

# Weather & Climate

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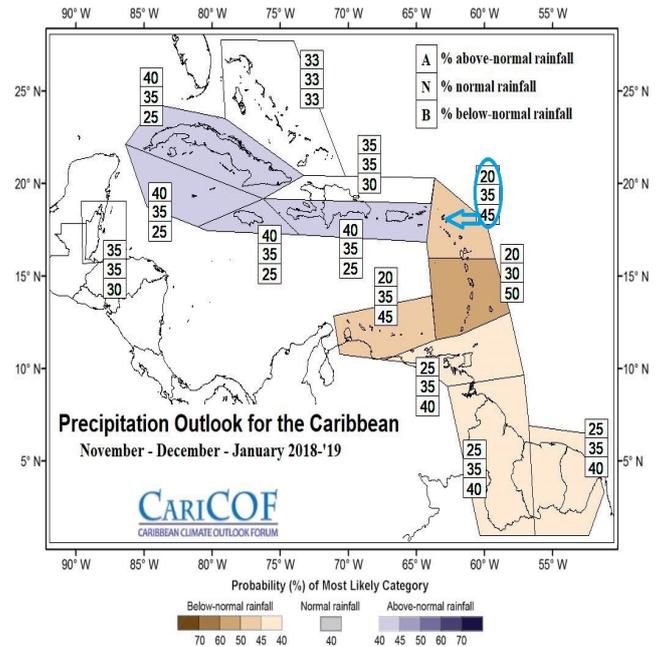
## Seasonal Outlook for November to January (NDJ) 2019

### Rainfall Forecast

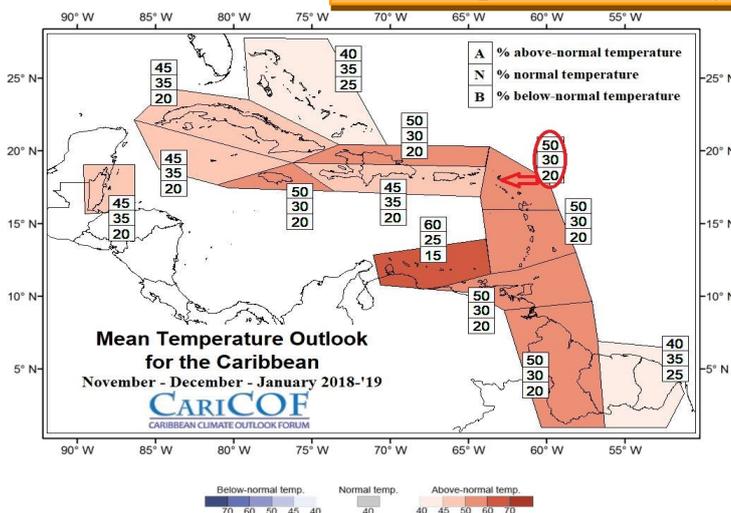
Rainfall for the season Nov-Dec-Jan 2018/19, is likely to be the usual or drier across the Lesser Antilles. The forecast is for the possibility of 3 to 6 wet spells and up to 3 very wet spells within that period.

Within the 92 days of Nov-Dec-Jan, the normal rainfall total for St. Maarten ranges from 269 mm – 325mm/ 11-13 in. with about 38-46 wet days. Nov. is usually the wettest month of the year with less frequent showers in Dec and Jan.

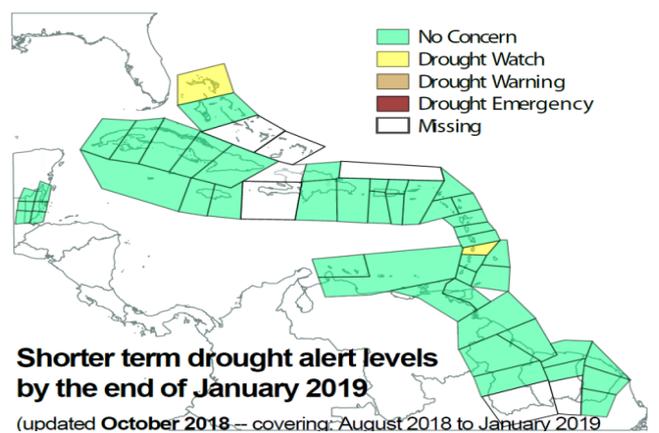
This season rainfall totals and number of wet days are likely to be the usual or lower than usual on St. Maarten.



### Temperature/ Drought Forecast



### Current Outlook



Temperatures for both day and night across the Caribbean are likely to be warmer than usual.

In St. Maarten, temperatures for both day and night are expected to be warmer than usual. However, temperatures should be more comfortable than the last few months.

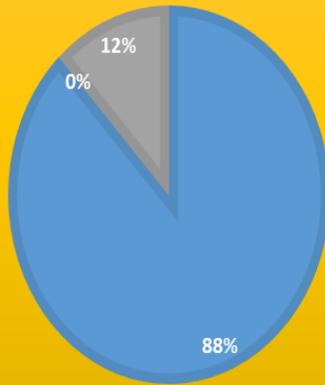
There is no drought concern developing throughout the Caribbean except for Northern Bahamas and St. Lucia

## ENSO FORECAST

(El Niño Southern Oscillation)

### ENSO FORECAST PROBABILITIES

■ El Niño ■ La Niña ■ Neutral



In early October 2018, El Niño signs increased as SST across the east-central tropical Pacific warmed to weak El Niño levels. The subsurface water temperatures continued to be above average and increased recently.

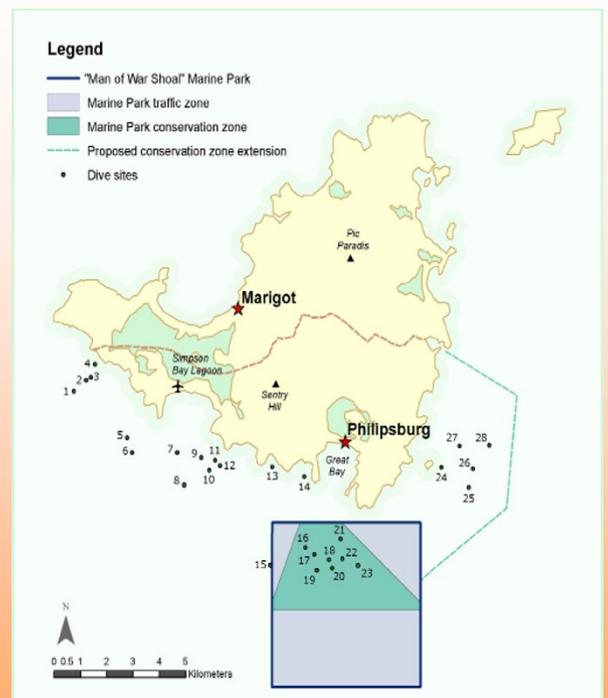
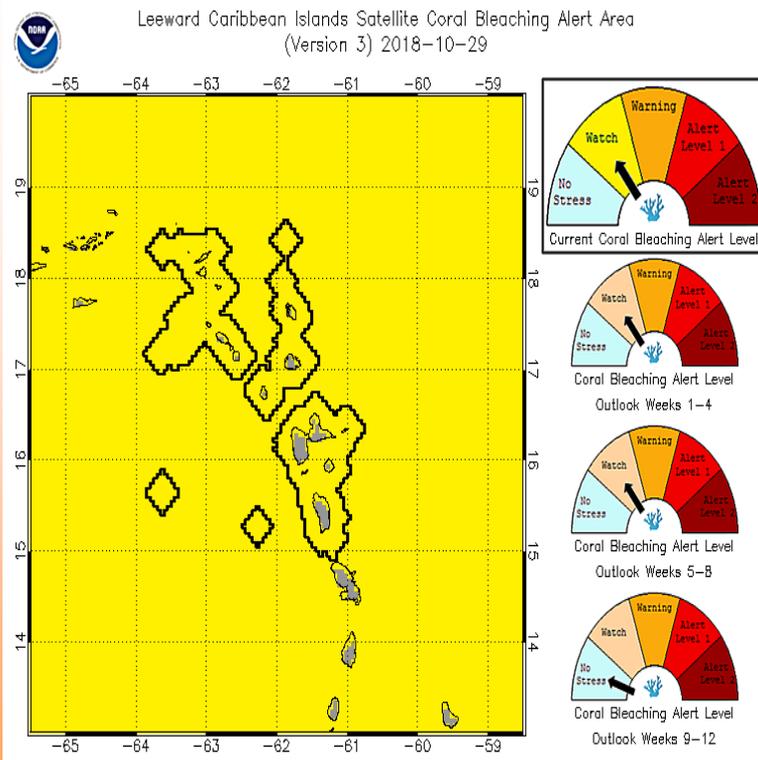
The latest forecast models collectively favour a weak to moderate El Niño development (88%) this season and most likely maintaining that strength through the first half of 2019. An El Niño Watch remains in effect.

An El Niño state will tend to tilt the odds to drier conditions. Note that this effect is more dominant with stronger El Niño phases.

### No Thermal Stress on Corals expected beyond November.....

Presently sea surface temperatures (SST) around the Leeward Islands and St. Maarten are about 28.6°C (83°F). This is slightly above average for this time of year however, temperatures still remain below the bleaching threshold (29.3°C/85°F).

Low-level thermal stress on corals is expected to continue until the end of November. Thereafter, stress is expected to decrease as a result no bleaching is expected in our local area.



**St Maarten 'Man of War Shoal' Marine Park.**  
Photo compliments: Nature Foundation St. Maarten.

Total Rainfall	164.3 mm	6.5 in.
2018 Cumulative Rainfall	689.4 mm	27.1 in.
Max. 24-Hr. Rainfall	Oct. 13 <sup>th</sup>	56.9mm/ 2.2in.
No. Rain Days (≥1.0 mm)	16 days	
No. Heavy Rain Days (≥10.0 mm)	3 days	
No. Thunderstorm Days	4 days	
Avg. Wind Speed	7 kts.	8 mph
Avg. Temperature	27.9 °C	82 °F
Max. Temperature	Oct. 1 <sup>st</sup>	32.1 °C / 90°F
Min. Temperature	Oct. 13 <sup>th</sup>	23.5°C / 74°F

Rainfall for the month of October was within the normal range (100-181mm). A total of 164.3 mm/ 6.5 inches was recorded in sixteen (16) rain days. There were three (3) heavy rainfall days. This was the wettest October since 2014.

### The 2018 Atlantic Hurricane Season

There has been quite some activity this season, with just one more month to go before the 2018 Atlantic Hurricane season officially comes to a close. In an average season there are 12 named storms, 6 hurricanes and 3 major hurricanes.

So far we have had fifteen (15) named storms, seven (7) of which have reached hurricane status; two of them (2) were major hurricanes. **Two hurricanes** formed in **July**; Beryl and Chris while **two storms**; Debby and Ernesto formed in **August**. Major hurricane Florence, Tropical storm Gordon, Joyce & Kirk and Hurricanes Helene, Isaac & Leslie formed in **September**. Major Hurricane Michael, Tropical storm Nadine and hurricane Oscar formed in October. The next named storm will be Patty.

As we begin the final month of the season, we should not be complacent. Remain alert and prepared to take action to protect life and property. Bear in mind that that Heavy rainfall events can cause flash floods which can also impact our lives.

Overall temperatures were either within the normal range or slightly below for the month of October.

The warmest day was the 8<sup>th</sup> with an average temperature of 28.8°C/84°F.

The days with the most sunshine hours were the 20<sup>th</sup> & 29<sup>th</sup> (11hrs :06min).

The day with the least sunshine hours was the 13<sup>th</sup> (0hrs:00min).

The longest dry spell was six (6) days long from October 24<sup>th</sup> to 29<sup>th</sup>.

The windiest day was the 17<sup>th</sup>, with a daily average wind speed of 15 kts. / 17 mph. The highest gust on that day was 28 kts./32 mph on the 13<sup>th</sup>.

Heavy rainfall and thunderstorm occurred on the 13<sup>th</sup> due to instability caused by an upper level trough. Flooding was reported in low lying areas across the island.

Skies were mostly fair during the month except for days with heavy rainfall.

#### Year in Review (Nov. 2017 – Oct 2018)

For the last 12 months, rainfall has been below the normal range. December '17, March, June, July and September 2018 were below normal while November '17 and February 2018, were above the normal range. Overall there was a deficit in the amount of rainfall for the past year.

#### Seasonal Review (Aug–Sept.–Oct. 2018)

Total rainfall for the last 3 months was 337mm, this amount was within the normal range (332-422mm). There were nine (9) days with heavy rainfall. (>10mm)

Aug-Sept-Oct. 2018 was drier than the same period in 2017.

#### 2018 Atlantic Storms Names

Alberto	Helene	Oscar
Beryl	Isaac	Patty
Chris	Joyce	Rafael
Debby	Kirk	Sara
Ernesto	Leslie	Tony
Florence	Michael	Valerie
Gordon	Nadine	William

## Summary of Forecast for November to January 2019

- Nov-Dec-Jan., rainfall totals are expected to be lower than usual. November is the wettest month of the year therefore frequent showers can be expected.
- Both daytime and night-time temperatures are expected to be warmer than usual. However, more comfortable than the past months.
- Thermal stress on corals is not expected beyond November. Bleaching is not expected in our local area.

### Implication of Forecast for Sectors

#### Health

- The presence of stagnant water after rainy events may promote breeding of mosquitoes and lead to an increase in water borne diseases.
- Although temperatures are expected to be more comfortable, the risk of dehydration and other associated symptoms are possible during dry spells.

#### Energy Sector

- Since temperatures are expected to become more comfortable this season, increases in demand for cooling purposes is therefore not expected.

#### Tourism Sector

- The possibility for disruptions to outdoor activities in the month of November is high. However, dry days and dry spells are expected in December and January.
- On hot days, there will be an increase demand for cooling & hydration particularly during the day-time hours.
- We are still in the hurricane season; Tourism operators should monitor all advisories/ warnings issued by the Meteorological Department.

#### Agriculture

- Some irrigation may become necessary as rainfall totals are expected to be below the average for this time of year.
- Winds speed will be on the rise this season (Dec-Jan) as high pressure increases over the area.

### NORMAL NOVEMBER CONDITIONS

Rainfall Total	85.3 mm – 169.9 mm	3– 7 in.
Avg. No. of Rain days	15 days	
Daily Average Temperature	27.3°C	81°F
Avg. Max. Temperature	30.0°C	86°F
Avg. Min. Temperature	24.7°C	76°F
Avg. Daily Hours of Sunshine	8 hrs	

### Things you should know.....

#### Flash Floods

1. A flood occurs when water flows into a region faster than it can be absorbed into the soil, stored in a lake or reservoir or removed in runoff or a waterway into a drainage basin.
2. A flash flood is a sudden local flood characterized by a great volume of water and a short duration. It occurs within minutes or hours of heavy rainfall.
3. Flash floods are dangerous because the waters in a flash flood often move at destructive speeds and they often occur with very little warning.
4. Rainfall intensity and duration are two key elements of a flash flood. Topography, soil conditions, and ground cover also play important roles. Steep terrain can cause rain water to flow toward and collect in low-lying areas, causing water levels to rise rapidly. If the soil is saturated with water, it cannot absorb more, so the excess water runs off the land quickly.