

Caribbean Climate Outlook Newsletter - September to November 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: May to November 2023

May to July 2023: El Niño conditions and an far warmer than usual Tropical North Atlantic are in place. In response, the Caribbean recorded multiple heat records during the first half of its Heat Season, and was significantly warmer than usual in a majority of locations. The transition into the wet season was drier than usual in Belize, Cuba, the Guianas and Haiti.

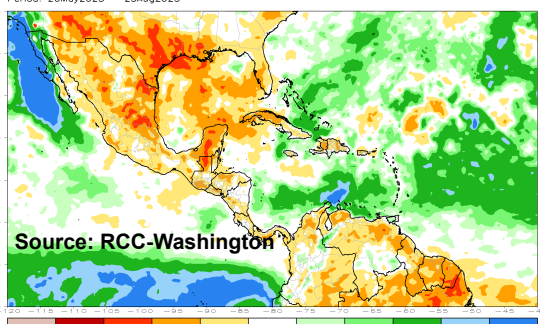
September to November 2023: Pacific and Atlantic ocean temperatures should remain well above average, continuing to amplify heat stress in the Caribbean through October by increasing temperatures, humidity and heatwave frequency to rival some of the warmest heat seasons on record (e.g., in 2020). A moderate to strong El Niño in the Pacific should dampen rainfall frequency and tropical cyclone intensity in Belize and the islands and lead to more short-term dry spells than usual. By contrast, record-warm Atlantic waters are to increase showers intensity, leading to limited drought concern, but a particularly high potential for flooding and cascading hazards. In the Guianas, the hot and dry season will likely be intense.

LOOKING BACK:

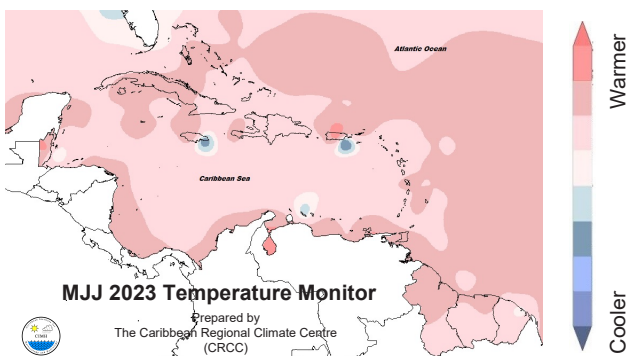
May - June - July (MJJ) 2023

Observations

CMORPH 90-Day Percent of Normal Rainfall (%)
Period: 26 May 2023 - 23 Aug 2023



- ♦ **RAINFALL (26 May - 23 Aug):** Much of Belize, Cuba, Haiti & the Guianas very dry; parts of Aruba and The Bahamas very wet.



- ♦ **TEMPERATURE:** Southeast Jamaica cooler than usual; majority of Caribbean locations signif. warmer than usual.

Notable Climate Records:

WET: MJJ: One location in Dominican Rep. reported its highest rainfall totals for this period (~255% of avg.).

DRY: MJJ: No locations reported record low rainfall totals for this period.

HOT: MJJ: Grand Cayman recorded its highest max., mean & min. temperature for this period; St. Kitts, 1 location in Belize, 1 in Dominica, 1 in Guyana & 1 in Jamaica their highest max.; 4 locations in Guyana, 3 in Belize, 2 in Suriname, 1 in Barbados & 1 in Jamaica their highest mean; St. Kitts, 2 locations in Guyana, 1 in Barbados & 1 in Jamaica their highest min.

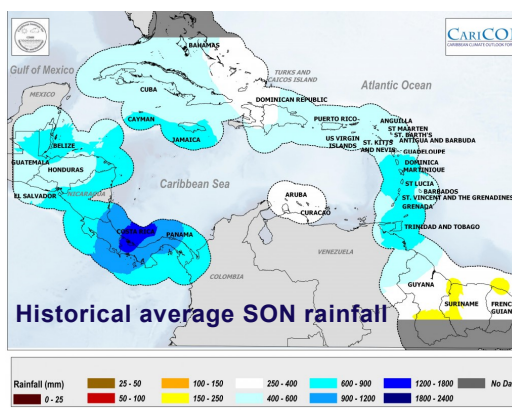
August 2023

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

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WHAT NEXT?

Rainfall patterns September-October-November (SON)



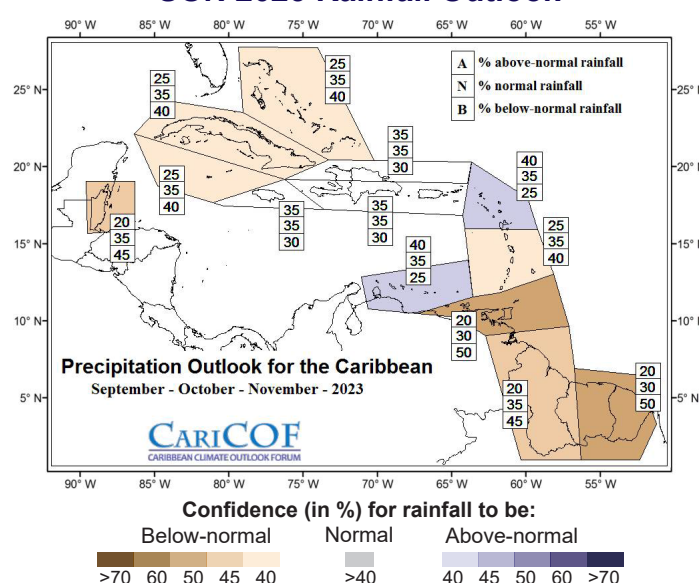
Belize & C'bean Islands north of 16°N:
Sep to Nov - wet season. Usually frequent heavy showers.

C'bean Islands south of 16°N (except ABC Islands):
Sep to Nov - wet season. Usually frequent heavy showers.

ABC Islands: mostly dry with occasional wet spells.

Guianas:
Sep to Oct - Dry season with heavy showers at times.
November - Increase in showers.

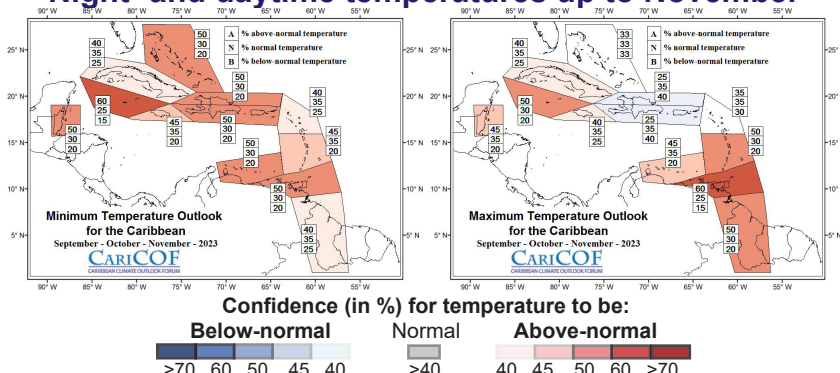
SON 2023 Rainfall Outlook



Rainfall totals from September and October are likely to be the usual or higher in the ABC Islands, and the Leeward Islands. By contrast, the Bahamas, Barbados, Belize, Cayman Islands, the Guianas, Trinidad & Tobago and the Windward Islands are likely to record the usual rainfall amounts or less.

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

Night- and daytime temperatures up to November



SON night-time (min.) and daytime (max.) temperatures are forecast to be uncomfortably high to many until October, especially because they are likely to end up even higher than usual during the peak and end of the annual Heat Season. Moreover, humidity and the frequency of heatwaves in September could even surpass previous months, further increasing heat stress and rivaling record hot months in 2010, 2016 and 2020.

Wet days and wet spells up to November

What usually happens from September to November?

- Number of wet days: roughly 35 to 50 (ABC Is: 10 to 20; coastal Guianas: 20 to 35).
- Number of wet spells: 3 to 6 (coastal Guianas: 1 to 3), of which 1 to 4 are very wet (coastal Guianas: up to 2).
- Number of extremely wet spells: up to 2 (Guianas: none).

Forecast and Implications:

- High to extremely high potential for long-term flooding, flash floods and related hazards from very wet and extreme wet spells across the Caribbean Islands and Belize.
- Frequent wet day disruptions of outdoor activities.
- Surface wetness makes environmental conditions more conducive to moisture-related pests, but prevents wildfires.
- Rising water levels in rivers, large water reservoirs and soils.
- In the Guianas, lower rainfall frequency along the dry season will likely lead to opposite trend in implications.

Drought conditions

Latest drought situation: !! *provisional overview based on CMORPH data* !! Short-term drought has developed in parts of Belize, Cuba, Haiti and most of the Guianas; severe (or worse) long-term drought has developed in St. Vincent.

Short-term drought (at the end of Nov. 2023) Short-term drought is not expected to be a significant regional concern by the end of November 2023.

Long-term drought (at the end of Nov. 2023) Long-term drought might possibly continue in St. Vincent or develop in St. Barts and Sint Maarten/St-Martin.

BRIEF CLIMATE OUTLOOK - December 2023 to February 2024

The unusually warm tropical North Atlantic Ocean and this year's El Niño are expected to last into early 2024, meaning unusually high air temperatures are likely to prevail in most locations through February 2024. Fortunately, these unusually high temperatures should no longer pose significant heat stress as this period forms the first three months of the Caribbean Cool Season. There is some uncertainty as to how the two aforementioned drivers of unusual climate conditions in the Caribbean will dominate in terms of rainfall patterns. Notwithstanding, the risk of severe weather impacts, including flooding, flash floods, and cascading hazards should strongly decrease from January, whereas the intensity of the dry season may be unusually strong. Stay updated in coming months. *For temperature and precipitation outlooks for DJF 2023-24, 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 have risen to weak El Niño conditions by the end of May.

Model forecast and guidance: The forecast models indicate a likely further anomalous warming of the eastern Pacific to moderate El Niño conditions, with virtually certainly El Niño conditions in SON and DJF (>95% confidence).

Expected impacts on rainfall and temperatures: El Niño more often than not is marked by a warmer heat season, a drier summer season, and reduced tropical cyclone activity, especially from September to November. From December to February, rainfall tends to be lower than usual in the southeastern half of the region, but higher than usual in the far north.

Climate conditions in the Tropical North Atlantic and Caribbean

Recent observations: SSTs have hovered around 1°C to 2°C above average in much of the Tropical North Atlantic (TNA) in June and early July, even reaching record-high values across vast ocean areas.

Expected conditions: Models are confidently forecasting increasingly warm SST anomalies of 0.5°C to 2°C (or more) 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, but also higher Atlantic Hurricane Season activity, seasonal rainfall totals and an increased frequency of extreme rainfall during the wet 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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