Weather & Climate

Summary

- **Rainfall total for the month of November 2021 was within the normal range;**
- **Temperatures were above normal in November, expected to be comfortable this season.**
- **In the long term drought is possible by the end of May 2022.**
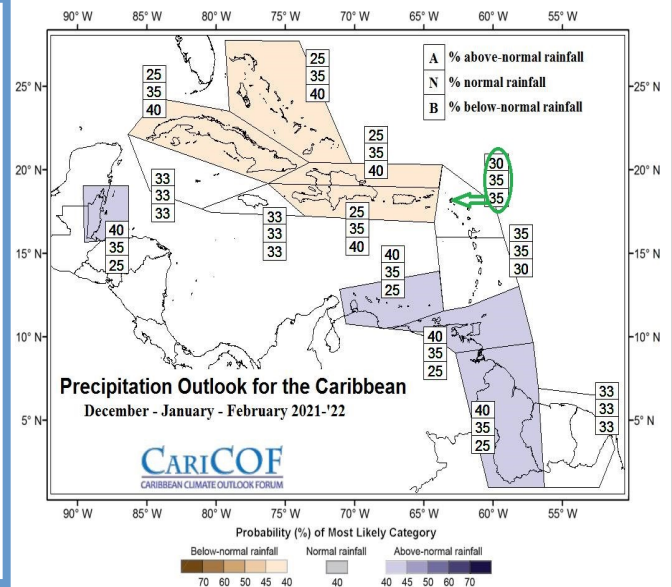
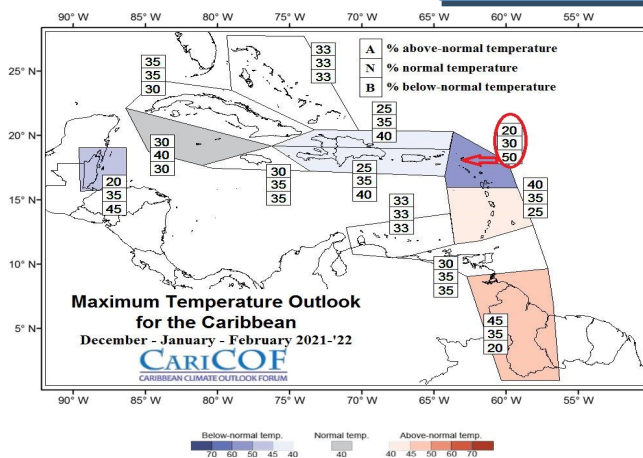## Seasonal Outlook for December to February (DJF) 2021/22

Rainfall Forecast

Models are indicating that rainfall totals for the season Dec-Jan-Feb. 2021/22 are likely to be the usual or lower in St. Maarten and across the Leeward Islands.

Normal rainfall on St. Maarten during the Dec-Jan-Feb season ranges 160 mm–249 mm/6-10in, with 33 to 42 wet days. Rainfall often decreases in frequency and intensity in December, while in Jan-Feb there are mostly sunny days with some showers.
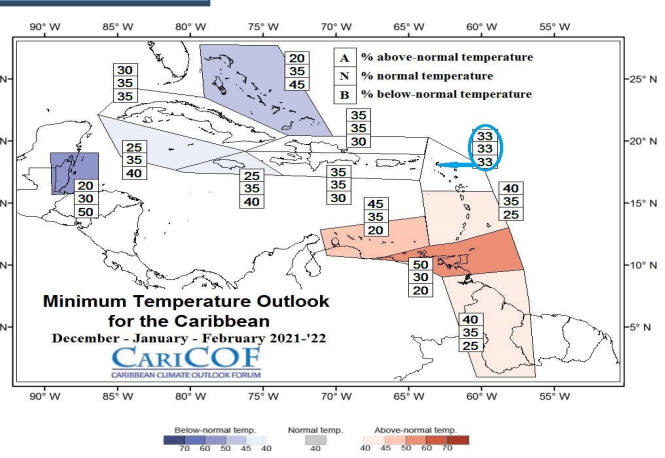
Up to 5 (7-day) wet spells and (7-day) dry spells are likely on St. Maarten during the season. There is no drought concern until the end of February however in the long term, drought is possible by the end of May 2022.

Precipitation Outlook for the Caribbean
December - January - February 2021-'22

CariCOF
CARIBBEAN CLIMATE OUTLOOK FORUM

Probability (%) of Most Likely Category

| Below-normal rainfall | Normal rainfall | Above-normal rainfall |
| 70 60 50 45 40 | 40 | 40 45 50 60 70 |

Temperature Forecast

**Maximum Temperature Outlook
for the Caribbean**
December - January - February 2021-'22

CariCOF
CARIBBEAN CLIMATE OUTLOOK FORUM

Below-normal temp. | Normal temp. | Above-normal temp.
70 60 50 45 40 | 40 | 40 45 50 60 70

Day-time Temperatures

**Minimum Temperature Outlook
for the Caribbean**
December - January - February 2021-'22

CariCOF
CARIBBEAN CLIMATE OUTLOOK FORUM

Below-normal temp. | Normal temp. | Above-normal temp.
70 60 50 45 40 | 40 | 40 45 50 60 70

Night-time Temperatures

Day-time temperatures are likely to be cooler than usual while night-time temperatures are expected to be close to the usual across the Leeward Islands.
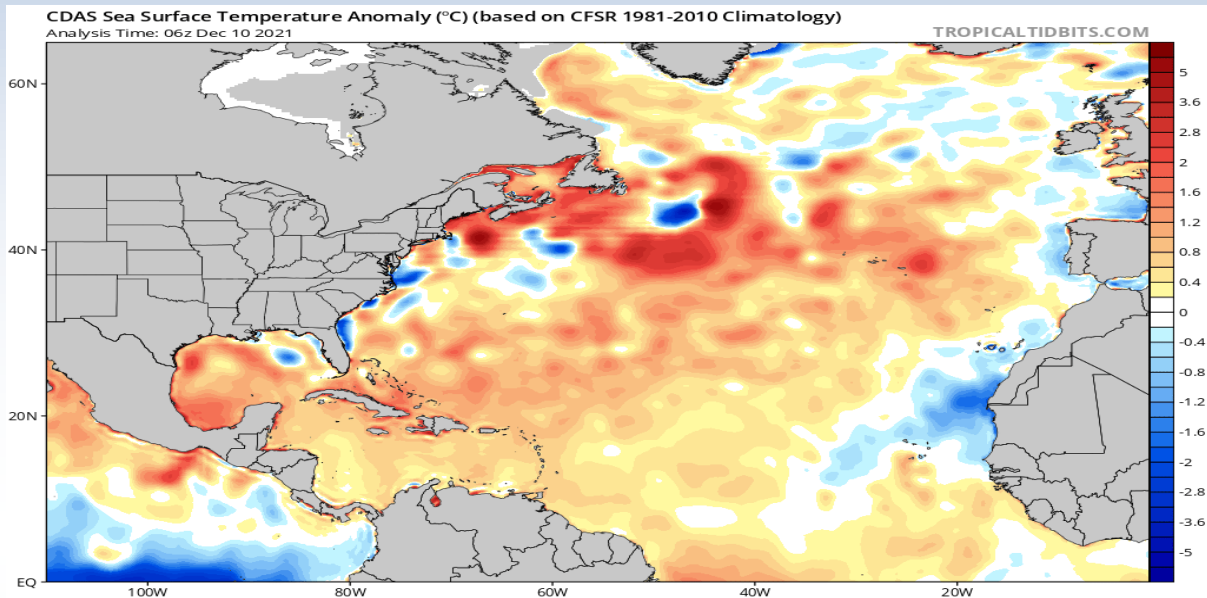
For more information on other Caribbean Outlooks go to http://rcc.cimh.edu.bb/long-range-forecasts/caricof-climate-outlooks/

WHAT INFLUENCES THIS SEASON'S CLIMATE?

In mid November, sea surface temperature (SST) in the east-central Pacific remained well below normal (-0.8°C). The key atmospheric variables were consistent with La Nina conditions and therefore a La Nina Advisory remains in place.

Majority of the forecast models predict SSTs will further cool or remain below normal through the Feb-Mar-Apr. season and return to ENSO-neutral levels by the Apr-May-Jun season.

SSTs have warmed to 0.5-1°C above average around the Caribbean and up to 2°C in portions of the Tropical North Atlantic. Models are forecasting observed SST to remain around average to above average across the Caribbean Sea. Warm SSTs in and around the Caribbean tend to contribute to higher air temperature, above-average humidity, seasonal rainfall totals and an increase in the frequency of extreme rainfall.
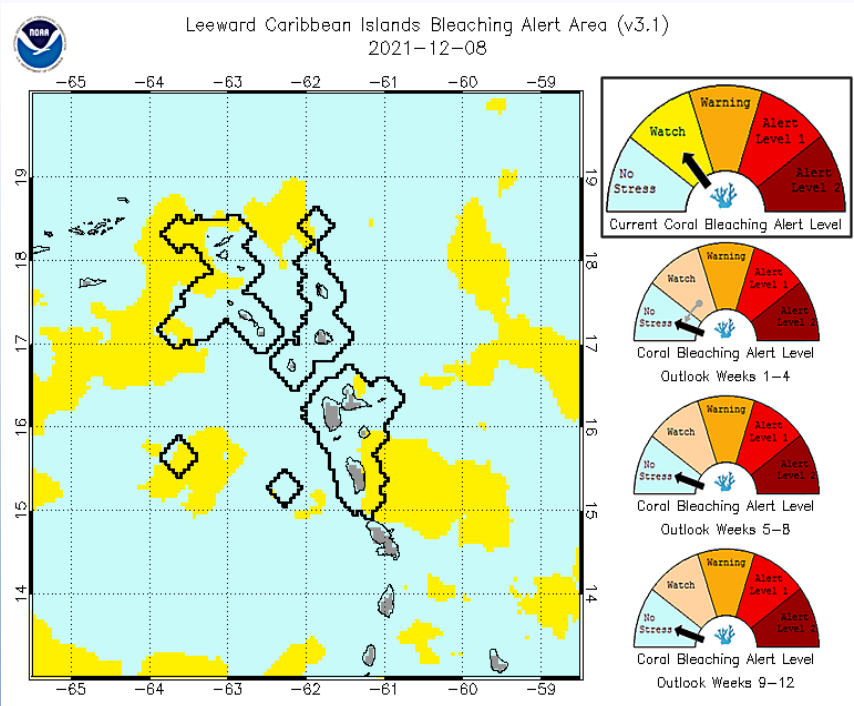

CDAS Sea Surface Temperature Anomaly (°C) (based on CFSR 1981-2010 Climatology)
Analysis Time: 06z Dec 10 2021

Coral Reef Outlook

Leeward Caribbean Islands Bleaching Alert Area (v3.1)
2021-12-08

Alert Level: WATCH

Low-Level thermal stress is possible during the next couple weeks.

Sea Surface Temperatures are currently below the bleaching threshold.

By Mid December temperatures will gradually cool and **No thermal stress** will be expected.

NOVEMBER 2021 IN REVIEW

Total Rainfall	138.4 mm	5.4 in.
2021 Cumulative Rainfall	726.3 mm	28.6 in.
Max. 24-Hr. Rainfall	2nd Nov.	41.4mm/ 1.6 in.
No. Rain Days (>=1.0 mm)	16 days	
No. Heavy Rain Days (>=10.0 mm)	4 days	
No. Thunderstorm Days	NONE	
Avg. Wind Speed	7 kts.	8 mph
Max. Wind Gust	28 kts.	32mph
Avg. Temperature	27.6^{o}C	82°F
Max. Temperature	1st Nov.	32.1^{o}C / 90°F
Min. Temperature	7th Nov.	23.2^{o}C / 74°F

Long /Short Term Seasonal Review

Year in Review
(December 2020— November 2021)

Total rainfall over the past twelve (12) months was below the normal range (943-1207). A total of 796.9mm/31in. of rainfall was recorded at the Princess Juliana International Airport.

Seasonal Review
(Sept-Oct-Nov. 2021)

Total rainfall for the last three (3) months was 343mm/14 inches, this amount was within the normal range (320-466mm). There were nine (9) days with heavy rainfall (>10mm) during that period.

Generally, temperatures were above the normal range for the month of November 2021. Rainfall was within the normal range this month.

The average daily temperature for November was 27.6^{o}C /82°F.

The warmest day was the 6th with an average temperature of 28.4^{o}C/83°F. The coolest day was the 26th with an average temperature of 25.2^{o}C/77°F.

The day with the most sunshine hours was the 1st (11hrs:06min).

The day with the least sunshine hours was the 26th (2hrs:24min).

The windiest day was the 18th, with a daily average wind speed of 12 kt./ 14 mph.

The day with the highest wind gust was the 18th with a gust of 28kt/32 mph.

Skies were mostly fair during the month of November.

There were sixteen (16) days with rainfall in November. Four (4) of which had heavy rainfall.

NORMAL DECEMBER CONDITIONS

Rainfall Total	69 mm — 123 mm	3— 5 in.
Avg. No. of Rain days	14 days	
Daily Average Temperature	26.4^{o}C	80°F
Avg. Max. Temperature	29.3^{o}C	85°F
Avg. Min. Temperature	24.1^{o}C	75F
Avg. Daily Hours of Sunshine	8 hrs	

Implication of Forecast for Sectors

Energy/Water Sector

Energy demand for cooling purposes may be tempered a bit as cooler temperatures are expected this season.

Tourism Sector

- Continue to observe all health protocols.
- Few interruptions to outdoor activities are possible.

Agriculture

- The is no drought concern in the short term (by the end of February)
- Agricultural pests and diseases may increase in extreme wet conditions. Monitor and employ recommended treatment as necessary.

Health

- UV radiation will be at its annual minimum in December and January, increasing to high in February. Excessive UV exposure can cause skin damage across the population on sunny days.

- Increased use of containers for water storage may potentially create more breeding sites for mosquitoes, especially those associated with mosquito borne diseases, such as Dengue, Chikungunya and Zika.

- Proper management of water storage containers e.g. covering with protective mesh helps to reduce the risk.

The 2021 Atlantic Hurricane Season

The 2021 Atlantic hurricane season officially ended on November 30. There were twenty-one (21) named storms, of which seven (7) became hurricanes including four (4) major hurricanes. This was the third most active year on record in terms of named storms, the sixth consecutive year with above normal hurricane activity and it was the first time on record that two consecutive seasons exhausted the list of 21 storm names.

The season started in May with tropical storm Ana that formed just northeast of Bermuda on May 22. Three (3) storms developed in June and one (1) in July, which became the first hurricane of the season. As expected, activity intensified in August with six (6) storms, three of which reached hurricane status. September was definitely the month to remember as it produced nine named storms, three (3) became hurricanes. The season ended early with the final storm forming on October 30.

The 2021 Atlantic Hurricane season may have officially ended, however it is still possible for storms to form outside the season. Therefore, we must remain vigilant and prepared to take the necessary action when called upon. Monitor weather information from credible sources and remember it does not have to be a storm or hurricane; heavy rainfall events can also have significant impacts on our lives.