

Caribbean Climate Outlook Newsletter - July to September 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: March to September 2021

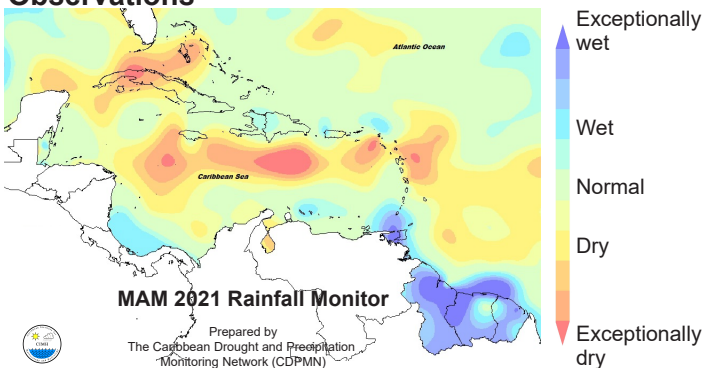
March to May 2021: This period stood out in terms of short term drought in Cuba, parts of the Leeward Islands, Jamaica and Martinique, contrasted with extremely wet conditions from Grenada southwards, triggering some of the worst flooding in recent history in Guyana. This pattern, along with absence of unusual heat resulted, at least in part, from a fading La Niña.

July to September 2021: This part of the wet/heat/hurricane season is forecast to bring an increase in wet days and wet spells, heatwaves and tropical cyclone activity in Belize and the Caribbean Islands. This results in an increase in disruptions of outdoor activities and rising water levels in soils, rivers and reservoirs. However, the potential for flash floods, long-term flooding and cascading impacts, as well as, for heat stress will increase from moderate in July to high in August and September. The Guianas will enter their dry season in August, implying that surface wetness should decrease and floods recede in affected areas, but the improvements may be slow in view of forecasted higher numbers of wet spells than usual.

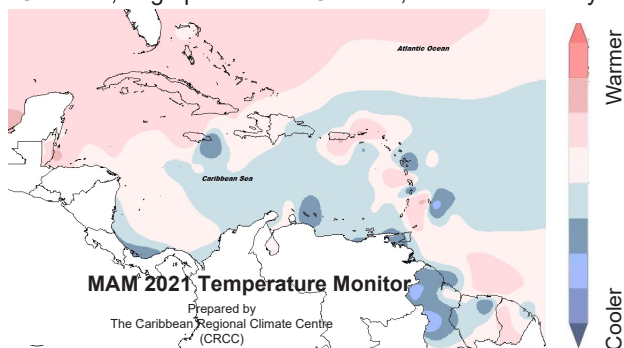
LOOKING BACK:

Mar. - Apr. - May (MAM) 2021

Observations



- **RAINFALL:** Antigua, parts of The Bahamas, northern Cuba, eastern Guadeloupe, and St. Kitts Maarten very dry; Grenada, large parts of the Guianas, and Trinidad very wet.



- **TEMPERATURE:** Near average temperatures in much of the Caribbean, but parts of Belize were significantly warmer than usual, whereas parts of Barbados and Guyana were signif. cooler than usual.

Notable Climate Records:

WET: MAM: 5 locations in Guyana, 1 in French Guiana, 1 in Suriname, 1 in Trinidad recorded their highest rainfall totals for this period (165-275% of avg.).

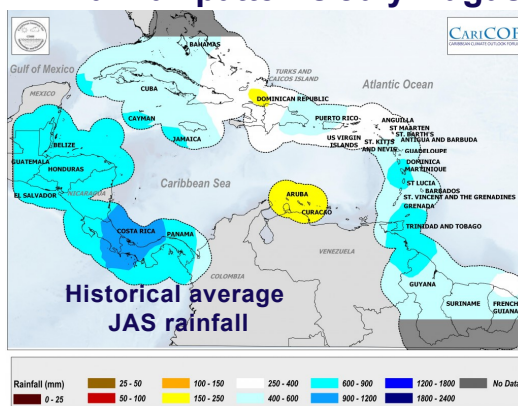
May: 3 of the above locations in Guyana, and the locations in Suriname and Trinidad recorded their wettest May.

DRY: MAM: 1 location in Dom. Rep. recorded its lowest rainfall totals for this period (15% of avg.).

HOT: MAM: No three-month record temperature records reported.

WHAT NEXT?

Rainfall patterns July-August-September (JAS)



Belize & C'bean Islands north of 16°N:

Jul to Aug - wet season. Often includes a mid-summer dry spell.
Sep - wet season. Usually frequent heavy showers.

C'bean Islands south of 16°N (except ABC Islands):

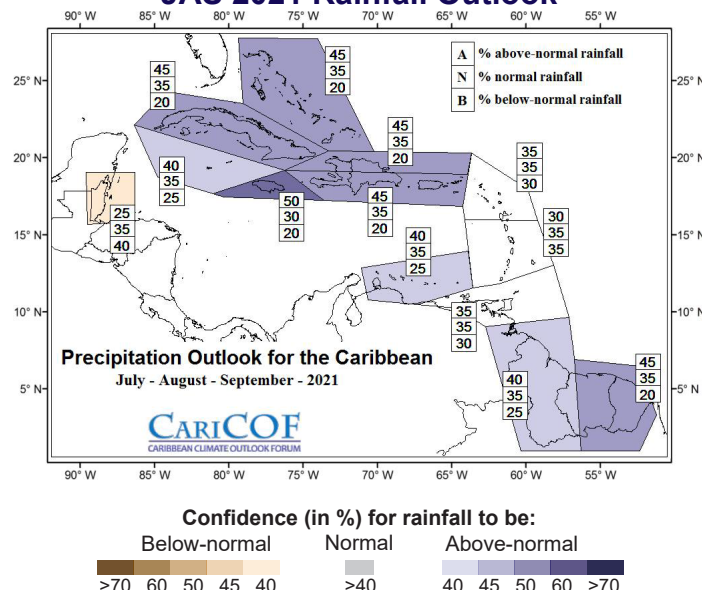
Jul to Sep - wet season. Increasingly frequent heavy showers.

ABC Islands: Mostly dry with occasional wet spells.

Guianas:

Jul to Aug - long wet season. Heavy showers are frequent. Sep - dry season. Heavy showers at times.

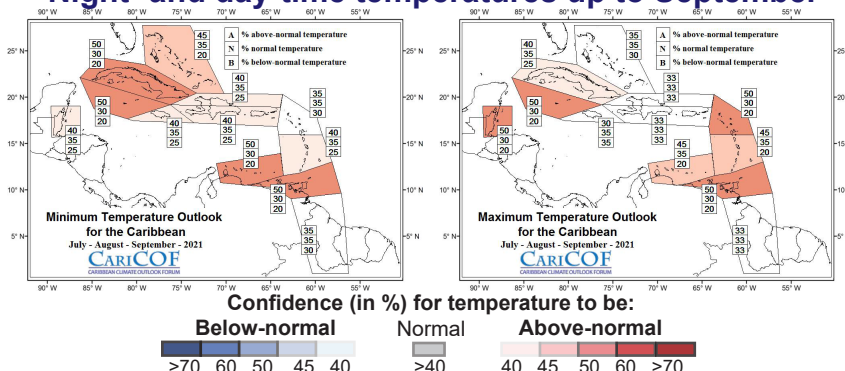
JAS 2021 Rainfall Outlook



Rainfall totals from July to September are likely to be the usual at best in Belize, but at least as high as usual in the ABC Islands, the Bahamas, the Greater Antilles and the Guianas.

White areas show where the forecast indicates little information on rainfall totals.

Night- and day-time temperatures up to September



JAS night-time (min.) and daytime (max.) temperatures are forecast to be the usual or higher in the Bahamas, Belize and much of the Antilles. Heat stress is expected to peak in August and September (October in the Guianas), especially during heatwaves.

Wet days and wet spells up to September

What usually happens from July to September?

- Number of wet days: roughly 35 to 50 in flatter areas of the islands, 50 to 65 in mountainous areas and in the Guianas (ABC Is. 5 to 15).
- # of wet spells: 2 to 6 (ABC Islands: 1 to 4), of which 1 to 3 are very wet (ABC Is: up to 2)
- # of extreme wet spells: up to 1 (or 2 in mountainous areas).

Forecast and Implications:

- Moderate to high potential for long-term flooding, flash floods and related hazards from very wet and extreme wet spells.
- Increasingly frequent disruptions of outdoor activities and decrease of wild fire potential related to an increase in the number of wet days. Accelerating recharge rates of rivers, large water reservoirs and soil moisture related to an increase in the number of wet spells.
- In the Guianas, the inverse trend is expected after July.

Drought conditions

Lastest drought situation: (as of June 1st) Moderate (or worse) shorter term drought has developed in Antigua, the northwestern Bahamas, the western half of Cuba, easternmost Guadeloupe, western- and easternmost Jamaica, eastern Martinique, St. Kitts and Sint Maarten; moderate longer term drought has developed in southwest Belize, in southwest Dominica, westernmost Jamaica, northwest Martinique and St. Kitts.

Shorter term drought (at the end of Sept. 2021) There is no major concern for shorter term drought by the end of September in the Caribbean.

Long term drought (at the end of Nov. 2021) There is no major concern for long term drought by the end of November in the Caribbean.

BRIEF CLIMATE OUTLOOK - October to December 2021

During the final quarter of 2021, the number of very wet and extreme wet spells remains high across Belize and the Islands, with a high to extremely high potential for flooding and flash floods, as well as, cascading hazards. This is with the exception of the Guianas, which will be in their long dry season until mid-November. By consequence flood potential is expected to remain limited until the secondary wet season starts in late-November. After October, temperatures should be comfortable. If La Niña re-emerges, the region can expect to be at least as wet as usual, with a potentially busy Hurricane Season. For temperature and precipitation outlooks for OND 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 have recently anomalously warmed to less than 0.5°C below average; cold-neutral ENSO conditions are in place.

Model forecast and guidance: The models favour ENSO neutral conditions into JAS (with about 70% confid.). Large uncertainties exist for OND with 45-50% and 35-50% chance of neutral and La Niña conditions, resp.

Expected impacts on rainfall and temperatures: ENSO neutral conditions tend to increase the level of uncertainty in the seasonal forecasts. If La Niña were to re-emerge in OND, it would tilt the odds to wetter and more stormy conditions. Heat during the Caribbean Heat Season tends to be attenuated in the year after the emergence of a La Niña event.

Climate conditions in the Tropical North Atlantic and Caribbean

Recent observations: SSTs have anomalously cooled to just below average in much of the Caribbean Sea and the Tropical North Atlantic (TNA) and around 0.5°C above average in the sub-tropical North Atlantic.

Expected conditions: Models vary in forecasting whether the observed SST anomalies between 0°C and 0.5°C above average will return across the Caribbean Sea and the TNA through OND.

Expected impacts: Warm SSTs in and around the Caribbean tends to contribute to above-average humidity, seasonal rainfall totals, reduced dry spell frequency and a more active Atlantic Hurricane Season.

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/colest 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 they may provide.

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