CariCOF
CARIBBEAN CLIMATE OUTLOOK FORUM

Caribbean Climate Outlook Newsletter - January to March 2021

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: September 2020 to March 2021

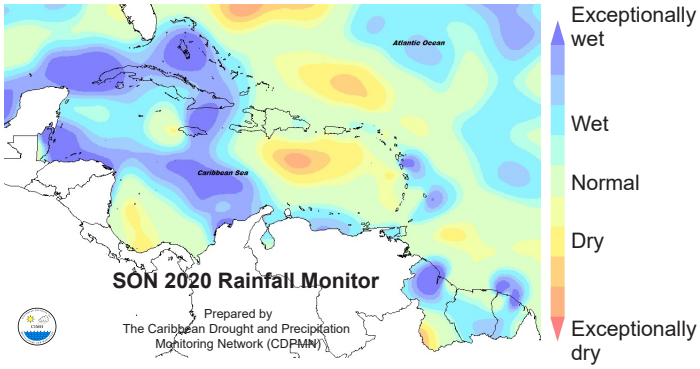
September to November 2020: The peak of the 2020 Caribbean Wet Season stood out in terms of recurrent extreme rainfall events causing flooding, flash floods and related hazards in many parts of Belize and the Islands. Record-breaking heat occurred in September, after which the intense 2020 Heat Season faded quickly.

January to March 2021: With La Niña conditions in place in this cool part of the dry season, frequent dry spells in areas west of Puerto Rico -- *particularly in the Bahamas, Cayman Is. and Cuba* -- are likely to increase wildfire potential and decrease water levels in surface reservoirs and ponds. By contrast, a few wet spells may help prevent water levels from dropping fast in the ABC Is. and the Lesser Antilles. Finally, a particularly wet season is expected until February in northern parts of the Guianas, with high potential for flooding and associated hazards.

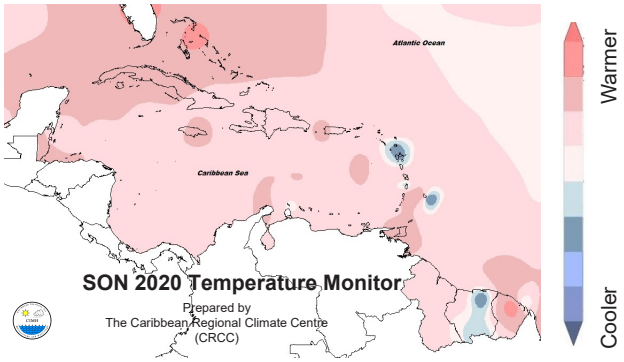
LOOKING BACK:

Sept, - Oct. - Nov. (SON) 2020

Observations



- **RAINFALL:** SW Guyana very dry; The Bahamas, and parts of Barbados, Belize, Dominica, Guianas and Jamaica very wet.



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

Notable Climate Records:

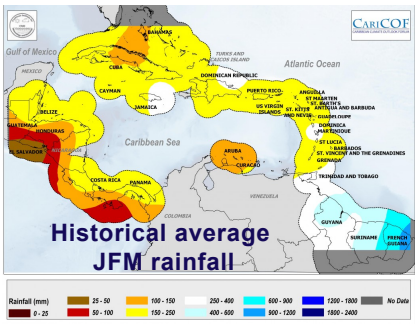
WET: *SON:* Two locations in Martinique, 1 in Haiti and 1 in Jamaica recorded their highest rainfall totals for this period (165-245% of average).

DRY: *SON:* none

HOT: *SON:* 1 location in the Bahamas recorded its warmest mean and maximum temperatures for this period; Grenada and 1 location in Guyana recorded their highest mean and min. temperature; 1 location in Jamaica recorded its highest min. temperature.

WHAT NEXT?

Rainfall patterns January-February-March (JFM)



Belize :
Jan - start of dry season; occasionally still wet.
Feb to Mar - dry season. Mostly without heavy rainfall.

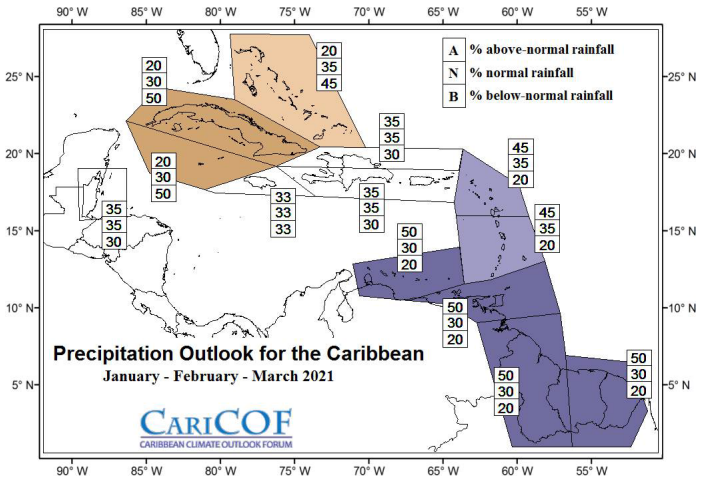
C'bean Islands north of 16°N:
Jan to Mar - sunny days and some days with showers.

C'bean Islands south of 16°N (except ABC Islands):
Jan to Mar - sunny days and some days with showers.

***ABC Islands*:**
Jan - wet season ending.
Feb to Mar - generally dry.

Guianas:
Jan - wet season. Frequent, heavy showers.
Feb - Mar - dry season; occasional heavy showers and thunderstorms.

JFM 2020-21 Rainfall Outlook

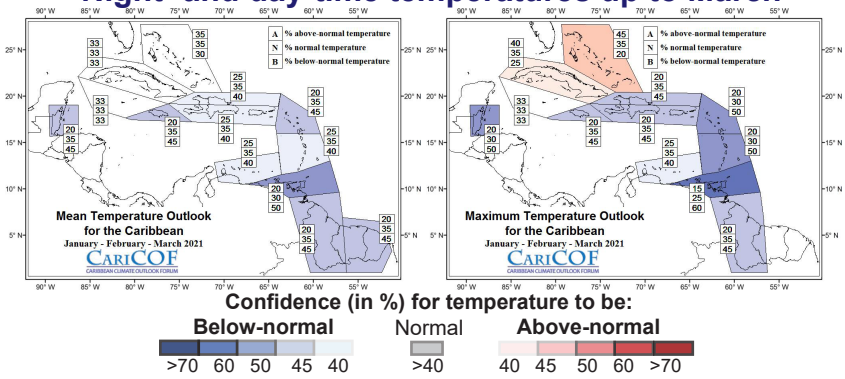


Confidence (in %) for rainfall to be:

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

Rainfall totals from January to March are likely to be at least as high as usual in the ABC Islands, the Guianas and the Lesser Antilles; but likely the usual or drier in the Bahamas, the Cayman Islands and Cuba.
White areas show where the forecast indicates little information on rainfall totals.

Night- and day-time temperatures up to March



JFM night-time (min.) and day-time (max.) temperatures are likely to be comfortably cool and at most as warm than usual, except daytime temperatures in the Bahamas and Cuba. At higher elevations and in Belize, some cold nights are expected through early-March.

Wet days and wet spells up to March

What usually happens from January to March?

- Number of wet days: roughly 15 to 30 (ABC Is: 10 to 25; coastal Guianas: 20 to 50).
- # of wet spells: up to 3 (ABC Is.: 1 to 4; Guianas: up to 4), of which up to 1 is very wet (ABC Is.: up to 2; Guianas: up to 3).
- # of extreme wet spells: up to 1 or two in the northern Guianas, virtually none elsewhere.

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 through February. Just a slight potential in Belize and the islands.
- Slower depletion of large water reservoirs in Belize and the islands, except in the Bahamas, Cayman Is. and Cuba.
- Rapidly increasing wildfire potential in the Bahamas and Cuba.

Drought conditions

Drought situation: (*as of December 1st*)	Severe (or worse) shorter term drought has developed in in parts of southwestern Guyana; long term drought along the lcoastline of the Dominican Republic, locally along the north coast of French Guiana, and westernmost Puerto Rico.
Shorter term concern: (*at the end of March*)	Shorter term drought should not be a major concern by the end of March.
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 Antigua, southwest Belize, and southern French Guiana, and may possibly develop or continue in Grand Cayman and St. Kitts.

BRIEF CLIMATE OUTLOOK - April to June 2021

The transition from the dry to the wet season is expected to bring an increase in the number of wet days and wet spells across the region, with a moderate potential for flooding and associated hazards. La Niña conditions and unusually high ocean temperatures in the Caribbean Sea and the Tropical North Atlantic are expected to subside, which reduces confidence in the forecasts for this period. However, with a persistently warm ocean forecasted near the Bahamas and Cuba, the onset of the 2021 Caribbean Heat Season in April / May may be particularly intense there. Significant regional drought is not expected. For temperature and precipitation outlooks for AMJ 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 between 1°C and 1.5°C below average; as such, moderate La Niña conditions are in place.
Model forecast and guidance: The models strongly favour La Niña to continue into JFM (with around 90-95% confidence) and, more likely than not, a return to ENSO neutral conditions by AMJ (50-65% 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: With the exception of the far northwest of the Caribbean, where SSTs still run about 1°C above average, SSTs along the shores of the Caribbean and in much of the Tropical North Atlantic (TNA) have cooled to just above average.
Expected conditions: Most models maintain the observed SST anomalies around 1°C above average around the Bahamas, Belize and Cuba, and 0°C to +0.5°C across the Caribbean Sea and the TNA through AMJ.
Expected impacts: Continued warm SSTs in the northwestern Caribbean tends to contribute to above-average humidity, seasonal rainfall totals, reduced dry spell frequency and drought, but tilts the odds to a warmer than average early Heat Season starting April or May.

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.

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