (19) warm nights were recorded; the 15<sup>th</sup> was the warmest with a minimum temperature of 28.3°C/83°F.

## NORMAL JULY CONDITIONS

Rainfall Total	65 – 115 mm	3-5 in.
Avg. No. of Rain days	13 days	
Daily Average Temperature	28.6°C	84°F
Avg. Max. Temperature	31.5°C	89°F
Avg. Min. Temperature	26.3°C	79°F
Avg. Daily Hours of Sunshine	9 hrs	

## Implication of Forecast for Sectors

### Energy/Water Sector

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

### Tourism Sector

- On hot days, there will be an increase demand for cooling & hydration.
- Significant potential for coral reef bleaching

### 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.

### Agriculture

- Irrigation should be considered during dry spells.
- Increase cooling and ventilation for livestock.

## EXPECT EXCESSIVE HEAT THIS SUMMER

July to September, marks the peak of the Caribbean Heat Season, this year it is forecast to be hotter than usual. Intense night-time and daytime heat is expected in much of the Caribbean from August to September/October, then temperatures are expected to cool steadily from November.

### SOME LIKELY IMPLICATIONS :

- ⇒ Frequent and possibly intense episodes of heat stress in the vulnerable population & small livestock because of high temperature and increasing humidity through September.
- ⇒ Potential increase in exhaustion during intense outdoor activity.
- ⇒ Significantly reduced labour performance and productivity & Increased fatigue.
- ⇒ Stunted growth rate of broilers and egg production of layers, likely reduced dairy production .
- ⇒ Increased water temperatures potentially reducing catch of reef fish.
- ⇒ Significantly increased demand for AC and refrigeration.
- ⇒ Significantly reduced productivity and reduced learning ability of students at the start of the 2023-2024 school year. Potential increase in aggression during prolonged heat-waves .

**Stay Hydrated, Wear protective clothing, Never leave infants, children or pets inside a parked vehicle, check on elderly family members, neighbors and friends to make sure they are comfortable and safe.**