

Caribbean Climate Outlook Newsletter - December 2021 to February 2022

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 2021 to February 2022

August to October 2021: During this period, short and long-term drought occurred in the northern Bahamas, Western Cuba, southeast Dominican Republic, Guadeloupe, Martinique and St. Barth's, while short or long-term drought occurred in other areas. The peak of the Heat Season in the eastern Caribbean and the Guianas resulted in strong heat stress in September.

December 2021 to February 2022: With La Niña conditions, the potential for floods and cascading hazards should be moderate to high in the Caribbean Islands and Belize until December, and high in the coastal Guianas until early-February. However, long-term drought is evolving in southern Belize and short-term drought in southeast Belize, Cayman Is., Cuba, western Jamaica and northwest Puerto Rico. Frequent, short dry spells are expected from Hispaniola westward, potentially affecting unprotected crops. On a bright note, seasonably cool temperatures and a low chance of particularly dry conditions will lead to the relatively slow depletion of water resources and the rate of increase in the fire potential.

0 - 25 - 50

heavy showers.

Guianas:

Historical average

DJF rainfall

Dec to Jan - wet season. Frequent,

February - dry season. Heavy

showers on some days.

LOOKING BACK:

August - September - October (ASO) 2021



 RAINFALL: NW portions of The Bahamas, N Belize, westernmost Cuba, SE Dom. Rep., E Guadeloupe, N Martinique, SW Puerto Rico very dry; parts of the Guianas, W Trinidad very wet.



• **TEMPERATURE:** Near average temperatures in much of the Caribbean, but W Barbados, coastal Belize, SW Dominica, central Puerto Rico significantly warmer than usual; NW Bahamas, E Guadeloupe, southeast Jamaica, Martinique, St. Croix, SE Suriname signif. cooler than usual.

Notable Climate Records:

- WET: ASO: 3 locations in Guyana & 1 in French Guiana recorded their highest rainfall totals for this period (~160% of avg.).
- **DRY:** ASO: 1 location in Martinique recorded its lowest rainfall totals for this period (~40% of avg.)
- HOT: ASO: Barbados & 1 location in Guyana recorded their warmest nighttime min. temperature for this period.

WHAT NEXT?

Rainfall patterns December - January - February (DJF)

CARICOF 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.

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



Rainfall totals from December to February are likely to be at best as low as usual in the Bahamas, Cuba, Hispaniola and the US C'bean Terr., but at least as high as usual in the ABC Is. Belize, Guyana and Trinidad & Tobago (*medium confidence*). *White areas, if any, show where the forecast indicates little information on rainfall totals.*

November 2021

find out more by using the clickable images and headings or visit rcc.cimh.edu.bb

More on the climate outlook

December 2021 to February 2022

Night- and day-time temperatures up to February



DJF night-time (min.) and day-time temperatures will be comfortable, despite night-time likely being the usual or slightly warmer anywhere south of Guadeloupe and daytime the usual or slightly warmer in Barbados, Guyana and the Windward Is. Some cold nights are expected, particularly in the Bahamas, Belize and elsewhere at higher elevations

Wet days and wet spells up to February

What usually happens from December to February?

- Number of wet days: roughly 25 to 40 (ABC ls: 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 high in December to marginal by February in the islands.
- Slower depletion of large water reservoirs in the Greater and Lesser Antilles.
 - Slowly increasing wildfire potential by the end of February.

Drought conditions

Lastest drought situation:	Moderate (or worse) shorter term drought has developed in Antigua, N & SE Bahamas, SE Barbados, N & SE Belize,
(as of November 1st)	E & W Cuba, E Dom. Rep., E Guadeloupe, Martinique, Puerto Rico, and St. Barth's; moderate longer term drought in NW
	Bahamas, S Belize, W Cuba, SW Dominica, S Dom. Rep., Leeward Is., Martinique, St. Barth's, St. Croix, and St. Vincent.
Short-term drought	Short term drought is evolving in southeast Belize, Cayman Is., Cuba, W Jamaica, and NW Puerto Rico and may develop
(at the end of Feb. 2022)	or continue in N Bahamas, Barbados, SW Belize, E Cuba, Dominica, S Dom. Rep., Guadeloupe, E Jamaica, Martinique, and SW Puerto Rico.
Long-term drought	Long term drought is evolving in southeast Belize and in Dominica and might possibly develop or continue in the northern-

(at the end of May 2022) most Bahamas, southwest Belize, Western Cuba, Martinique, Sint Maarten / St-Martin, St. Vincent, and the USVI.

BRIEF CLIMATE OUTLOOK - March to May 2022

Indications are that the second half of the dry season may be characteristic of a La Niña event in conjunction with warmer than usual water around the Caribbean. The ABC Is., the Bahamas, Belize, the Guianas and portions of the Lesser Antilles, may end up less dry than usual. However, apart from the Cayman Is. it may possibly be even drier than usual in the Greater Antilles. Frequent dry spells may impact crop production. Temperatures usually remain comfortable through March. The rising heat merits monitoring in Belize, Cuba and Jamaica from April onwards and in the other islands from May as the heat season returns. For temperature and precipitation outlooks for MAM 2022, please visit rcc.cimh.edu.bb/caricof-climate-outlooks/

El Niño Southern Oscillation (ENSO)

What influences the next season?

Recent observations: Sea Surface Temperatures (SSTs) in the eastern Pacific have recently dropped to below -0.5°C; La Niña conditions have returned this year.

Model forecast and guidance: The models forecast indicate La Niña conditions in DJF (85-90% confidence), which may continue into MAM (30-50% confid.), or return to ENSO neutral conditions (50-65% confid.). *Expected impacts on rainfall and temperatures*: La Niña tilts the odds to more rainfall activity in DJF and MAM, except in the northern Caribbean where it tilts the odds to less rainfall. ENSO neutral offers little contribution to seasonal rainfall or temperature prediction in the Caribbean.

Climate conditions in the Tropical North Atlantic and Caribbean

Recent observations: SSTs have warmed to 0.5-1°C above average around the Caribbean and in the equatorial and sub-tropical portions of the North Atlantic in September and persisted into October.

Expected conditions: Models are forecasting observed SST around average to maintain anomalously warm (0-1°C above average) around the Caribbean and in the sub-tropical North Atlantic.

Expected impacts: Warm SSTs in and around the Caribbean tend to contribute to higher air temperatures with above-average humidity, seasonal rainfall totals and an increased frequency of extreme rainfall.

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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