

# Caribbean Climate Outlook Newsletter - December 2024 to February 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: August 2024 to February 2025

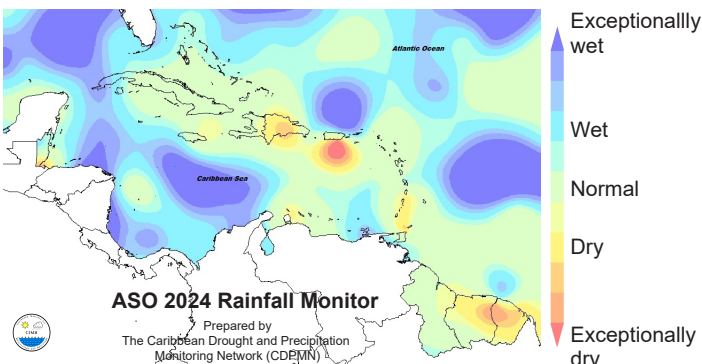
**August to October 2024:** A record-warm Tropical North Atlantic has fuelled unusually elevated levels of humid heat across the region. Most areas observed the usual rainfall totals during this part of the Caribbean Wet Season. Nevertheless, severe long-term drought occurred in ABC Islands, southern Belize, northern Dominican Republic, parts of the Guianas and St. Croix.

**December to February 2024-25:** Unusually warm Tropical North Atlantic Ocean temperatures combined with possible La Niña conditions in the equatorial Pacific imply: (i) increased severe weather activity through December (January in the Guianas), resulting in high to extremely high potential for flooding, flash floods, cascading hazards and associated impacts; (iii) short dry spells are set to increase in frequency, particularly in the far northwest of the region, despite that the Islands and Belize are expected to transition into the 2024-25 Dry Season several weeks late. Short and long-term drought are evolving in southwest Belize, southeast Puerto Rico and the USVI. Widespread extreme heat is not expected during the Caribbean Cool Season.

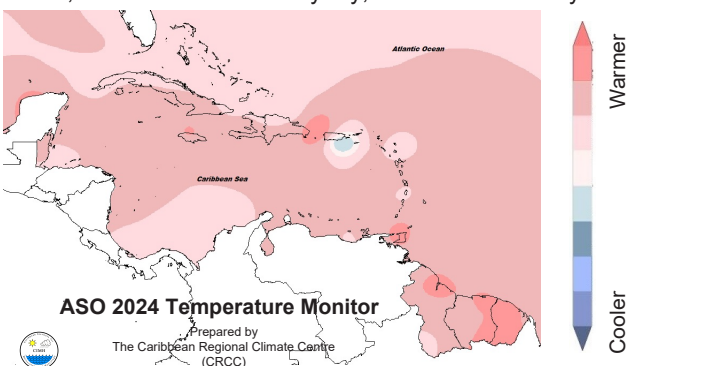
### LOOKING BACK:

#### Aug. - Sep. - Oct. (ASO) 2024

##### Observations



♦ **RAINFALL:** Southernmost Belize, central parts of the Dominican Rep., northern French Guiana, southern Puerto Rico, St. Croix, eastern Suriname very dry; Western Cuba very wet.



♦ **TEMPERATURE:** Many locations still 0.5-1.5°C warmer than usual, with parts of the Guianas and Trinidad hovering about 2°C warmer than usual.

#### Notable Climate Records in ASO 2024:

**WET:** No locations reported record high rainfall totals for this period.

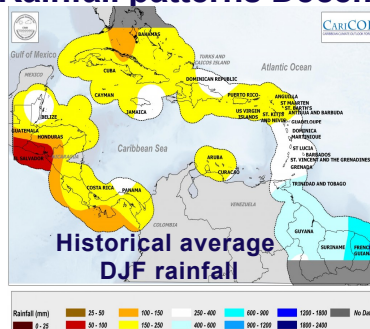
**DRY:** No locations reported record low rainfall totals for this period.

**HOT:** Curaçao, Sint Maarten, as well as 1 location in French Guiana, 1 in Guyana, 2 in Puerto Rico, 1 in Saint Lucia and 2 in Suriname reported record-high mean temperatures.

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

### WHAT NEXT?

#### Rainfall patterns December - January - February (DJF)



##### Guianas:

Dec to Jan - wet season. Frequent, heavy showers.  
February - dry season. Heavy showers on some days.

##### 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:

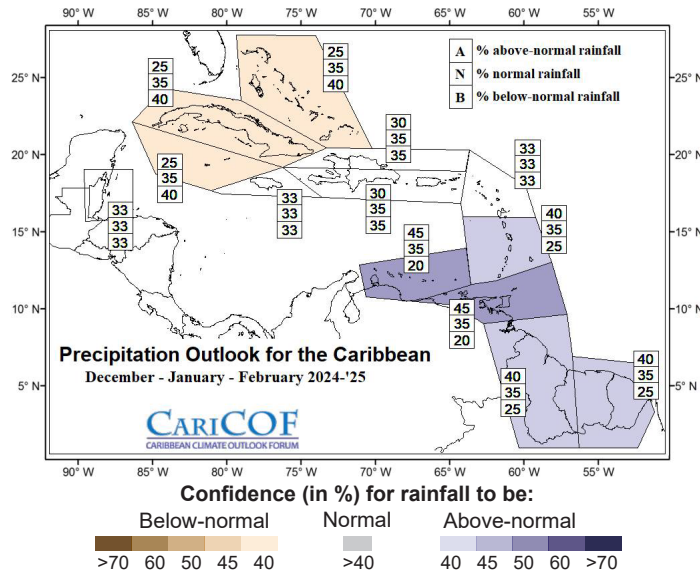
December - early dry season. Decreasing shower frequency & intensity.  
Jan to Feb - mostly sunny, some days with showers.

##### 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.

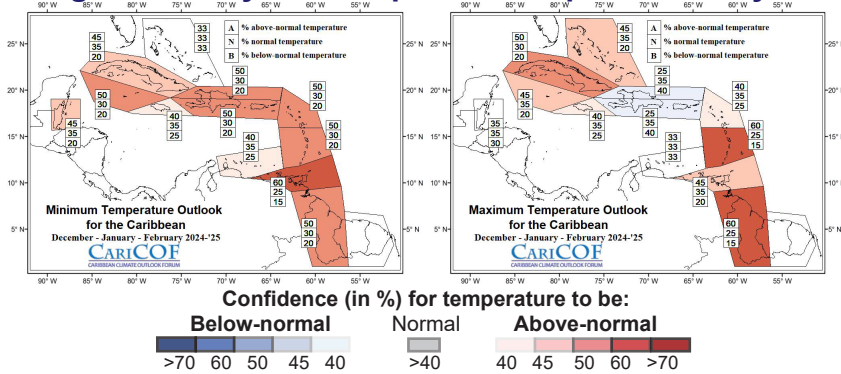
#### DJF 2024-25 Rainfall Outlook



Rainfall totals from December to February are likely to be the usual or higher in the ABC Is., Barbados, the Guianas, Trinidad & Tobago and Windward Is., but, possibly, the usual or less in the Bahamas, Cayman Is., Cuba.

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

Night- and daytime temperatures up to February



DJF night-time (min.) and daytime (max.) temperatures, as well as air humidity will likely be considerably higher than usual in most areas. Episodes of heat stress across a wide section of the population are not expected now that the record-breaking 2024 Caribbean Heat Season has come to an end. Heat stress should not be a significant hazard.

Wet days and wet spells up to February

What usually happens from December to February?

- Number of wet days: roughly 25 to 40 (ABC Is: 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 long-term flooding, flash floods and related hazards in the Caribbean Islands and Belize in December, decreasing to limited in February; high potential in the Guianas.
- Recharge rates of water reservoirs likely even faster than usual in view of frequent wet spells in the coastal Guianas.
- The number of wet days should decrease towards February along with outdoor activity disruptions and environmental conditions conducive to moisture related pests.

Drought conditions

**Lastest drought situation:** Moderate (or worse) short-term drought has developed in southern Belize, Dominican Rep., French Guiana, southern Puerto Rico, southern St. Lucia, St. Vincent, Suriname; moderate (or worse) long-term drought in ABC Is., southern Belize, Dominican Rep., French Guiana, Guadeloupe, parts of northern Guyana and Suriname, St. Croix, St. Kitts, Tobago.

**Short-term drought (at the end of Feb. 2025)** Short-term drought is evolving in the extreme northwest Bahamas, SW Belize, most of Cuba, SE Puerto Rico, the USVI.

**Long-term drought (at the end of May 2025)** Long-term drought is evolving in southwest Belize, southeast Puerto Rico, the USVI, and might possibly develop in south east Belize, coastal Guyana, southwest Puerto Rico, and Trinidad and Tobago.

BRIEF CLIMATE OUTLOOK - March to May 2025

This period marks the late Caribbean Dry Season, and the transition into the 2025 Heat Season in April or May. An unseasonably warm Tropical North Atlantic and either ENSO neutral or weak La Niña conditions are forecast for this period. Temperatures are set to becoming increasingly uncomfortable by April and May, and likely higher and with more humidity than usual transition into the 2025 Heat Season. The risk of severe weather impacts from intense shower activity, including flooding, flash floods, and cascading impacts should increase to moderate by May with the likely exception of the ABC islands. Dry season impacts may be exacerbated by increased evapotranspiration rates due to the higher than usual temperatures, particularly in areas where drought is evolving. Detailed outlooks for MAM 2025 are available at [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:** A strong El Niño event which peaked in December in the eastern equatorial Pacific ended in May, with Sea Surface Temperatures (SSTs) having anomalously cooled to near average.

**Model forecast and guidance:** The forecast models forecast more likely than not La Niña conditions (~50-70% confid.) in DJF and more likely than not a return to ENSO neutral conditions by MAM (~65-75% confid.).

**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 March.

Climate conditions in the Tropical North Atlantic and Caribbean

**Recent observations:** Record-warm SSTs in the Caribbean Sea and the Tropical North Atlantic (TNA) around 1°C to 2°C above average have been observed across vast ocean areas since the summer of 2023.

**Expected conditions:** Models are confidently forecasting warm SST anomalies of 0.5°C to 1°C above average for DJF across the Caribbean Sea and western half of the TNA, cooling slightly to 0.25°C to 1°C by MAM.

**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 through the end of the year. The likelihood of extreme rainfall 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 they may provide.

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