Caribbean Climate Outlook Newsletter - March to May 2025

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: November 2024 to May 2025

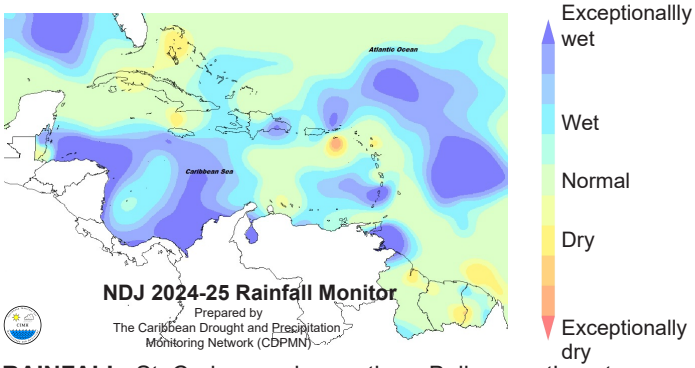
November 2024 to January 2025: Tropical North Atlantic ocean temperatures have been cooling, though remaining unusually high, while weak La Niña conditions developed in the tropical Pacific. Most areas observed at least the usual rainfall totals during the transition into the Caribbean Dry Season. Milder, drier air has returned as the region entered its cool season in December.

March to May 2025: An expected return to ENSO neutral conditions in the Pacific while unusually warm Tropical North Atlantic temperatures persist implies that the region is set to transition into an intense Heat Season with heatwaves occurring as early as April. March is characterised by high evaporation rates and an annual peak in the frequency of short dry spells, as well as further buildup of any ongoing drought and with increasing wildfire potential. By contrast, from April to May, rainfall intensity and shower frequency are likely to sharply rise, resulting in *high* to *extremely high* potential for flooding, flash floods, cascading hazards and associated impacts in the Caribbean. Episodes of Saharan dust intrusion - and lower air quality - will *likely* increase in frequency.

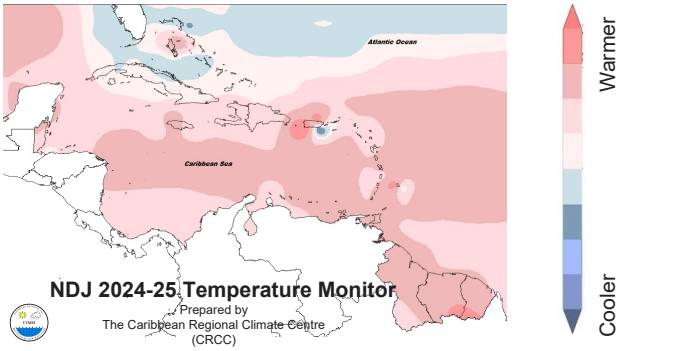
LOOKING BACK:

Nov. - Dec. - Jan. (NDJ) 2024-25

Observations



- **RAINFALL:** St. Croix very dry; northern Belize, southeastern Dominican Rep., St. Vincent, southern and eastern Trinidad very wet.



- **TEMPERATURE:** Many locations still 0.5-1.5ºC warmer than usual, though temperature has returned to the usual in most parts of the Bahamas and Cuba.

Notable Climate Records in NDJ 2024-25:

WET: 1 location in Belize, 3 in the Dom. Rep., 1 in Trinidad reported record high rainfall for this period (~175-255% of average).

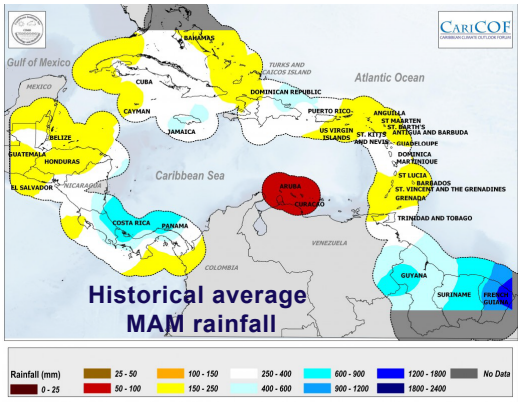
DRY: 1 location in The Bahamas reported record low rainfall for this period (~30% of avg.).

HOT: Curaçao, as well as 1 location in Barbados, 1 in Martinique and 3 in Puerto Rico reported record-high mean temperatures.

More at *https://carogen.cimh.edu.bb/index.php/component/countrydata/*

WHAT NEXT?

Rainfall patterns March-April-May (MAM)



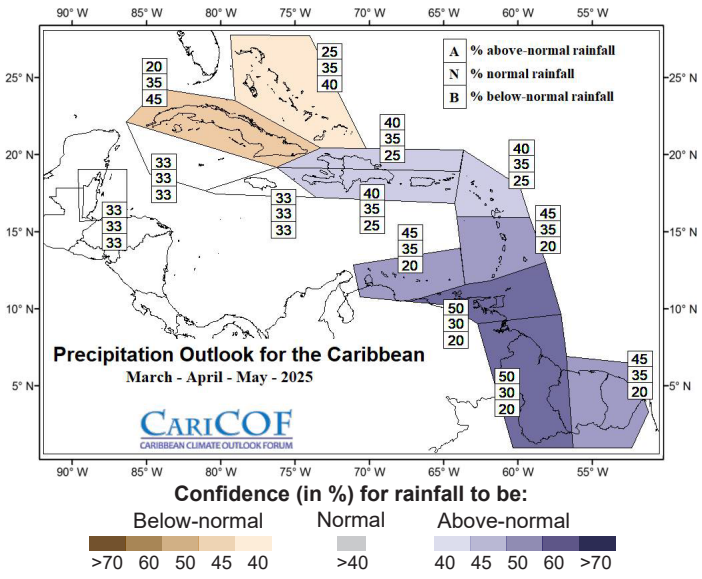
Belize & C'bean Islands north of 16ºN:
Mar to Apr - latter part of dry season; limited duration and area of heavy showers.
May - transition to wet season.

C'bean Islands south of 16ºN (except ABC Islands):
Mar to May - second half of dry season; limited duration and area of heavy showers; April & May occasionally very wet.

***ABC Islands*:** *Mar to May - generally dry.*

Guianas: Mar to May - transition to wet season; heavy showers more and more frequent.

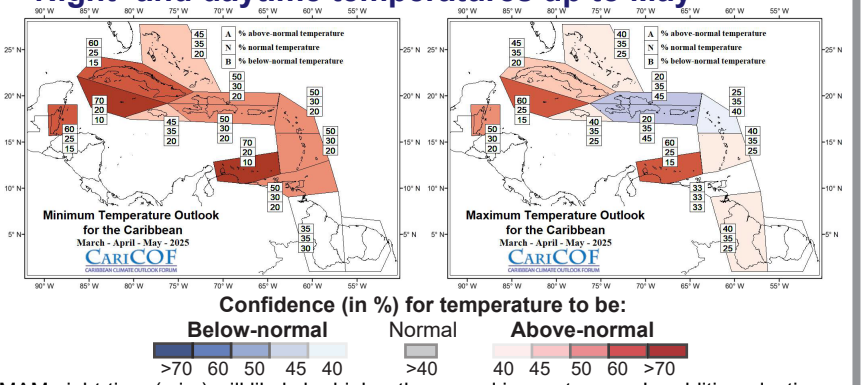
MAM 2025 Rainfall Outlook



Rainfall totals from March to May are likely to be the usual or higher in the ABC Is., the Guianas, the Lesser Antilles, Hispaniola and the US C'bean Territ., but, likely, the usual or less in The Bahamas and Cuba.

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

Night- and daytime temperatures up to May



MAM night-time (min.) will likely be higher than usual in most areas. In addition, daytime (max.) temperatures will likely be as high as usual or higher, with the exception of the area from Haiti eastwards to the Leeward Islands. Episodes of hazardous heat could appear in April & May, with increased risk in areas that are windsheltered and/or in drought.

Wet days and wet spells up to May

What usually happens from March to May?

- Number of wet days: roughly 15 to 30 (ABC Is.: 5 to 15; northern Guianas: 20 to 45).
- # of wet spells: up to 2 or 3, of which up to 1 is very wet (northern Guianas: up to 2).
- # of extreme wet spells: up to 1 or 2 in the northern Guianas and mountainous areas. Up to 1 in flatter areas and very small islands.

Forecast and Implications:

- The potential for flooding, flash floods and cascading impacts arising from intense rainfall events increases from limited or moderate in March, to high or extremely high in April and May.
- Water recharge rates in surface reservoirs and rivers will likely accelerate after March, especially in the southeast.
- Accelerated rise in wet day frequency into May to increasingly disrupt outdoor tourism activities, make conditions conducive to moisture-related pests, but dampen wildfire potential .

Drought conditions

Lastest drought situation: (*as of Feb.1st, 2025*)	*Moderate* (or worse) short-term drought has developed in Antigua, the northern and central Bahamas, southwest French Guiana, central portions of the coast of Guyana, and St. Croix; *moderate* (or worse) long-term drought in southwest Belize, northernmost Dominican Republic, southwest French Guiana, southwest Jamaica, St. Croix, and northwest Trinidad.
Short-term drought (*at the end of May 2025*)	Short-term drought is evolving in the northern Bahamas, Grand Cayman, and the USVI, and might possibly develop or continue in the central Bahamas, western Cuba, and Jamaica.
Long-term drought (*at the end of May 2025*)	Long-term drought is *of immediate concern* in parts of the USVI, *evolving* in the northern Bahamas and southwest Belize, and *might possibly develop or continue* in the ABC islands, the central Bahamas and southeast Puerto Rico.

BRIEF CLIMATE OUTLOOK - June to August 2025

This period marks the summer portion of the Caribbean wet season and heat season. The tropical North Atlantic Ocean is forecast to remain unseasonably warm - albeit not at record levels as experienced in 2023 and 2024. Unusually high air temperatures will most likely prevail in many locations and the occurrence of significant heat stress is expected to evolve. The risk of severe weather impacts, including flooding, flash floods, and cascading impacts is expected to be even higher than usual, amounting to unusually copious wet season rainfall. Warmer than usual ocean temperatures around and east of the Caribbean typically drives an active hurricane season. However, severe weather activity may be more erratic if Saharan dust intrusions into this region are very frequent. *For temperature and precipitation outlooks for JJA 2025, please visit rcc.cimh.edu.bb/caricof-climate-outlooks.*

What influences the next season?

El Niño Southern Oscillation (ENSO)

Recent observations: Weak La Niña conditions have emerged in December 2024, with Sea Surface Temperatures (SSTs) having anomalously cooled to 0.7°C below average by January 2025.

Model forecast and guidance: The forecast models forecast *more likely than not* a return to ENSO neutral conditions in MAM and JJA (~55-65% confidence).

Expected impacts on rainfall and temperatures: La Niña conditions are often associated with increased heavy shower activity and rainfall totals in the southeastern Caribbean, but the opposite in the northwestern Caribbean through April.

Climate conditions in the Tropical North Atlantic and Caribbean

Recent observations: Though cooling a little faster than in early 2024, unseasonably warm SSTs in the Caribbean Sea and the Tropical North Atlantic (TNA) around 0.5°C to 1.5°C above average remained in January.

Expected conditions: Models are confidently forecasting warm SST anomalies of 0.25°C to 1°C above average in MAM and in JJA across the Caribbean Sea and western half of the TNA.

Expected impacts: Warm SSTs in and around the Caribbean tend to contribute to higher air temperatures with above-average humidity, seasonal rainfall totals, an increased frequency of extreme rainfall and increased tropical cyclone activity. The likelihood of extreme rainfall and related impacts is higher than usual, even in the Dry 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/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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