

# Weather & Climate

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## KEY POINTS

- First Heatwave for 2024 recorded; temperatures and humidity forecast to remain high.
- May 2024 was the warmest May on 63-year record.
- The 2024 Atlantic Hurricane/ Heat Season is forecast to be record breaking.

## SEASONAL OUTLOOK FOR JUNE TO AUGUST (JJA) 2024

### RAINFALL FORECAST

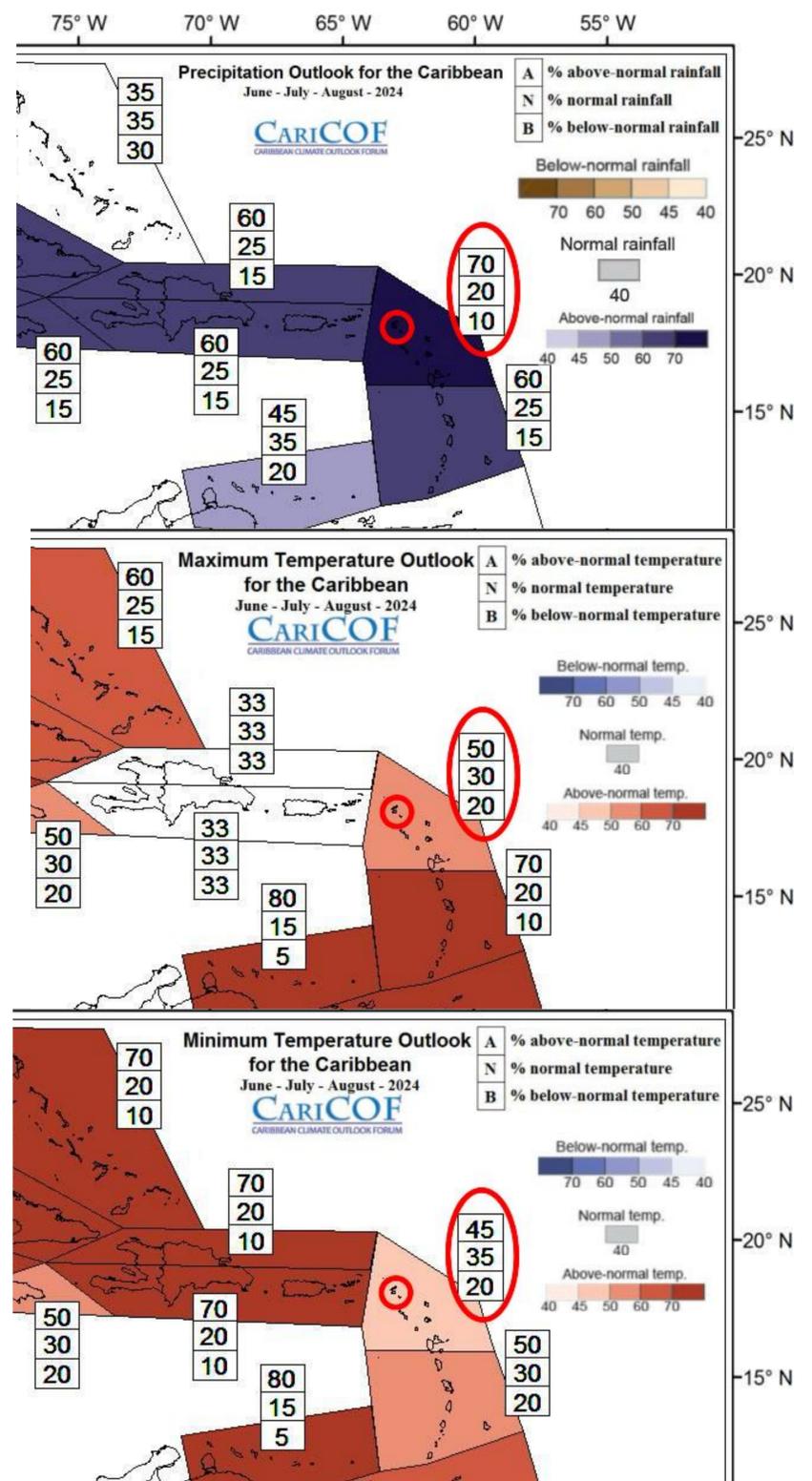
Models are indicating that rainfall totals for the season Jun-Jul-Aug 2024 are likely to be above the normal range in St. Maarten and most of the Caribbean.

The normal rainfall for Jun-Jul-Aug season on St. Maarten ranges 201mm–267mm/8-11 inches, with 32 to 41 wet days. In June, there is usually frequent heavy showers while in July to August, frequent showers continue however there is often a mid summer dry spell.

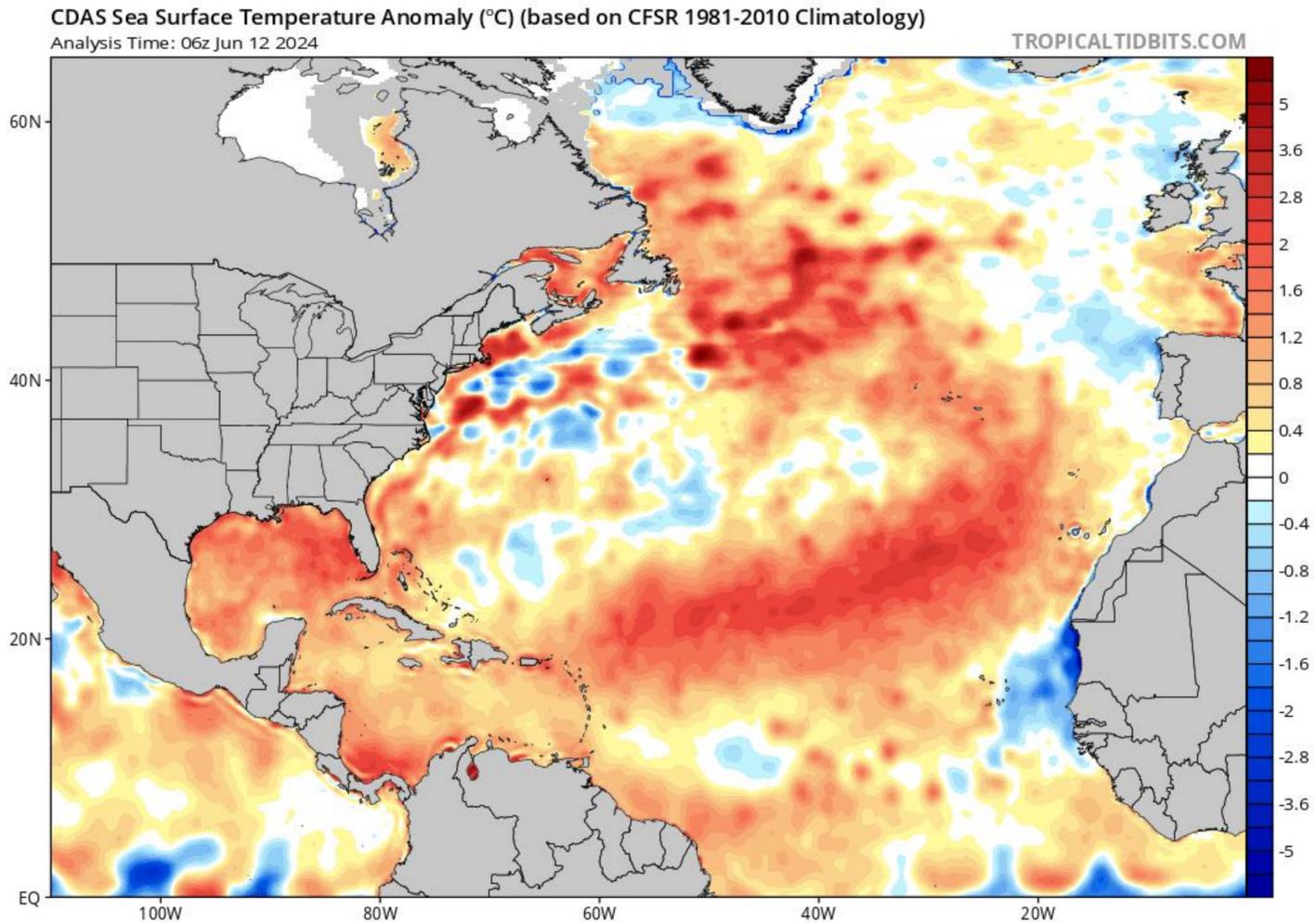
The forecast is for about 3-7 (7-day) wet spells and about 5 (7-day) dry spells on St. Maarten during this season.

### TEMPERATURE FORECAST

Day-time and night-time temperatures as well as humidity are forecast to be considerably higher than usual. Frequent episodes of heat stress is expected as the region is likely to continue to be in a potentially record Heat Season.



# WHAT INFLUENCES THIS SEASON'S CLIMATE?



In mid May, waning El Niño conditions persist in the central-eastern Pacific with key oceanic and atmospheric variables aligning with the ENSO-neutral conditions. The majority of the forecast models predict that an ENSO-neutral phase will be the most likely phase this season followed by the La Niña phase from the Jul-Sept season.

A transition out of El Niño more often than not is associated with increased chances of heavy showers and higher rainfall totals in Jun-Jul-Aug season as well as higher temperatures.

Sea Surface Temperatures (SSTs) in much of the Caribbean Sea and the tropical Atlantic are currently 1 to 2°C above normal since summer of 2023. Models are confidently forecasting increasing warm SSTs across the Caribbean. Warm SSTs in and around the Caribbean contribute to higher air temperatures with above-average humidity, seasonal rainfall totals, increased frequency of extreme rainfall and tropical cyclone activity throughout the Atlantic Hurricane Season.

## 2024 ATLANTIC HURRICANE SEASON

### 2024 CYCLONE NAMES

<b>ALBERTO</b>	<b>HELENE</b>	<b>OSCAR</b>
<b>BERYL</b>	<b>ISAAC</b>	<b>PATTY</b>
<b>CHRIS</b>	<b>JOYCE</b>	<b>RAFAEL</b>
<b>DEBBY</b>	<b>KIRK</b>	<b>SARA</b>
<b>ERNESTO</b>	<b>LESLIE</b>	<b>TONY</b>
<b>FRANCINE</b>	<b>MILTON</b>	<b>VALERIE</b>
<b>GORDON</b>	<b>NADINE</b>	<b>WILLIAM</b>

From 2020, the use of the Greek alphabet as backup if there are more than 21 storms in any season was eliminated. The supplementary list for 2024 is as follows:

ADRIA	HEATH	ORLANDA
BRAYLEN	ISLA	PAX
CARIDAD	JACOBUS	RONIN
DESHAWN	KENZIE	SOPHIE
EMERY	LUCIO	TAYSHAUN
FOSTER	MAKAYLA	VIVIANA
GEMMA	NOLAN	WILL



## MAY 2024 IN REVIEW

**Warmest days:** May 30th & 31st  
*Average Temperature of 29.8°C/86°F*

**Coollest day:** May 8th  
*Average Temperature of 26.4°C/80°F*

**Most Sunshine hours:** May 20th (11hrs:54mins)  
**Least Sunshine hours:** May 8th (2hrs:36mins)

**Windiest day:** May 18th  
*Daily Average Wind Speed of 12kt./14mph.*

**Highest wind gust:** May 4th

**Longest dry spell:** 9 days

**Highest Maximum Temperature:** May 28th

**First Heatwave (of 2024):** May 24th - 31st

**Hot days(>= 32.2°C/90°F):** 12 days

**Warm nights(>= 27.2°/81°F):** 13 nights  
**Extremely warm night:** May 31st  
*Minimum Temperature of 28.4°C/83°F*

<b>Total Rainfall</b>	157.4 mm   6.1 in
<b>2024 Cumulative Rainfall</b>	456.3 mm   18.0 in
<b>Maximum 24-hr. Rainfall</b>	103.2 mm   4.1 in
<b>No. of Rain Days</b>	8 days
<b>No. of Heavy Rain Days</b>	3 days
<b>No. of Thunderstorm Days</b>	4 days
<b>Average Wind Speed</b>	8 kt.   9 mph.
<b>Maximum Wind Gust</b>	28 kt.   32 mph.
<b>Average Temperature</b>	28.8°C   84°F
<b>Maximum Temperature</b>	33.0°C   91°F
<b>Minimum Temperature</b>	22.5°C   73°F

*For the month of May, rainfall was above the normal range this was the wettest May since 2014. Generally, temperatures were above the normal range making May 2024 one of the warmest on record.*

## LONG/ SHORT TERM SEASONAL REVIEW

### YEAR IN REVIEW (JUN 2023 - MAY 2024)

Total rainfall for the last 12 months was above the normal range. (956-1180mm). A total of 1134mm/45in. of rainfall was recorded at the Princess Juliana International Airport.

### SEASONAL REVIEW (MAR-APR-MAY 2024)

Total rainfall for the last three (3) months was 252.4mm/10in; this amount was slightly above the normal range (148-250mm). There were five (5) days with heavy rainfall (>10mm) during that period.

## NORMAL JUNE CONDITIONS

<b>Total Rainfall</b>	35-59 mm   1-2 in
<b>Average No. of Rain Days</b>	9 days
<b>Daily Average Temperature</b>	28.4°C   83°F
<b>Average Maximum Temperature</b>	31.3°C   88°F
<b>Average Minimum Temperature</b>	26.2°C   79°F
<b>Average Daily Hrs. of Sunshine</b>	8 hours

# IMPLICATION OF FORECAST FOR SECTORS

## HEALTH

- UV radiation will continue to increase this season. Wear protective clothing, hats, or shades, limit outdoor activities and keep hydrated.
- Proper management of water storage containers e.g. covering with protective mesh helps to reduce the risk of mosquito breeding.

## ENERGY/WATER

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

## TOURISM

- More interruptions to outdoor activities can be expected to be more frequent.
- Monitor weather forecasts as we are in the hurricane season.

## AGRICULTURE

- Irrigation may be needed during dry spells.
- As moisture increases pests and diseases are likely to increase.

# 2024 ATLANTIC HURRICANE SEASON

2024 Tropical Atlantic Hurricane Season					
	1991-2020 Average	2023	Colorado State University	Weather Channel	N.O.A.A
Named Storms	14	20	23	24	17-25
Hurricanes	7	7	11	11	8-13
Major Hurricanes	3	3	5	6	4-7

June 1st officially marks the beginning of 2024 Atlantic Hurricane Season, which will run until November 30.

Based on long-term averages, in an average season there are about fourteen (14) named storms; seven (7) become hurricanes of which three (3) are usually major hurricanes (with wind 111mph or higher).

This year all institutions have issued their predictions for a hyperactive season. The National Oceanic & Atmospheric Administration (NOAA) predicts an 85% chance that the upcoming season will be above normal.

The above normal activity, predicted this year, is attributed to the following main factors: Near record warm temperatures in the Atlantic Ocean; Warm ocean waters are a source of fuel for hurricanes and storms.

The development of La Niña conditions in the Pacific Ocean by the peak of the season (Aug to Oct). La Nina results in a reduction in upper level winds across the Caribbean favoring the formation and intensification of Atlantic hurricanes.

Remember, that it takes only one major hurricane to make landfall on our island to make it an active season for us.

*The Meteorological Department St. Maarten (MDS) will monitor the development of all tropical systems closely and will issue watches or warnings when it becomes necessary using various communication mediums; radio, newspaper, its website ([www.meteosxm.com](http://www.meteosxm.com)) and Facebook ([www.facebook.com/sxmweather](http://www.facebook.com/sxmweather)).*