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# Meteorological Department St. Maarten

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## Weather & Climate

Volume 4, Issue 7

July 2019

### Summary

- The period; July 15<sup>th</sup> to 20<sup>th</sup> 2019 was categorized as a heat-wave period on St. Maarten.
- July 2019 was the warmest July since 2009.
- The heat season (Aug. to Oct) will likely be significantly hotter than the past two years.
- We are in the wet season, there is the possibility of up to seven (7) wet spells during this season.

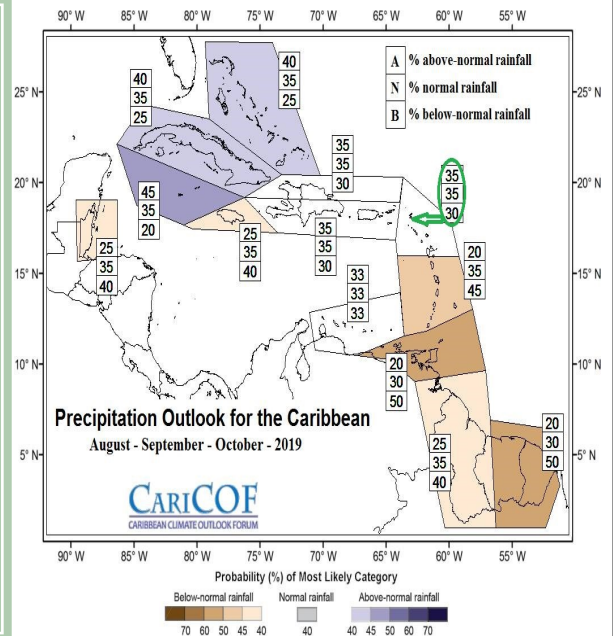
### Seasonal Outlook for August to October (ASO) 2019

#### Rainfall Forecast

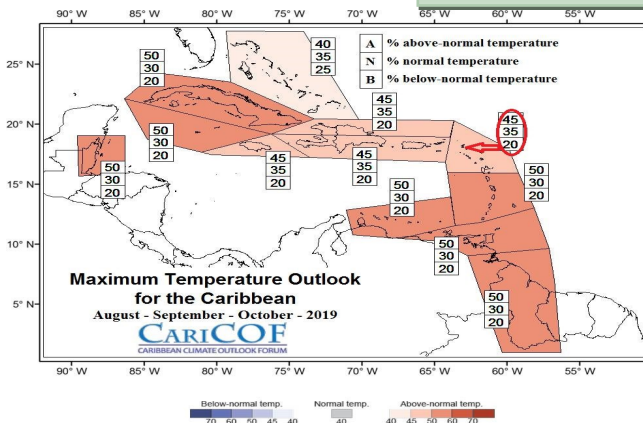
Models are indicating very little information on rainfall totals for the Aug-Sept-Oct season in the northeast Caribbean at this time. In the Cayman Islands, Cuba and the Bahamas rainfall is likely to be more than usual while in the Windward Islands, Barbados, Jamaica and Belize rainfall is likely to be less than usual.

Within the 92 days of Aug-Sept-Oct, the normal rainfall total for St. Maarten ranges from 332.1 mm – 421.5 mm/ 13-17 in. 43-46 wet days, up to 7 (7-day) wet spells this season .

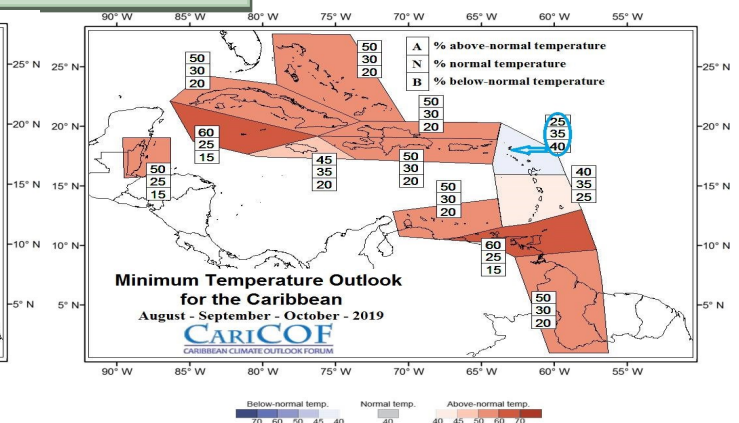
We are in the wet season, however there is often a mid-summer dry spell in the month of August and in September and October more frequent heavy showers may occur.



#### Temperature Forecast



Day-time Temperatures



Night-time Temperatures

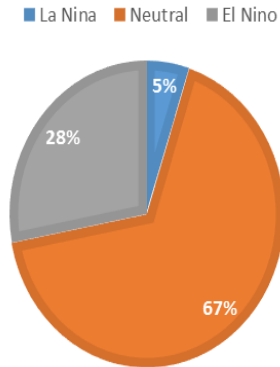
Day-time and night-time temperatures are expected to be as warm as usual or warmer across most of the Caribbean with possible exception of the Leeward Islands which might have slightly lower night-time temperatures.

For more information on other Caribbean Outlooks go to <http://rcc.cimh.edu.bb/long-range-forecasts/caricof-climate-outlooks/>

## ENSO FORECAST

(El Niño Southern Oscillation)

### ENSO FORECAST PROBABILITIES AUG-SEPT-OCT 2019

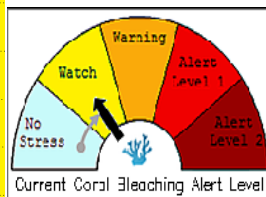
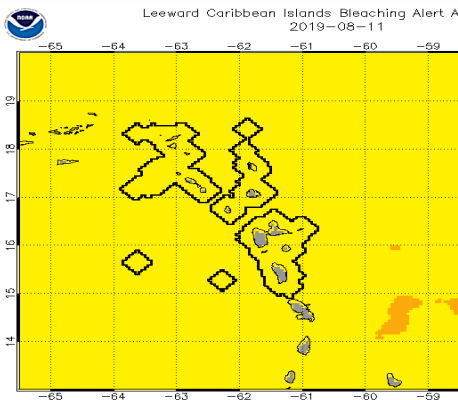


Sea surface temperatures in the Pacific have decreased to ENSO-neutral levels during July and have remained neutral to present. Patterns in the atmosphere are also showing ENSO-neutral conditions.

The latest forecast models collectively indicates a 67% chance of ENSO-neutral throughout Aug-Sept-Oct 2019. The forecast also indicates that, ENSO-neutral phase may continue into the first quarter of 2020.

A return to the neutral phase decreases the forecast skill for rainfall and temperature in the Caribbean. In this situation the main driver for climate conditions in the Caribbean will be the North Atlantic sea surface temperature variability.

### Coral Bleaching Watch: Low-level Thermal Stress



Thermal stress is expect to accumulate during the next 4 –8 weeks and bleaching is expected by the end of October 2019.

### Drought Forecast

The July rains have brought some drought relief to St. Maarten. However, drought concerns continue in some parts of the Caribbean.

By the end of October 2019, drought conditions may still be possible in parts of Belize, Jamaica, St. Kitts and Martinique.

It is possible that in the long-term; by the end of November 2019, drought conditions may still be possible in portions of the Caribbean.

### The 2019 Atlantic Hurricane Season

#### 2019 Storm Names

<del>Andrea</del>	Humberto	Olga
<del>Barry</del>	Imelda	Pablo
Chantal	Jerry	Rebekah
Dorian	Karen	Sebastien
Erin	Lorenzo	Tanya
Fernand	Melissa	Van
Gabrielle	Nestor	Wendy

**Be Prepared !!!!!      Be Prepared !!!!!**

Tropical storm Barry formed in the Gulf of Mexico on July 11<sup>th</sup> and became a hurricane on July 13<sup>th</sup>.

The next named storm will be Chantal.

## JULY 2019 IN REVIEW

Total Rainfall	172.0 mm	6.8 in.
2019 Cumulative Rainfall	371.6 mm	14.6 in.
Max. 24-Hr. Rainfall	Jul. 29 <sup>th</sup>	71.8mm/ 2.8 in.
No. Rain Days (≥1.0 mm)	13 days	
No. Heavy Rain Days (≥10.0 mm)	3 days	
No. Thunderstorm Days	4 days	
Avg. Wind Speed	11 kts.	13 mph
Avg. Temperature	29.0°C	84°F
Max. Temperature	Jul. 27 <sup>th</sup>	33.2°C / 92°F
Min. Temperature	Jul. 31 <sup>st</sup>	23.9°C / 75°F

Rainfall for the month of July was above the normal range (64-106 mm) due to the passage of a number of tropical waves.

Temperatures throughout the month of July were warmer than average.

The average daily temperature for July was 29.0°C/84°F. This was the highest July average in ten (10) years.

The warmest days were the 24<sup>th</sup> & 27<sup>th</sup> with an average temperature of 29.7°C/86°F.

There were fifteen (15) heat-wave days (32.3°C/90°F and above) for the month of July. There were six (6) consecutive days with temperatures within that range making it the first heatwave for 2019. (July 15<sup>th</sup> to 20<sup>th</sup>)

The coolest day was the 29<sup>th</sup> with an average temperature of 27.1°C/81°F.

The day with the most sunshine hours was the 11<sup>th</sup> (12hrs :12min).

The day with the least sunshine hours was the 29<sup>th</sup> (0hrs:06min) due to overcast skies.

The windiest day was the 4<sup>th</sup>, with a daily average wind speed of 14 kts. / 16 mph. There was a maximum wind gust of 32 kt/37 mph on the 28<sup>th</sup>.

## Long /Short Term Seasonal Review

### Year in Review (August 2018— July 2019)

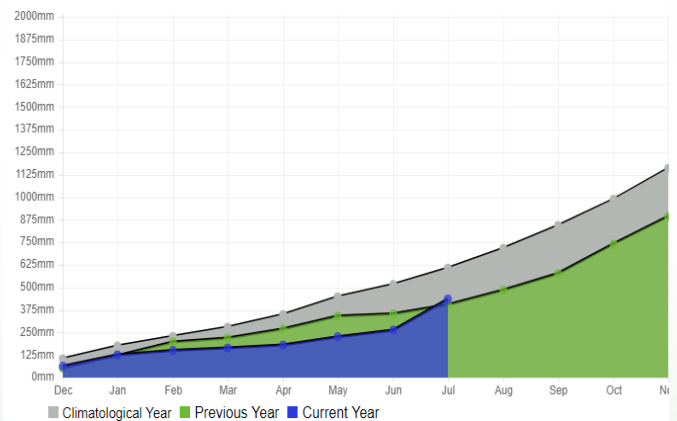
Rainfall over the past year continues to remain below normal. There is now a 20% rainfall deficit. There were seven (7) months within the past year with below normal rainfall.

### Seasonal Review (May –Jun –Jul. 2019)

Total rainfall for the last three (3) months was 254.8 mm, this amount was within the normal range (194-281 mm). There were four days with heavy rainfall (>10mm) within that period.

### TNCM, St-Maarten - Accum. Rainfall Dec-Nov Year

(Location: 18.0408°N, -63.1095°W)



## NORMAL AUGUST CONDITIONS

Rainfall Total	76.1 mm – 123.6 mm	3– 5 in.
Avg. No. of Rain days	15 days	
Daily Average Temperature	28.8°C	84°F
Avg. Max. Temperature	31.9°C	89°F
Avg. Min. Temperature	26.4°C	80°F
Avg. Daily Hours of Sunshine	8 hrs	

Please note that all data was recorded at the Princess Juliana International Airport and may not necessarily reflect conditions at other points on country St Maarten.

## The Heat Season is on!!!!

August to October is normally the hottest time of year on St. Maarten.

Drink lots of water.

Wear protective clothing, hats and sunglasses if you work outdoors.

### Implication of Forecast for Sectors

#### Health

- More frequent episodes of Saharan dust into the Caribbean region may increase the risk of respiratory illnesses. Persons suffering with Asthma and other such illness should take the necessary precaution.
- Heat waves may become an issue this season onwards therefore, the need for hydration and protection from repeated exposure to dangerous UV radiation is advised.

#### Tourism Sector

- The possibility for disruptions to outdoor activities expected to increase this season.
- The UV index continues to increase this season therefore, sunscreen application is encouraged.
- On hot days, there will be an increase demand for cooling & hydration.

#### Agriculture

- Episodes of heat stress could be a concern to farmers, small livestock and poultry. Provide adequate water and shade for Livestock.
- A seasonable increase in wet spells is expected across the region, which may bring welcomed drought relief, but also concern for flooding.

#### Energy/Water Sector

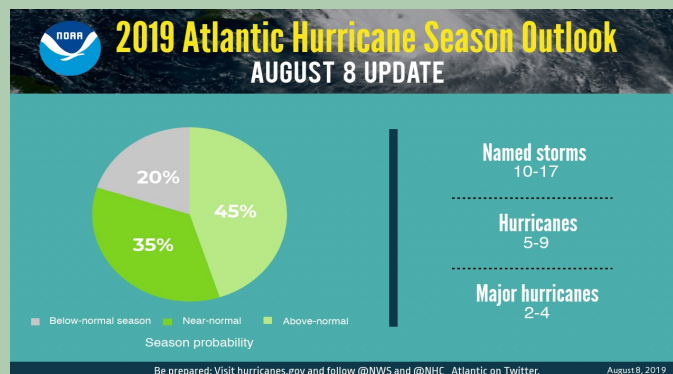
Energy demand for cooling purposes will continue to increase as day-time temperatures are expected to increase this season.

## 2019 HURRICANE SEASON UPDATE....

We are nearing the peak of the 2019 Atlantic Hurricane Season, so far there have been two (2) named storms; Andrea and Barry. Tropical Storm Andrea formed in the western Atlantic on the May 20<sup>th</sup> while Tropical Storm Barry formed in the Gulf of Mexico on July 11<sup>th</sup> and became a hurricane on July 13<sup>th</sup>.

A number of institutions have updated their forecasts for the 2019 Atlantic Hurricane Season as the atmosphere continues to change. One of the main reasons for some of the changes from the previous predictions is due to the disappearance of the El Nino Phenomenon over the past month. Sea Surface temperature in the east-central pacific have decreased to ENSO-neutral levels during the month of July. Generally, El Nino suppresses hurricane activities and now it is no more, predictions for the 2019 season move to more hurricane activity.

This upgrade in the forecast is a reminder that we should be prepared. As we approach the peak period of activity (September), the Meteorological Department St. Maarten urges all residents and the general public to ensure that all measures are in place to protect life and property and seek credible information from the official authority in order to make timely decisions.



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