

# Caribbean Climate Outlook Newsletter - March to May 2023

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 2022 to May 2023

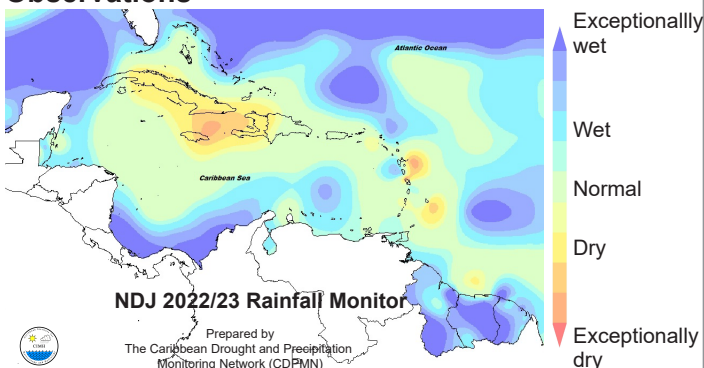
**November 2022 to January 2023:** A long-lasting La Niña event is coming to an end. Characteristic of La Niña at this time of the year was that Cuba and Jamaica received less than the usual amount of rainfall, whereas the Guianas recorded far higher rainfall totals during their secondary wet season. The period marked the transition into the Caribbean cool season.

**March to May 2023:** The Pacific is transitioning into ENSO neutral -- or possibly even El Niño conditions -- and ocean temperatures around the Caribbean are expected to be close to average. This makes it difficult to forecast unusual climate conditions in the Caribbean this late dry season. Nevertheless, long-term drought concerns are rising in Cuba. Furthermore, the frequency of short dry spells will peak across the Antilles, increasing wild-fire potential and the likelihood of heatwaves in Belize, Cuba, Jamaica and Trinidad. By contrast, the potential for flooding, flash floods and cascading hazards will be slight for most areas in March but -- with the exception of the ABC Islands -- will increase to moderate or high into May.

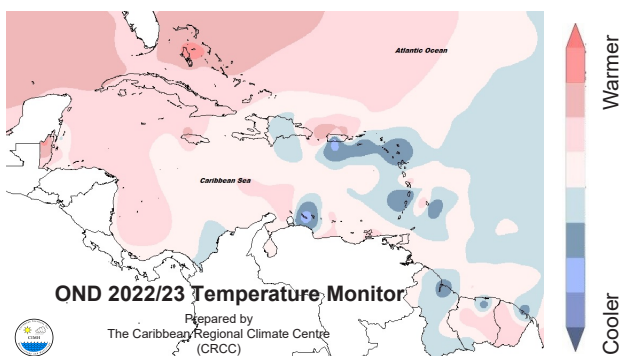
### LOOKING BACK:

#### Nov. - Dec. - Jan. (NDJ) 2022/23

##### Observations



• **RAINFALL:** Southeasternmost Cuba, eastern Jamaica and parts of western Haiti very dry; Central Bahamas, and a large part of the Guianas very wet.



• **TEMPERATURE:** Curaçao, parts of the coastal Guianas, most of the Leeward Islands, Saint Lucia and St. Vincent were cooler than usual, while the Northwestern Bahamas and northern Belize were signif. warmer than usual.

### Notable Climate Records:

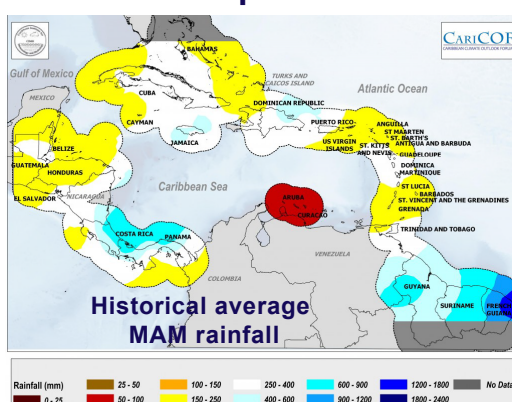
**WET:NDJ:** 2 locations in Guyana, 1 in French Guiana and 1 in Haiti recorded their highest rainfall totals for this period (~150-485% of avg.).

**DRY:NDJ:** No lowest rainfall totals were recorded for this period.

**HOT:NDJ:** Grand Cayman, 1 location in Belize and 1 in The Bahamas recorded its highest max. temperature, 1 location in Belize their highest mean temperature for this period.

### WHAT NEXT?

#### Rainfall patterns March-April-May (MAM)



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

Mar to Apr - latter part of dry season; limited duration and area of heavy showers.  
May - transition to wet season.

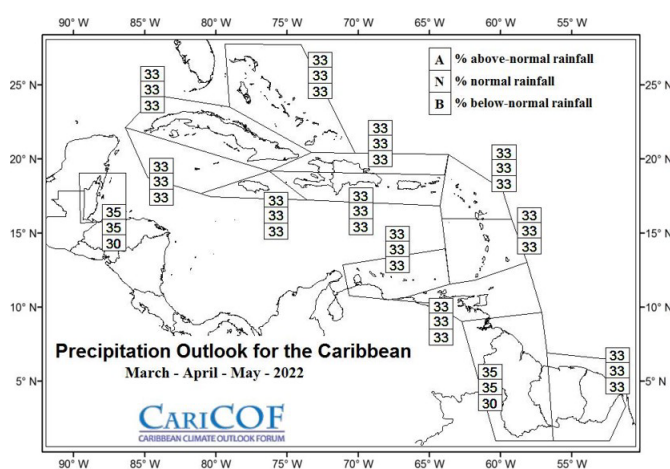
##### C'bean Islands south of 16°N (except ABC Islands):

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 2023 Rainfall Outlook

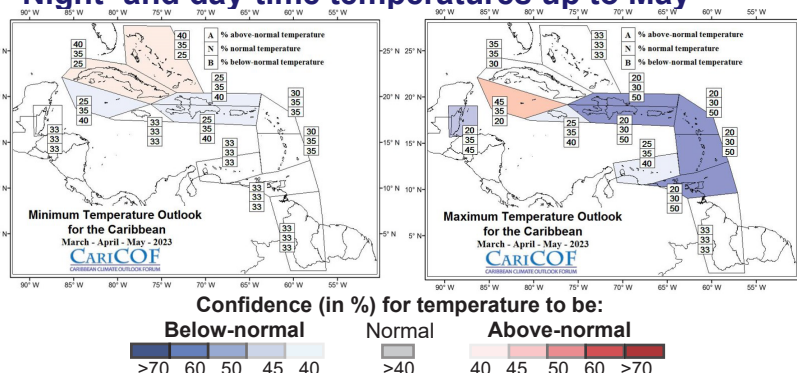


##### Confidence (in %) for rainfall to be:



The March to May forecast indicates little information on rainfall totals at this time. That being said, the chance of widespread, extremely high or extremely low rainfall totals is forecast to be low.

## Night- and day-time temperatures up to May



MAM night-time (min.) and daytime (max.) temperatures are forecast to be close to the usual or slightly lower in most areas, but possibly higher temperatures at night in Cuba and the Bahamas and during the day in Cayman Islands. Regardless, heat stress should not be a significant concern through March. However, heatwaves do occur in April, especially in Belize and Trinidad, and in areas in drought, and in May across the Antilles.

## 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:

- Slight flooding, flash flood, landslide/rockfall and soil erosion potential in March. Moderate potential in the northern Guianas and mountainous areas in April, as well as in most areas in May in view of the likelihood of very and extreme wet spells.
- Faster depletion of water reservoirs than usual for the late dry season in Cuba in view of a reduced number of wet spells.
- Increasing wildfire potential and local airborne dust from Hispaniola westwards. Slower increase from Dominica southwards.

## Drought conditions

**Lastest drought situation:** Moderate (or worse) short-term drought has developed in Central and Eastern Cuba, Jamaica and northern Martinique; moderate (or worse) long-term drought has developed in Central and Eastern Cuba, parts of Haiti, northern Martinique and in St. Vincent.

**Short-term drought** (at the end of May 2023) Short-term drought might possibly develop in The northern Bahamas, Barbados, Western Cuba, Dominica, Dominican Republic, Martinique, Puerto Rico, St. Barts, Sint Maarten/St-Martin, St. Vincent, Trinidad and Tobago, and the USVI.

**Long-term drought** (at the end of May 2023) Long-term drought is evolving in Central and Western Cuba, and southeast Puerto Rico, and might possibly develop or continue in Eastern Cuba, southern Dominican Republic, St. Vincent, and Tobago.

## BRIEF CLIMATE OUTLOOK - June to August 2023

This period may be either typical of a transition into an El Niño event or ENSO neutral conditions. This means a potential delay of the onset of the wet season by a number of weeks and, if El Niño does develop, a drier summer with more dry spells and fewer wet days and wet spells than usual. Furthermore, El Niño conditions in this season typically bring about higher daytime temperatures and an increased chance of heatwaves, but possibly reduced hurricane season activity. If El Niño does not develop, then there is more uncertainty in how the climate conditions will play out differently than in a usual summer. In any case, the forecasts will continue to be updated each month and more clarity is expected in the next month or two. Finally, flood potential will be moderate in most areas. *For temperature and precipitation outlooks for JJA 2023, please visit [rcc.cimh.edu.bb/caricof-climate-outlooks](http://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 have risen from La Niña to ENSO neutral conditions by mid-February (i.e. less than 0.5°C below average).

**Model forecast and guidance:** The forecast models indicate a return to ENSO neutral conditions is likely in MAM (90% confidence) and either remaining so in JJA (35-45% confidence), or possibly transitioning to El Niño conditions from then onwards (50-60% confidence).

**Expected impacts on rainfall and temperatures:** ENSO neutral offers little contribution to seasonal rainfall or temperature prediction in the Caribbean, but a transition into El Niño more often than not is marked by a delayed onset of the wet season and a drier summer season, resp.

## Climate conditions in the Tropical North Atlantic and Caribbean

**Recent observations:** SSTs have hovered around 0.5°C above average in much of the sub-tropical North Atlantic, but are near average in the Caribbean Sea and the Tropical North Atlantic (TNA).

**Expected conditions:** Models are forecasting observed SST to remain to between 0°C and 0.5°C above average across the Caribbean Sea and the TNA.

**Expected impacts:** Warm SSTs in and around the Caribbean tend to contribute to higher air temperatures with above-average humidity and an increased frequency of heatwaves during JJA, but also higher Atlantic Hurricane Season activity, seasonal rainfall totals in an increased frequency of extreme rainfall during the summer 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 they may provide.

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