

Weather & Climate

Volume 9, Issue 09

September 2024

KEY POINTS

BE PREPARED!

- There were five (5) heatwave periods in August.
- The longest heatwave lasted 13 days. Stay hydrated.
- We are in the peak of the 2024 Atlantic Hurricane/ Heat Season.

SEASONAL OUTLOOK FOR SEPTEMBER TO NOVEMBER (SON) 2024

RAINFALL FORECAST

Models are indicating that rainfall totals for the season Sep-Oct-Nov. 2024 are likely to be the usual or higher across St. Maarten, the north and northwest Caribbean, and the ABC Islands.

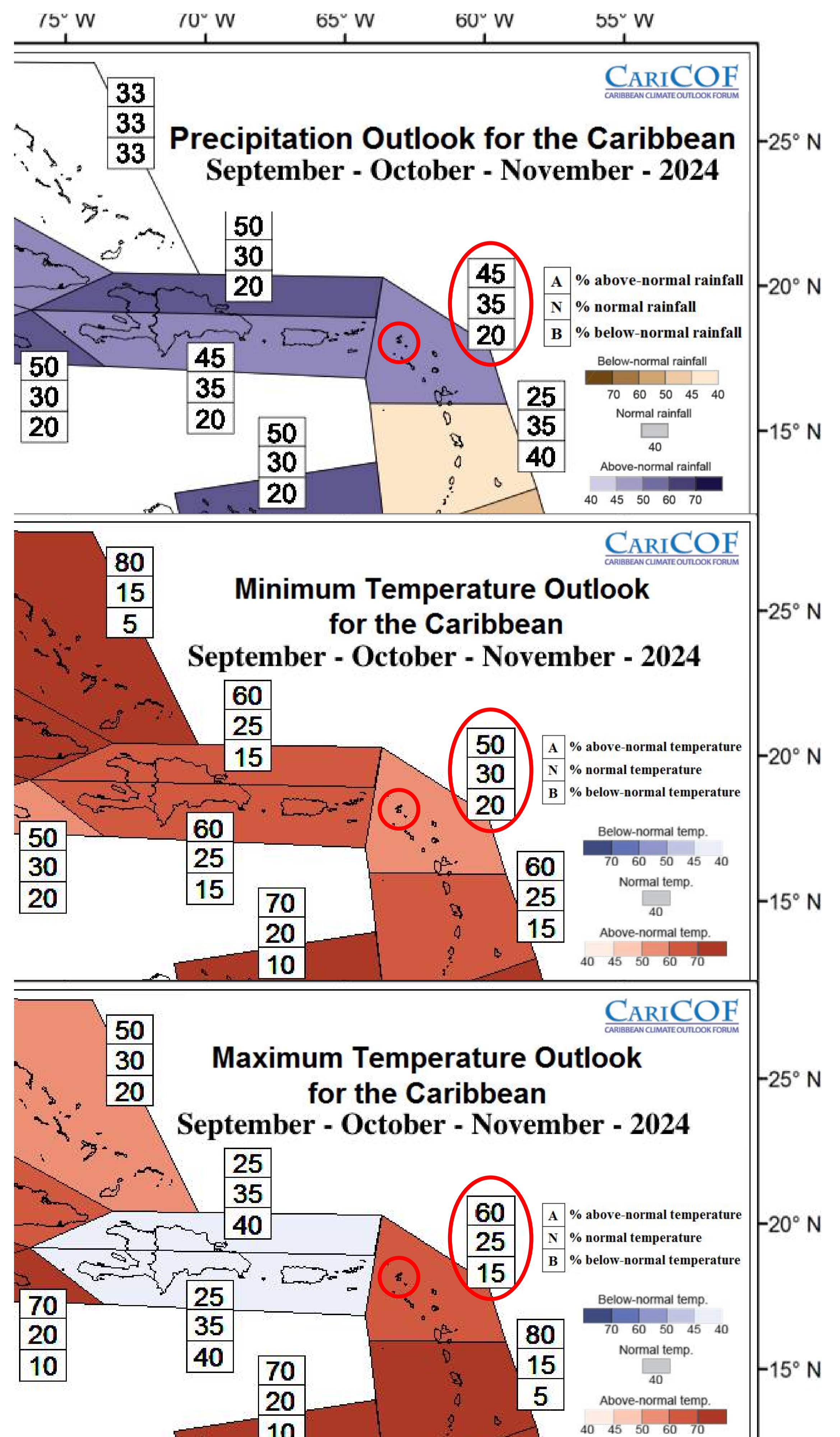
The normal rainfall for the Sep-Oct-Nov season on St. Maarten ranges 320mm–466mm/13-18 inches, with 37 to 45 wet days. The wet season continues in through November with frequent showers some heavy.

The forecast is for up to 8 (7-day) wet spells and about 2(7-day) dry spells on St. Maarten during this season.

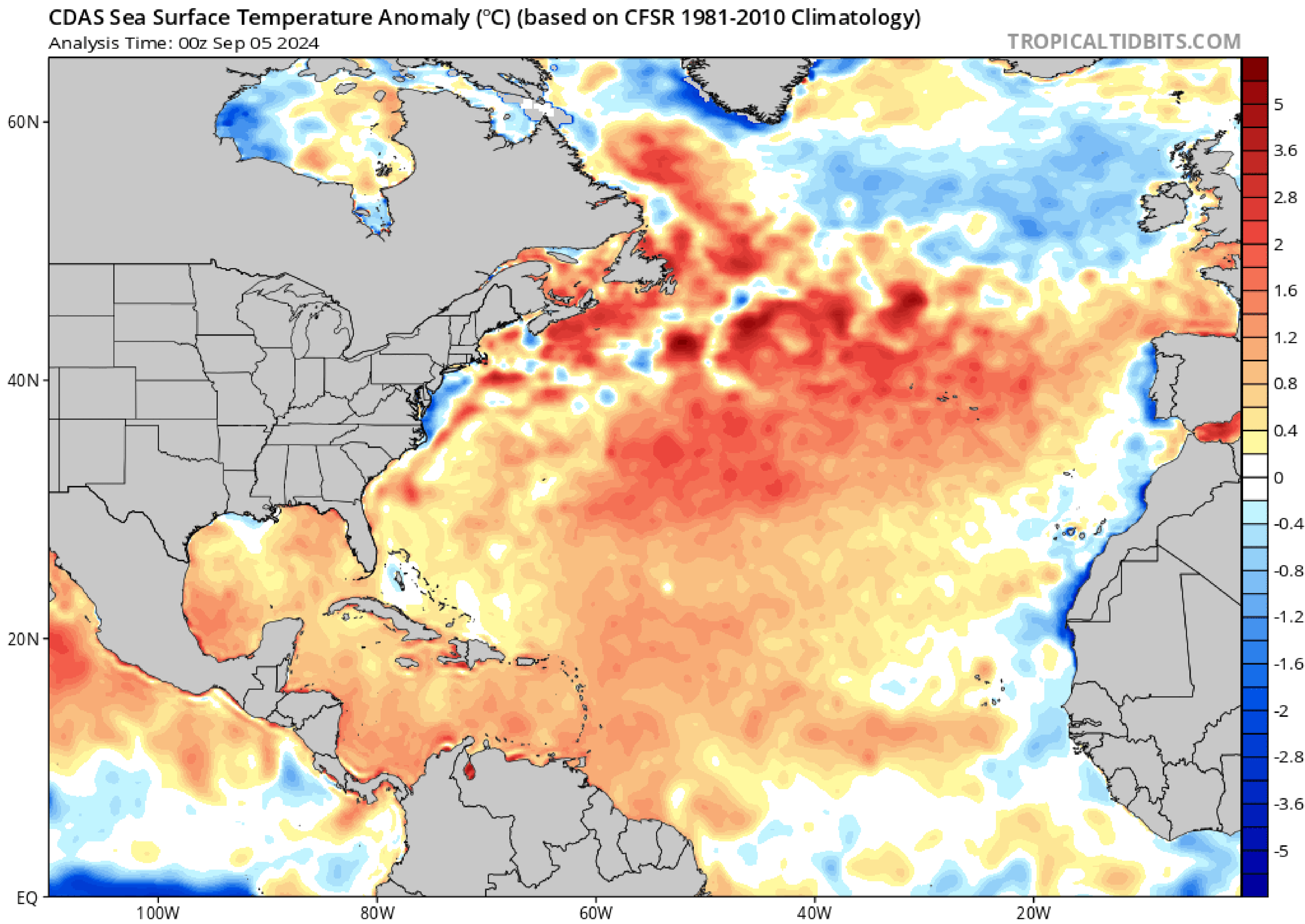
September to November, is the peak of the Hurricane season which may result in severe weather and potential for flooding and flash flooding.

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 as the region is likely to continue to be in a potentially record Heat Season. Heat stress may increase even further during dry spells.



WHAT INFLUENCES THIS SEASON'S CLIMATE?



In mid August, ENSO-neutral conditions persist in the western equatorial Pacific, while other key oceanic and atmospheric variables aligned with the ENSO-neutral state. Models continue to disagree on the onset of a La Niña phase, some models are predicting La Niña conditions will begin this season (Sep-Oct) while others are predicting La Niña will begin in the Oct-Dec. season. If the latter is true and the La Niña onset is delayed further, it is possible to have a less active season or push hurricane activity later in the season.

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 throughout the Atlantic Hurricane Season.

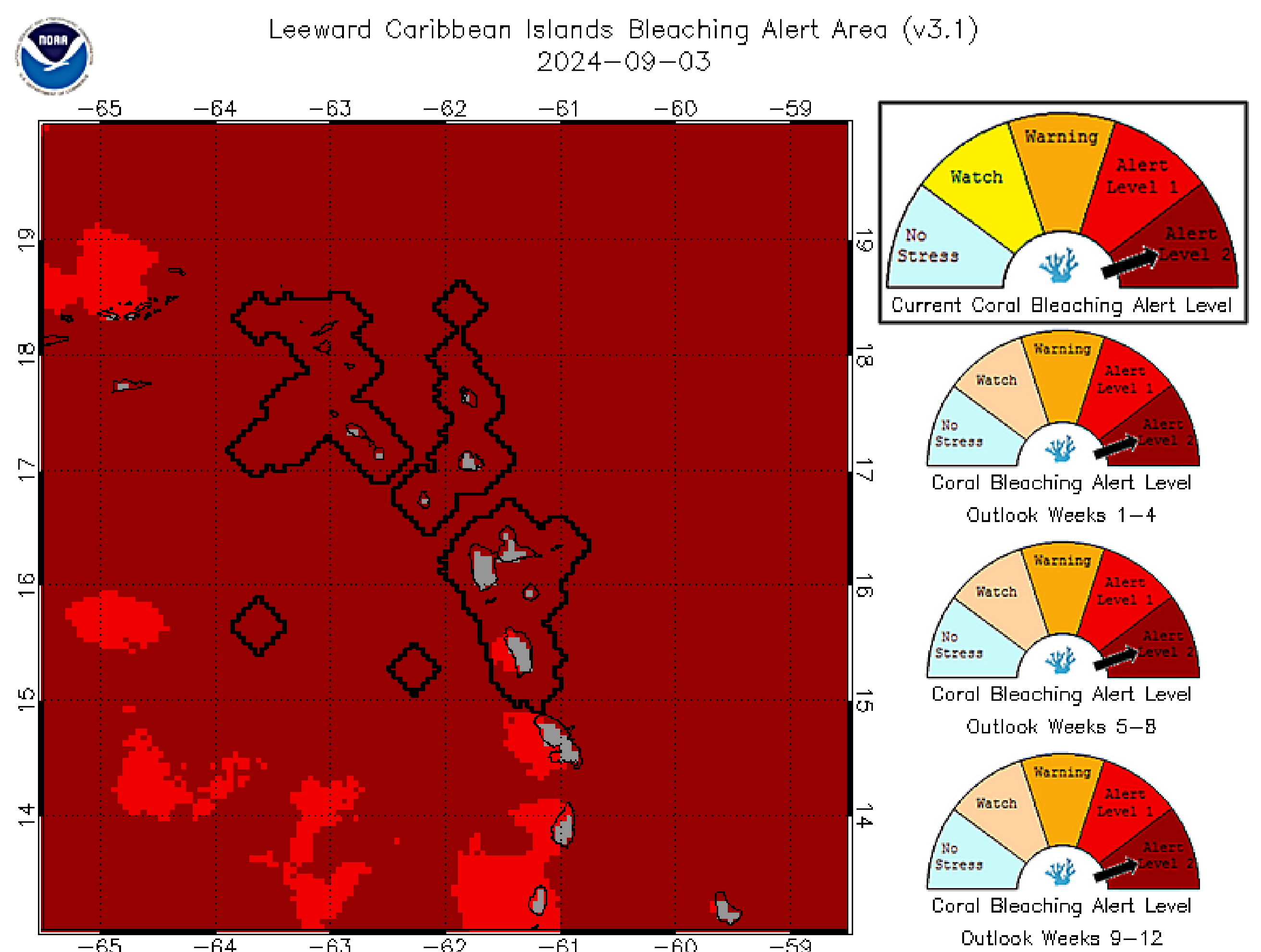
A transition into La Niña is often associated with increased chances of heavy showers, higher rainfall totals and higher temperatures from September onwards.

CORAL REEF BLEACHING ALERT

Currently, a **Bleaching Alert Level 2** is in effect for St. Maarten and most of the eastern Caribbean, there are isolated areas with **Bleaching Alert Level 1** however it is expected that by the end of September the entire eastern Caribbean will be elevated to the highest alert level.

NEXT 4 WEEKS:

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





AUGUST 2024 IN REVIEW

Warmest day: August 29th

Average Temperature of 30.3°C/87°F

Coollest day: August 13th

Average Temperature of 27.6°C/82°F

Most Sunshine hours: August 11th, 24th, 25th
(11hrs:24mins)

Least Sunshine hours: August 13th *(0hrs:24mins)*

Windyest day: August 13th

Daily Average Wind Speed of 19kt./22mph.

Highest wind gust: August 13th

Longest dry spell: No significant dry spells

Highest Maximum Temperature: August 29th

Heatwave: 5 periods

Longest: 13 days

Hot days(>= 32.2°C/90°F): 23 days

Warm nights(>= 27.2°C/81°F): 23 nights

Extremely warm: 6 nights

Minimum Temperature of 28.7°C/84°F

Total Rainfall	107.7 mm 4.2 in
2024 Cumulative Rainfall	739.2 mm 29.1 in
Maximum 24-hr. Rainfall	23.3 mm 0.9 in
No. of Rain Days	17 days
No. of Heavy Rain Days	4 days
No. of Thunderstorm Days	10 days
Average Wind Speed	9 kt. 10 mph.
Maximum Wind Gust	52 kt. 60 mph.
Average Temperature	29.7°C 86°F
Maximum Temperature	33.8°C 93°F
Minimum Temperature	25.5°C 78°F

For the month of August, rainfall was within the normal range. Generally, temperatures were above the normal range. August 2024 was as warm as August 2023.

LONG/ SHORT TERM SEASONAL REVIEW

YEAR IN REVIEW

(SEP 2023 - AUG 2024)

Total rainfall for the last 12 months was within the normal range; (957-1216mm). A total of 1152mm/45in. of rainfall was recorded at the *Princess Juliana International Airport*.

SEASONAL REVIEW

(JUN-JUL-AUG 2024)

Total rainfall for the last three (3) months was 282.9mm/11in; this amount was above the normal range (201-267mm). There were eleven (11) days with heavy rainfall (>10mm) during that period.

NORMAL SEPTEMBER CONDITIONS

Total Rainfall	83-120 mm 3-5 in
Average No. of Rain Days	12 days
Daily Average Temperature	28.8°C 84°F
Average Maximum Temperature	31.7°C 89°F
Average Minimum Temperature	26.4°C 80°F
Average Daily Hrs. of Sunshine	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

- Irrigation may be needed during dry spells.
- 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 August produced two (2) named storm; **Debby** and **Ernesto**. They both became hurricanes.

Sea surface temperatures remains at record high and La Niña is predicted to develop in the upcoming months as a result, the 2024 Atlantic Hurricane Season predictions for above normal activity remains in place.

So far there has been five (5) named storms; **Alberto**, **Beryl**, **Chris**, **Debby** and **Ernesto**.

In spite of the lull in storm/hurricane activity across the Atlantic at this time 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) and Facebook (www.facebook.com/sxmweather).

DISCLAIMER: This information contained in this newsletter is produced with the understanding that the Meteorological Department of St. Maarten makes no warranties, either implied or expressed concerning the accuracy, completeness, reliability, or suitability of the forecast. The information may be used freely by the public with appropriate acknowledgement of its source.