CariCOF
CARIBBEAN CLIMATE OUTLOOK FORUM

Caribbean Climate Outlook Newsletter - December to February 2020-21

For climate information specific to your country, please consult with your national meteorological service.
CariCOF outlooks speak to recent and expected seasonal climate trends across the Caribbean in general.

BRIEF SUMMARY: August 2020 to February 2021

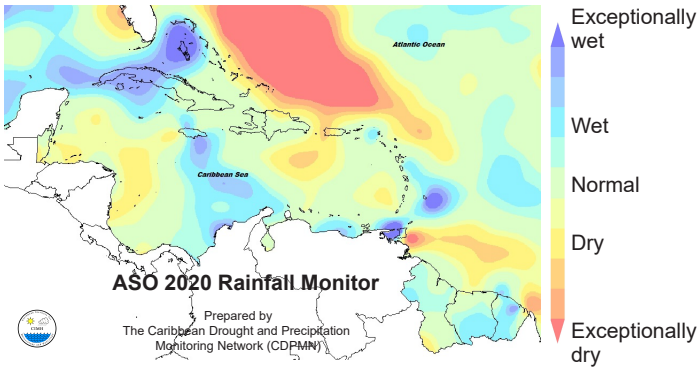
August to October 2020: This period marking the peak of the 2020 Caribbean Heat Season and forming part of the Wet Season stood out in terms of record-breaking heat across many parts of the region. Notably, Dominica, Grenada and Puerto Rico observed all-time record daily high temperatures. Drought eased for most in this period.

December 2020 to February 2021: La Niña conditions are in place, meaning a cool and less intense early dry season in the Caribbean Islands, except the Bahamas and Cuba. In Belize and the Islands, flooding, flash flood, landslide / rockfall and soil erosion potential will decrease from moderate in December to slight by January. In the Guianas, this potential will be high with an intense wet season. Increasingly frequent, short dry spells are forecast - *especially from Hispaniola westward* -, impacting unprotected crop farming and increasing wild fire potential.

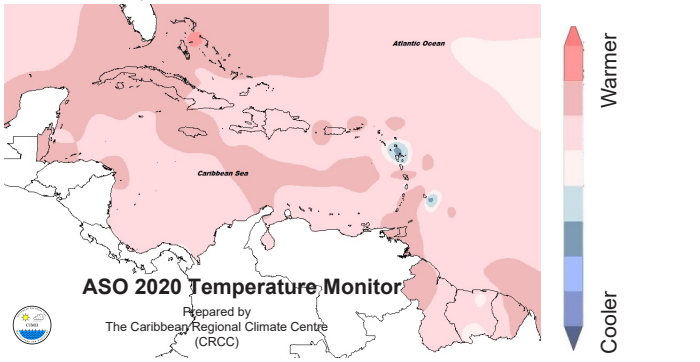
LOOKING BACK:

August - September - October 2020 (ASO)

Observations



- **RAINFALL:** W Puerto Rico very dry; NW Bahamas, parts of Barbados, W Cuba, parts of French Guiana, Jamaica and Trinidad very wet.



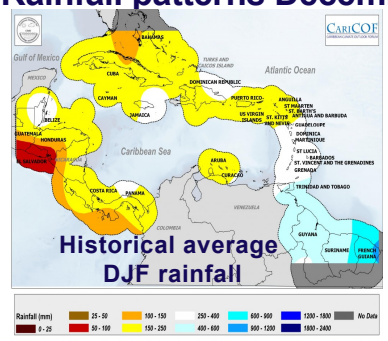
- **TEMPERATURE:** Virtually the entire Caribbean was significantly warmer than avg., especially in The Bahamas. Antigua and parts of Guadeloupe were slightly cooler than avg.

Notable Climate Records:

WET: *ASO:* none
DRY: *ASO:* none
HOT: *ASO:* The Bahamas and Martinique recorded their warmest three-month averaged maximum temperatures for this period; Grenada, 1 location in Guyana, 1 in Puerto Rico and 1 in Suriname recorded their highest mean temp.;1 location in Guyana and 1 in Jamaica recorded their highest min. temp. for this period.

WHAT NEXT?

Rainfall patterns December - January - February (DJF)



Belize :
Dec to Jan - transition to dry season. Heavy showers becoming less frequent.
February - dry season. Few heavy showers.

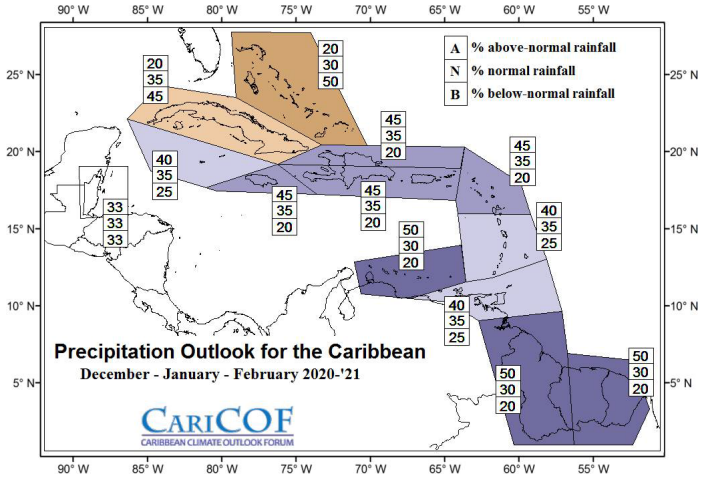
C'bean Islands north of 16°N:
December - early dry season. Decreasing shower frequency & intensity.
Jan to Feb - mostly sunny, some days with showers.

C'bean Islands south of 16°N (except ABC Islands):
Dec to Jan - transition to dry season. Decreasing shower frequency & intensity.
February - peak of dry season. Often sunny, mostly light morning or evening showers on some days.

Guianas:
Dec to Jan - wet season. Frequent, heavy showers.
February - dry season. Heavy showers on some days.

ABC Islands: transition from to dry season in Feb. Frequent heavy showers December in most years.

DJF 2020-21 Rainfall Outlook

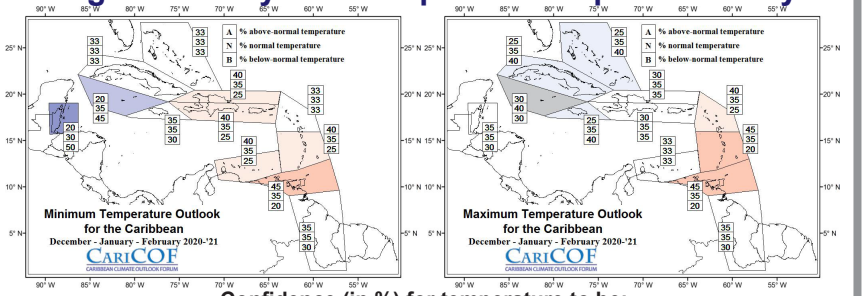


Confidence (in %) for rainfall to be:

Below-normal					Normal	Above-normal				
>70	60	50	45	40	>40	40	45	50	60	>70

Rainfall totals from December to February are likely to be at least as high as usual in the Guianas and most of the Antilles; but likely the usual or drier in the Bahamas and Cuba.
White areas show where the forecast indicates little information on rainfall totals.

Night- and day-time temperatures up to February



Confidence (in %) for temperature to be:

Below-normal					Normal	Above-normal				
>70	60	50	45	40	>40	40	45	50	60	>70

DJF night-time (min.) and day-time (max.) temperatures are very likely to be comfortably cool, as this period marks the core of the Caribbean's cool season. In Belize and at higher elevations throughout the region, there is the potential for a number of cold nights.

Wet days and wet spells up to February

What usually happens from December to February?

- Number of wet days: roughly 25 to 40 (ABC Is: 10 to 35; coastal Guianas: 30 to 50).
- # of wet spells: 1 to 3 (ABC Is.: 2 to 6; Guianas: 1 to 5), of which 1 or 2 are very wet (ABC Is & Guianas: up to 3).
- # of extreme wet spells: up to 1 in Belize & some islands (coastal Guianas: up to 2).

Forecast and Implications:

- High potential for flooding, flash floods, land slides / rock fall and soil erosion from very wet and extreme wet spells in the Guianas. Potential decreasing from moderate to slight in Belize and the islands after December.
- Faster recharge of large water reservoirs in the ABC Is. and the coastal Guianas, slower depletion in the Antilles, except Cuba.
- Steadily increasing wildfire potential in the Bahamas and Cuba.

Drought conditions

Drought situation: (*as of November 1st*)	Severe (or worse) shorter term drought has developed in western Puerto Rico, but eased in previously affected areas; long term drought in southern and easternmost Belize, central parts of the Dominican Republic, easternmost Guadeloupe, western and northern French Guiana, northernmost Guyana, Saint Lucia, St. Vincent, and parts of eastern Suriname.
Shorter term concern: (*at the end of February*)	Shorter term drought should not be a major concern by the end of February, apart from western Belize and northwest Puerto Rico, where it is likely to evolve, and in Antigua, Belize, the Dominican Rep. and southern Puerto Rico, where it is possible.
Long term concern: (*at the end of May*)	Long term drought should not be a significant concern in most affected areas by the end of May in most areas. However, long term drought should evolve in southern parts of Belize and northwest Puerto Rico, and may possibly develop or persist in eastern Cuba, eastern Dominican Republic, and southeast Puerto Rico.

BRIEF CLIMATE OUTLOOK - March to May 2021

The second half of the 2020-21 dry season - *when water availability usually reaches its annual minimum* - may still be influenced by La Niña. Wetter than usual conditions are likely in Barbados, Belize, the Guianas, Trinidad and Tobago and the Windward Islands. However, it may end up even drier than usual in much of the Greater Antilles. Frequent dry spells may impact crop production, though less so in the areas ending up wetter than usual. Temperatures usually remain comfortable through March, but tend to increase into the start of the heat season in April (Belize, Cuba and Trinidad) and May (other Caribbean Islands). For temperature and precipitation outlooks for MAM 2021, please visit rcc.cimh.edu.bb/caricof-climate-outlooks/

What influences the next season?

El Niño Southern Oscillation (ENSO)

Recent observations: Sea Surface Temperatures (SSTs) in the eastern Pacific SSTs cooled from around average in May to more than 1°C below average; as such, moderate La Niña conditions are in place.
Model forecast and guidance: The models strongly favour a La Niña event to manifest by DJF (with around 90-95% confidence) and possibly persist through MAM (with around 60% confidence).
Expected impacts on rainfall and temperatures: La Niña tilts the odds to more frequent and more intense rainfall, but it also has an attenuating effect on temperatures for most of the region, particularly in the south-eastern half of the Caribbean from December to March or April. In the northwest, La Niña tilts the odds towards a drier and hotter dry season.

Climate conditions in the Tropical North Atlantic and Caribbean

Recent observations: SSTs along the shores of the Caribbean and in parts of the Tropical North Atlantic (TNA) and sub-tropical North Atlantic are close to 1°C above average.
Expected conditions: Most models reduce the warm SST anomalies to around +0.2°C to +0.5°C across the Caribbean Sea and sub-tropical North Atlantic, and bring TNA SSTs close to average by MAM.
Expected impacts: Continued warm SSTs throughout the Caribbean tends to contribute to above-average humidity, seasonal rainfall totals, reduced dry spell frequency and drought, but higher night-time air temperatures in adjacent areas.

Climate outlooks - background

The Caribbean Climate Outlooks are prepared by the Caribbean Climate Outlook Forum (CariCOF). The Caribbean Institute for Meteorology and Hydrology, in its role as WMO Regional Climate Centre, coordinates the CariCOF process. Contributors to the Outlooks are the Meteorological Services from the region.
The Precipitation and Temperature Outlooks are issued in the form of a map, which shows regions where the forecast rainfall or temperatures have the same probabilities to be:

Above-normal	(A)	- within the wettest/hottest third of the historical record
Near-normal	(N)	- within the middle third of the historical record, i.e. a range called the 'usual'
Below-normal	(B)	- within the driest/coldest third of the historical record

CariCOF Outlooks offer consensus-based information averaged across multiple territories. In some cases, individual national results may differ from region wide results. To get information on your specific country context, please consult your National Meteorological and Hydrological Services and/or any national level bulletins thay may provide.

DISCLAIMER