

Like us on Facebook:

www.facebook.com/sxmweather

Meteorological Department St. Maarten

www.meteosxm.com

Follow us on twitter:

@sxmweather

Weather & Climate

Volume 4, Issue 4

September 2018

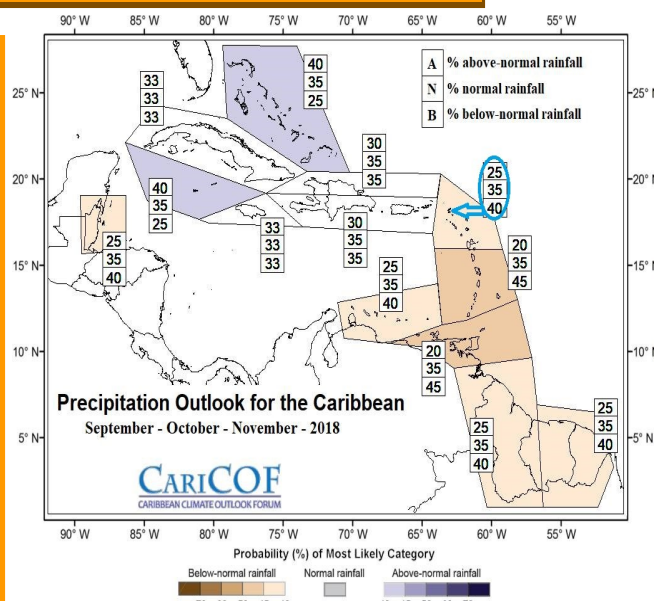
Seasonal Outlook for September to November (SON) 2018

Rainfall Forecast

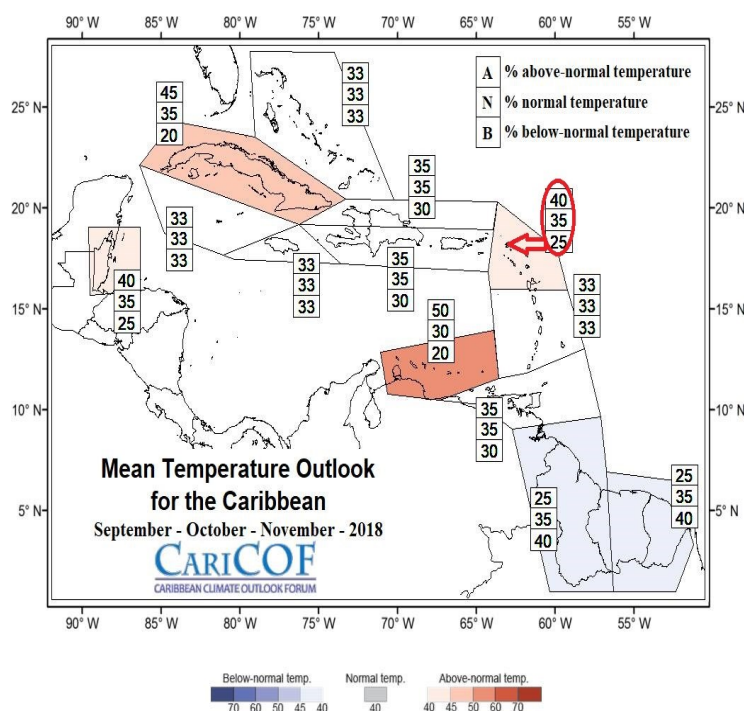
It is forecast that for the Sept-Oct-Nov season, rainfall is likely to be the usual or drier across the entire region. The forecast is for the possibility of 3 to 6 wet spells and up to 4 very wet spells within that period.

Within the 91 days of Sept-Oct-Nov, the normal rainfall total for St. Maarten ranges from 356 mm – 498mm/ 14-20 in. with about 38-50 wet days. The Sept-Oct-Nov season is usually wettest season in the year with usually frequent heavy showers.

This season rainfall totals and number of wet days are likely to be lower than usual.



Temperature Forecast



Temperatures for both day and night across the Caribbean are likely to be warmer than usual in most recent years, except in Guyana.

In St. Maarten, temperatures for both day and night are expected to be warmer than usual.

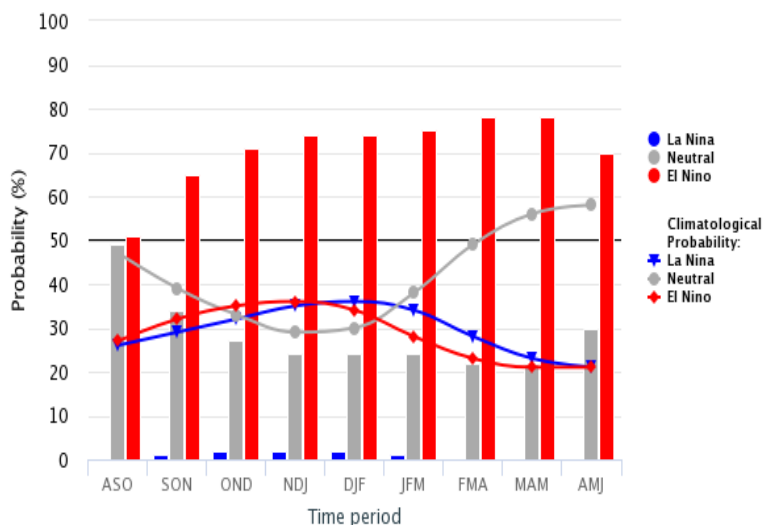
During this season heat waves usually occur. The forecast is for the possibility of having at least 7 heatwave days this season. Heat wave days are days when it becomes uncomfortably hot and humid. There were eight (8) such days recorded in August.

ENSO FORECAST

(El Niño Southern Oscillation)

Mid-Aug IRI/CPC Model-Based Probabilistic ENSO Forecasts

ENSO state based on NINO3.4 SST Anomaly
Neutral ENSO: -0.5 °C to 0.5 °C



In mid August 2018, the east-central tropical Pacific waters reflected Enso-neutral conditions with near-average SST, slightly lower than a month ago. The subsurface water temperatures continued to be above average.

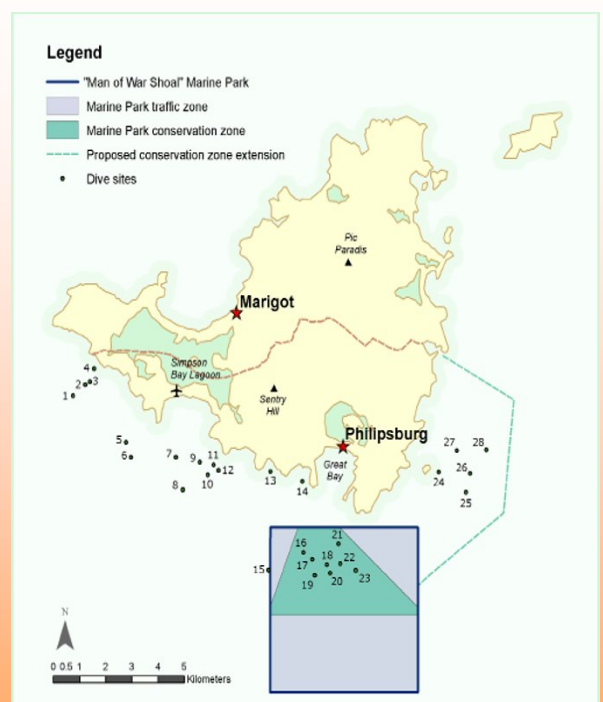
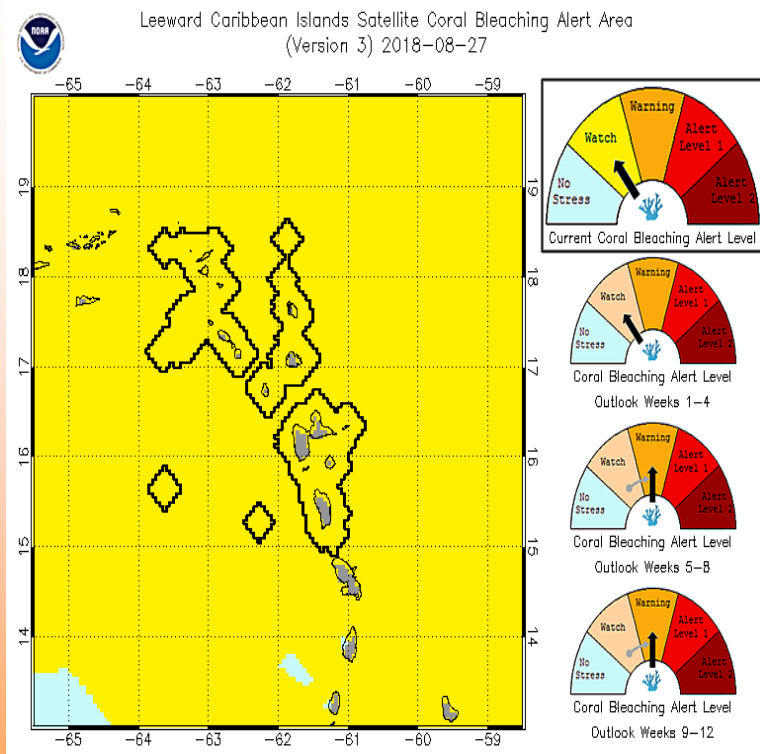
The latest forecast models collectively favour a weak El Niño development this season and growing to a weak or moderate strength by early 2019.

If El Niño manifests, a more stable atmosphere will tend to decrease tropical storm and rainfall activity, therefore increasing the chances for drought and dry spells.

A Coral Bleach Watch is in effect.....

Presently sea surface temperatures (SST) around the Leeward Islands and St. Maarten are about 28.5°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).

As a result low-level thermal stress on corals is expected at this time. Thermal stress is expected to accumulate by the end of September, further alerts will be issued thereafter.



St Maarten 'Man of War Shoal' Marine Park.

Photo compliments: Nature Foundation St. Maarten.

Total Rainfall	80.6 mm	3.2 in.
2018 Cumulative Rainfall	433.4 mm	17.1 in.
Max. 24-Hr. Rainfall	Aug. 29th	12.2mm/ 0.5 in.
No. Rain Days (≥1.0 mm)	16 days	
No. Heavy Rain Days (≥10.0 mm)	3 days	
No. Thunderstorm Days	2 days	
Avg. Wind Speed	10 kts.	12 mph
Avg. Temperature	28.6 °C	83 °F
Max. Temperature	Aug. 5th & 10th	32.9 °C / 91 °F
Min. Temperature	Aug. 30th	24.6°C / 76 °F

Rainfall for the month of August was within the normal range (76-124mm). A total of 80.6 mm/ 3.2 inches was recorded in sixteen (16) rain days. There were three (3) heavy rainfall days.

The 2018 Atlantic Hurricane Season

The Colorado State University (CSU) released an update to its July 2nd forecast on August 3rd. It is now predicting 12 named storms, 5 hurricanes and 1 major hurricane. The National Oceanic & Atmospheric Administration (NOAA) released its update on August 9th; The predictions are 9-13 named storms, 4-7 hurricanes with 0-2 major hurricanes. These latest predictions are pointing to a near normal to below normal season, seven named storms have already formed this year. An average season produces 12 named storms, 6 hurricanes and 3 major hurricanes.

Sea surface temperatures in many areas across the Tropical Atlantic are the coldest they have been for the beginning of August since 1981. Models are also indicating that an El Nino will develop in the Sept.-Oct.-Nov. season. El Nino increases wind shear which tears developing systems across the Caribbean and Atlantic. These may lead to a less active season.

Nevertheless, as we move through the next two months (Sept. to Oct.) we should not let our guards down, it takes only one major hurricane to make landfall on our island to make it an active season for us therefore being prepared and well informed is key.

Maximum temperature for the month of August was above normal. Average daily and minimum temperatures were both near normal.

The warmest day was the 11th with an average temperature of 29.2°C/85°F.

The day with the most sunshine hours was the 9th (11hrs :48min).

The day with the least sunshine hours was the 30th (0hrs:00 min).

The longest dry spell was six (6) days from August 5th to 10th.

The windiest day was the 12th, with a daily average wind speed of 13 kts. / 15 mph.

Skies were partly cloudy most of the time.

There were 8 very hot days (Heat wave days).

Year in Review (Sept. 2017 – August 2018)

For the last 12 months rainfall has been below the normal range. December, March, June and July were below normal while November and February were above the normal range. Overall there is a deficit in the amount of rainfall.

Seasonal Review (Jun-Jul-Aug 2018)

Total rainfall for the last 3 months was 144.3 mm this amount was below the usual range (210-288mm). There were seven (7) days with slightly heavy rainfall during the last three (3) months. These last 3-months were drier than the same period in 2017.

Some showers were produced by tropical waves drifting across the region.

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

Two hurricanes formed in July; Beryl and Chris and two storms formed in August; Debby and Ernesto. Florence and Gordon formed in the first 2 days of September. The next named storm will be Helene.

Summary of Forecast for September to November 2018

- Sept-Oct.-Nov. is the wettest 3-months of the year however, this year rainfall totals are expected to be lower than usual.
- Both daytime and night-time temperatures are expected to be warmer than in most recent years.
- Thermal stress is increasing on corals, it is expected that by the end of September thermal stress will begin to accumulate therefore a Coral bleach Watch is in effect for the area..

Implication of Forecast for Sectors

Health

- High temperature with increasingly humid air across the region increases the chances of heat waves in September.
- There will be an increase in the risk of dehydration during the next 3 months which may present other associated symptoms such as weakness, dizziness, fainting etc.
- As temperatures increase vulnerable persons are to be monitored as the risk of morbidity from heat stress increases.

Energy Sector

- Need for power for cooling will continue to increase this season as day-time and night-time temperatures are expected to be warmer than usual.

Tourism Sector

- As we approach the wettest part of the year the possibility for disruptions to outdoor activities increases this season.
- Increase demand for cooling & hydration particularly during the day-time hours.
- Tourists are encouraged to use sunscreen and seek shaded areas between the hours of 10am to 3pm to avoid risk of skin damage on sunny days.
- We are in the hurricane season; Tourism operators should monitor all advisories/ warnings issued by the Meteorological Department.

Agriculture

- Irrigation may become necessary as rainfall totals are expected to be below the average for this time of year.

NORMAL SEPTEMBER CONDITIONS

Rainfall Total	94.9 mm – 132.7 mm	4– 5 in.
Avg. No. of Rain days	14 days	
Daily Average Temperature	28.7°C	84°F
Avg. Max. Temperature	31.8°C	89°F
Avg. Min. Temperature	26.2°C	79°F
Avg. Daily Hours of Sunshine	8 hrs	

Things you should know.....

The El Niño-Southern Oscillation (ENSO) is one of the most important and longest-studied climate phenomena on the planet. It can lead to large-scale changes in sea-level pressures, sea-surface temperatures, precipitation and winds—not only in the tropics but across many other regions of the world.

ENSO describes the natural year-to-year variations in the ocean and atmosphere in the tropical Pacific.

An El Niño state occurs when the central and eastern equatorial Pacific sea-surface temperatures are substantially warmer than usual.

La Niña conditions occur when the central and eastern equatorial Pacific waters are substantially cooler than usual. A La Niña event usually, although not always, follows an El Niño event.

El Niño and La Niña events typically persist for 9-12 months, though occasionally persisting for up to 2 years.