

# Weather & Climate

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October 2024

## KEY POINTS

**BE PREPARED!**

- There were four (4) heatwave periods in September.
- The longest heatwave lasted 12 days. Stay hydrated.
- We are in the peak of the 2024 Atlantic Hurricane/ Heat Season.

## SEASONAL OUTLOOK FOR OCTOBER TO DECEMBER (OND) 2024

### RAINFALL FORECAST

Models are indicating that rainfall totals for the season Oct-Nov-Dec 2024 are likely to be the usual or higher across St. Maarten, the entire Caribbean except Belize and parts of the Guianas.

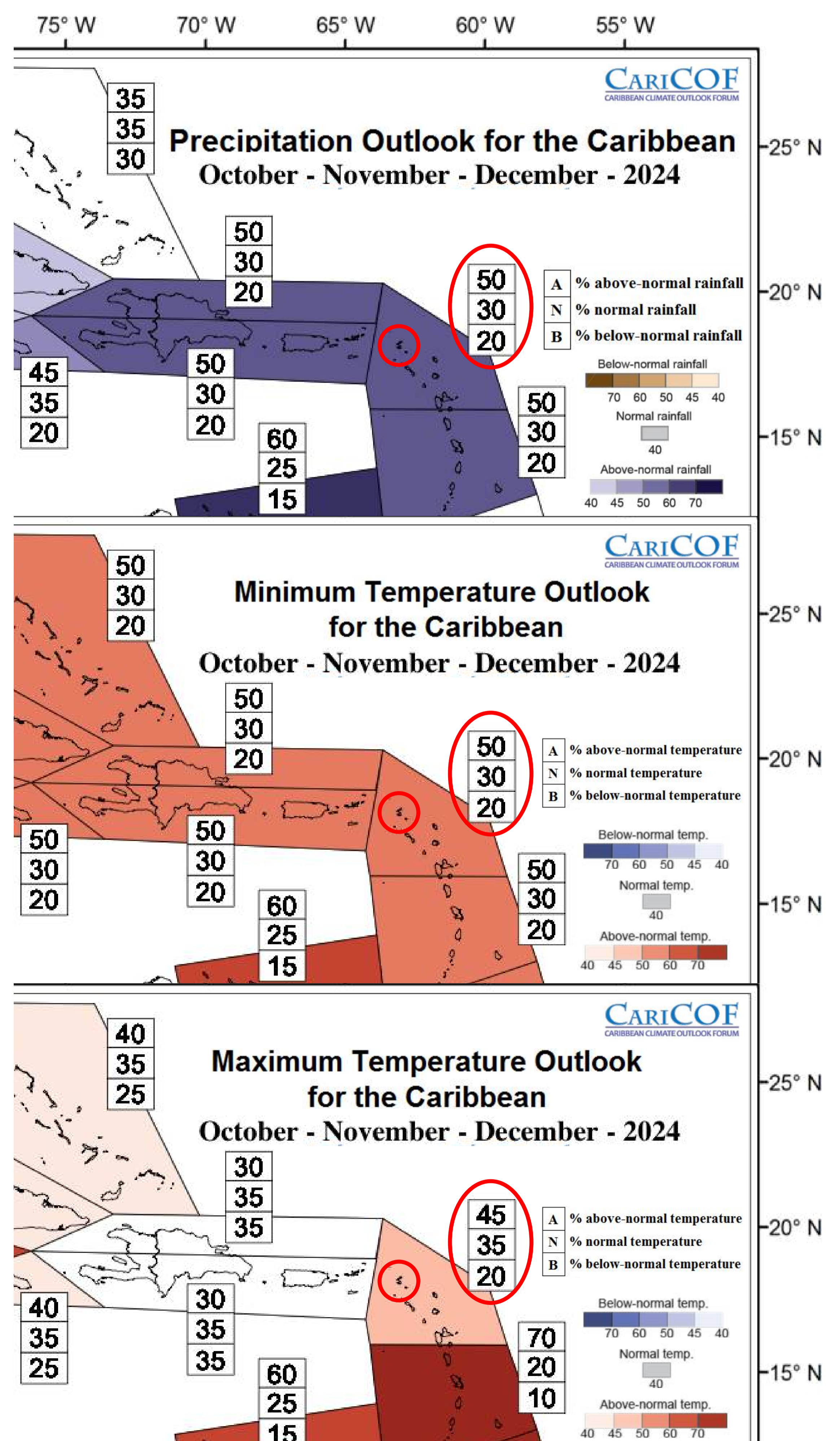
The normal rainfall for the Oct-Nov-Dec season on St. Maarten ranges 325mm–415mm/13-16 inches, with 37 to 45 wet days. The wet season continues in through November with frequent showers some heavy in December we transition to the dry season.

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

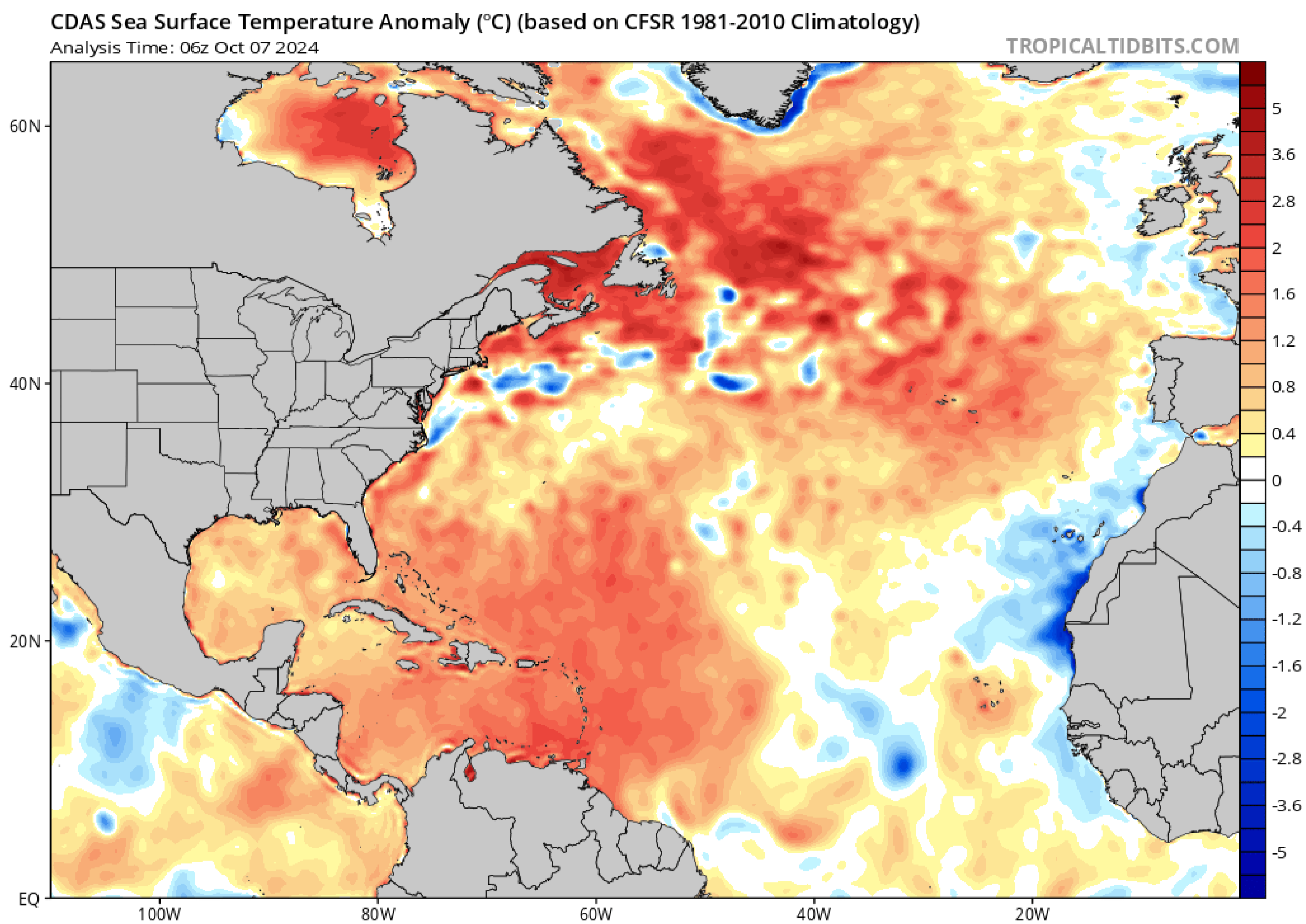
October is the peak of the Hurricane season which may result in severe weather with potential for flooding and flash flooding. November is usually the wettest month.

### TEMPERATURE FORECAST

Day-time and night-time temperatures as well as humidity are likely to be considerably higher than usual. Frequent episodes of heat stress is expected to continue through October in this record-breaking heat season. Heat stress may increase even further during dry spells.



# WHAT INFLUENCES THIS SEASON'S CLIMATE?



In mid September, ENSO-neutral conditions persist in the western equatorial Pacific, while other key oceanic and atmospheric variables started to show signs of La Niña development, including a sustained strengthening of trade winds. Models continue to disagree on the onset of a La Niña phase, some models are predicting La Niña conditions would begin in the Sep-Nov season while others are predicting La Niña will begin this Oct-Dec. season. So far the Pacific are only now showing slow development of a La Niña. This having said will possibly lead to late season hurricane activity.

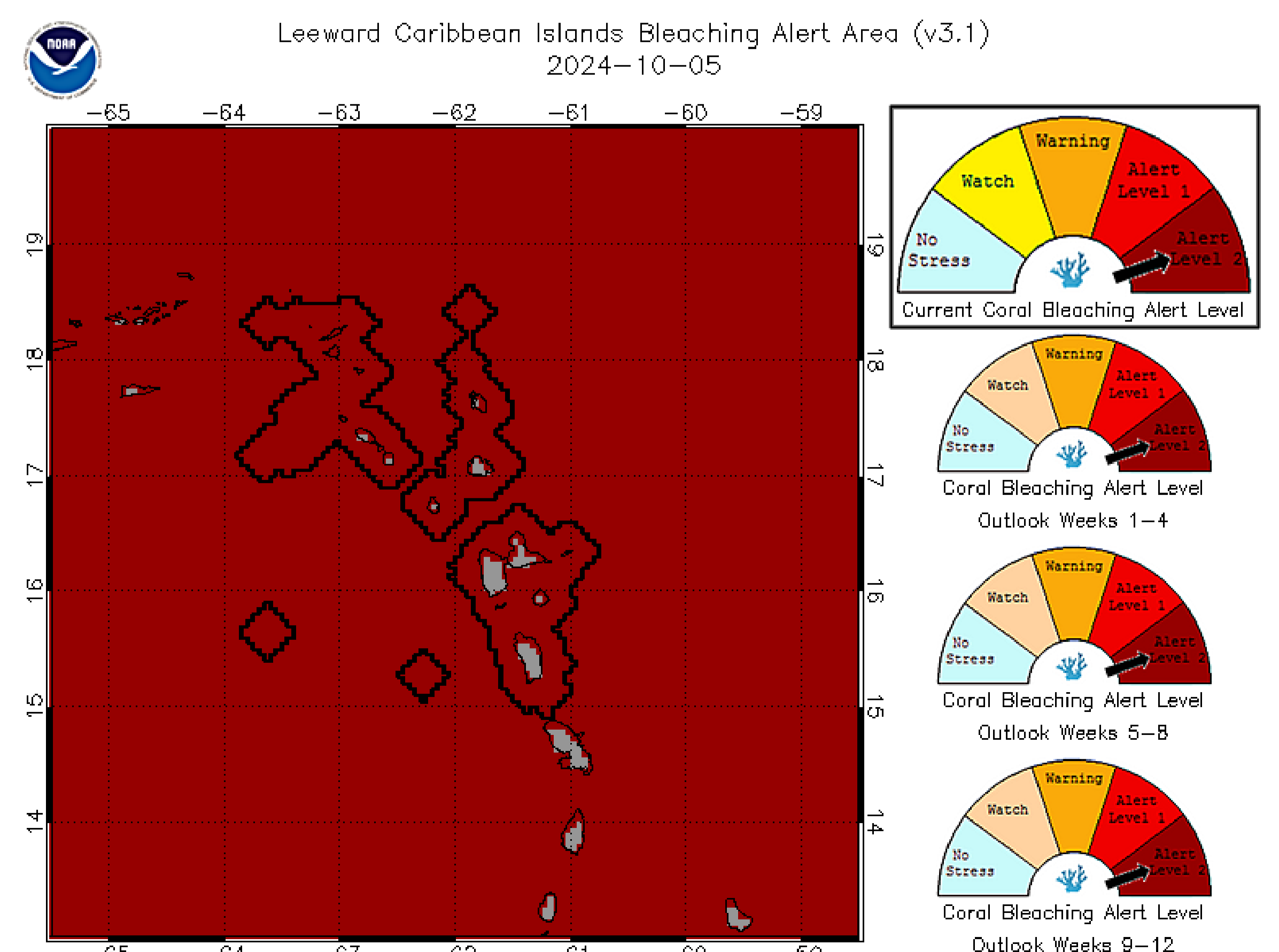
Record Sea Surface Temperatures (SSTs) in much of the Caribbean Sea and the tropical Atlantic are currently 1 to 2°C above normal since summer of 2023. Models are confidently forecasting above average SSTs across the Caribbean Sea and the Tropical North Atlantic. Warm SSTs in and around the Caribbean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

A transition into La Niña is often associated with increased chances of heavy showers, higher rainfall totals and higher temperatures from September onwards.

## CORAL REEF BLEACHING ALERT

Currently, a **Bleaching Alert Level 2** is in effect for St. Maarten and the entire eastern Caribbean through December.

**Widespread Coral Bleaching and mortality** is expected throughout the Eastern Caribbean.





# SEPTEMBER 2024 IN REVIEW

**Warmest day:** September 23<sup>rd</sup>  
*Average Temperature of 30.4°C/87°F*

**Coollest day:** September 10<sup>th</sup>  
*Average Temperature of 27.7°C/82°F*

**Most Sunshine hours:** September 21<sup>st</sup> (11hrs:30mins)  
**Least Sunshine hours:** September 26<sup>th</sup> (1hrs:24mins)

**Windiest day:** September 2<sup>nd</sup>  
*Daily Average Wind Speed of 13kt./15mph.*

**Highest wind gust:** September 2<sup>nd</sup>

**Longest dry spell:** No significant dry spells

**Highest Maximum Temperature:** September 24<sup>th</sup>

**Heatwave:** 4 periods  
Longest: 12 days

**Hot days(>= 32.2°C/90°F):** 26 days

**Warm nights(>= 27.2°/81°F):** 17 nights  
Extremely warm: 4 nights  
*Minimum Temperature of 28.2°C/83°F*

<b>Total Rainfall</b>	132.2 mm   5.2 in
<b>2024 Cumulative Rainfall</b>	871.4 mm   34.3 in
<b>Maximum 24-hr. Rainfall</b>	32.0 mm   1.3 in
<b>No. of Rain Days</b>	19 days
<b>No. of Heavy Rain Days</b>	5 days
<b>No. of Thunderstorm Days</b>	13 days
<b>Average Wind Speed</b>	7 kt.   8 mph.
<b>Maximum Wind Gust</b>	30 kt.   35 mph.
<b>Average Temperature</b>	29.7°C   86°F
<b>Maximum Temperature</b>	34.1°C   93°F
<b>Minimum Temperature</b>	23.8°C   75°F

*For the month of September, rainfall was above the normal range. Generally, temperatures were above the normal range.*

# LONG/ SHORT TERM SEASONAL REVIEW

## YEAR IN REVIEW (OCT 2023 - SEP 2024)

Total rainfall for the last 12 months was above the normal range; (939-1132mm). A total of 1247mm/49in. of rainfall was recorded at the *Princess Juliana International Airport*.

## SEASONAL REVIEW (JUL-AUG-SEP 2024)

Total rainfall for the last three (3) months was 380.6mm/15in; this amount was above the normal range (250-349mm). There were fifteen (15) days with heavy rainfall (>10mm) during that period.

# NORMAL OCTOBER CONDITIONS

<b>Total Rainfall</b>	97-167 mm   4-7 in
<b>Average No. of Rain Days</b>	14 days
<b>Daily Average Temperature</b>	28.3°C   83°F
<b>Average Maximum Temperature</b>	31.2°C   88°F
<b>Average Minimum Temperature</b>	26.0°C   79°F
<b>Average Daily Hrs. of Sunshine</b>	8 hours

# IMPLICATION OF FORECAST FOR SECTORS

## HEALTH

- UV radiation remains high this season. Wear protective clothing, hats, or sunglasses, 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/consumption will continue to significantly increase this season.

## TOURISM

- Interruptions to outdoor activities can be expected to be more frequent.
- Widespread bleaching and mortality of reef is expected.
- Monitor weather forecasts as we are in the peak of the hurricane season.

## AGRICULTURE

- As moisture increases pests and diseases are likely to increase.
- Increase cooling and ventilation need to mitigate heat stress in small and large livestock.

# 2024 ATLANTIC HURRICANE SEASON

The month of September produced six (6) named storm; **Francine, Gordon, Helene, Isaac, Joyce** and **Kirk**. Three (3) became hurricanes: **Francine, Helene** and **Isaac**.

Sea surface temperatures remains at record high and La Niña is predicted to develop this season (Oct-Dec). The 2024 Atlantic Hurricane Season predictions for above normal activity remains in place.

So far there has been eleven (11) named storms for the season.

We remain in the peak of the hurricane season therefore we are reminded to be on the alert.

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

**BE PREPARED !**

Tropical Depression	<38 mph
Tropical Storm	39-73 mph
Hurricane	74+ mph

## 2024 ATLANTIC STORMS

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

## CATEGORY WIND SPEEDS

1	74-95 mph
2	96-110 mph
3	111-129 mph
4	130-156 mph
5	157+ mph

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)).

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