Caribbean Climate Outlook Newsletter – April to June 2022

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: December 2021 to June 2022

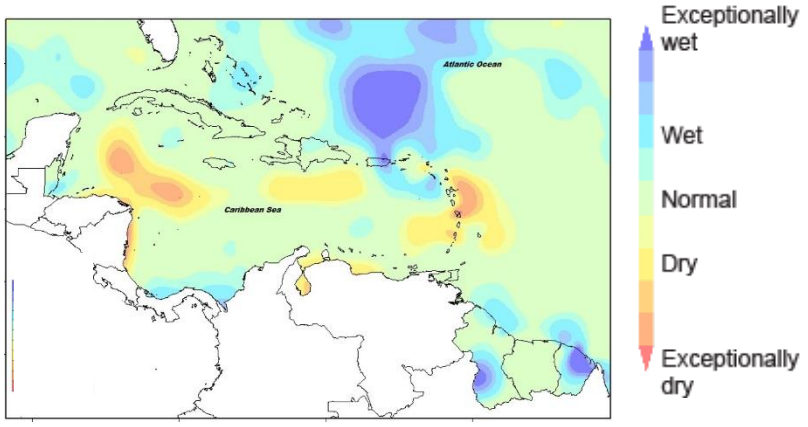
December to February 2021-'22: Lingering seasonal dryness was reported throughout most of the eastern Caribbean with many islands there experiencing moderate to severely dry conditions. Temperatures were warmer than usual across most of the region but were considered generally comfortable.

April to June 2022: A persistent weak La Nina pattern is expected to continue during the upcoming season, which may drive increasing uncertainty into the seasonal rainfall forecast. This uncertainty points the AMJ rainfall and wet day forecast towards climatology across most of the region *(equal chances for above normal, normal, and below normal probabilities)*. However, a small increase in wet spell frequency is expected for the eastern Caribbean which could lead to marginal flash flood and soil erosion potential there from May. Extreme wet spells for the region are expected along coastal Guyana, but are not expected to feature prominently for other locations during the upcoming season.

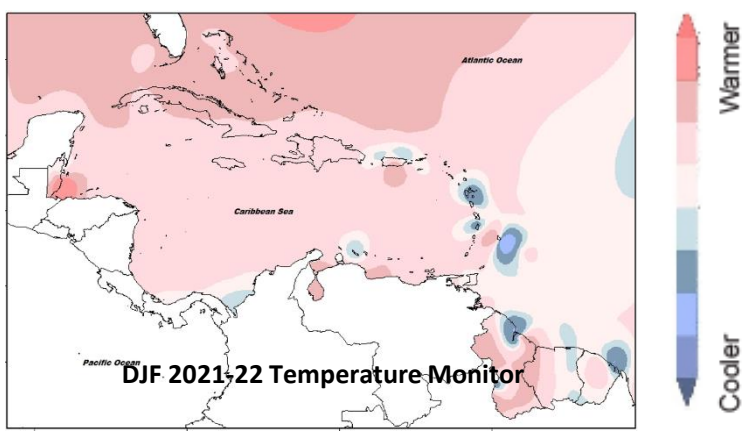
LOOKING BACK:

Rainfall Dec. - Jan. – Feb. (DJF) 2021-'22

Observations:



RAINFALL: Antigua, Dominica, Guadeloupe, Martinique, Saint Lucia, and Saint Vincent very dry; parts of the Guianas and Puerto Rico very wet.

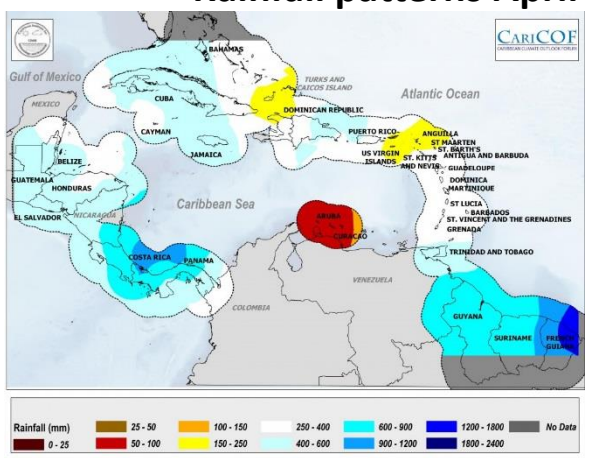


DJF 2021-22 Temperature Monitor

TEMPERATURE: Slightly warmer temperatures in much of the Caribbean, but Aruba, Dominica, Guadeloupe, and coastal Guyana were cooler than normal.

WHAT NEXT?

Rainfall patterns April – May - June



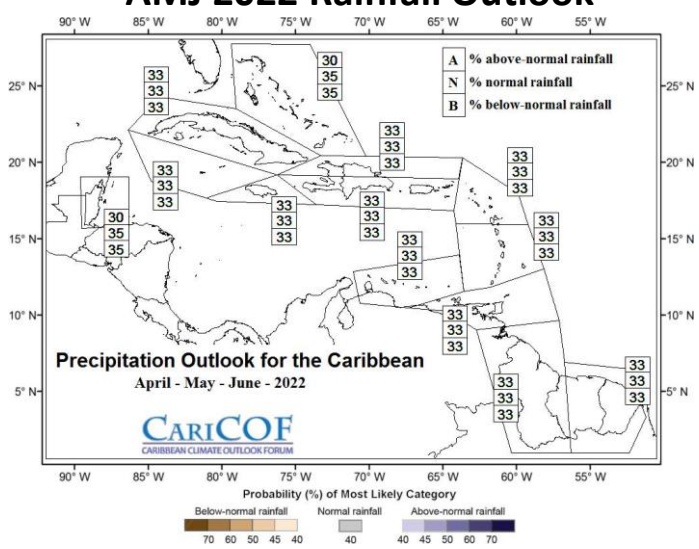
Belize & C'bean Islands north of 16ºN:
Apr - end of the dry season. Limited spatial extent and duration of heavy showers.
May & Jun - usually frequent heavy showers.

C'bean Islands south of 16ºN (except ABC Islands):
Apr to May - end of dry season. Limited spatial extent and duration of heavy showers; occasionally very wet.
Jun - onset of wet season. Increasingly heavy showers.

ABC Islands: Apr to Jun - mostly dry.

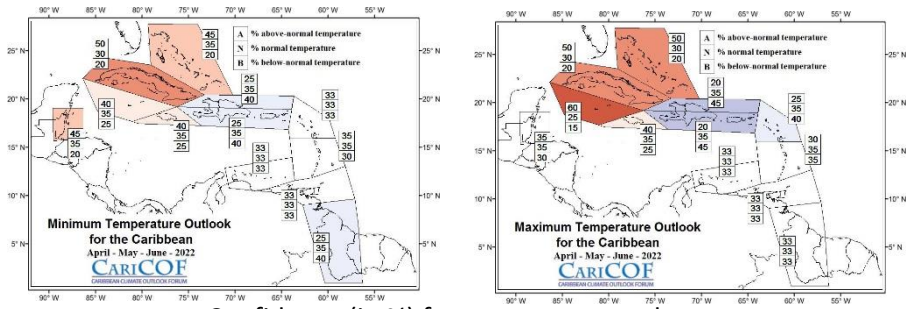
Guianas: Apr to Jun - transition to wet season; heavy showers more and more frequent.

AMJ 2022 Rainfall Outlook



The forecast for climatological rainfall conditions (equal chances for above/normal/below) is present across the region. *White areas represent areas of low forecast predictability for this season.*

Night/Day – time temperatures up to May



Confidence (in %) for temperature to be:

Below-normal temp. 70 60 50 45 40 | Normal temp. 40 | Above-normal temp. 40 45 50 60 70

AMJ night-time (min.) and day-time (max.) temperatures will progressively warm into May, which marks the start of the Caribbean Heat Season. Overnight and daytime temperatures may be warmer than usual for The Bahamas, Belize, Cayman Is., Cuba, and Jamaica.

Wet days and wet spells up to June

What usually happens from April to June?

- Number of wet days: roughly 20 to 35, (ABC Is. 5-10; Guianas:c40-55).
- # of wet spells: up to 4 (ABC Is. up to 1; Guianas: up to 6), of which up to 2 are very wet (ABC Is. up to 1; Guianas: up to 3).
- # of extreme wet spells: up to 1 (Guianas: up to 2).

Forecast and Implications for AMJ 2022:

- Relatively fast depletion of large water reservoirs across the Caribbean islands until the end of the dry season due to the low frequency of wet spells.
- With few wet days, wild fire potential is expected to peak in May.

Drought conditions

Lastest drought situation (as of March 1st) : Moderate (or worse) shorter term drought has developed in Antigua, Dominica, Guadeloupe, Martinique, Saint Lucia, and Saint Vincent; moderate longer term drought has developed in Antigua, northwest Bahamas, western Cuba, Dominica, southeastern Dominican Republic, Guadeloupe, Martinique, Saint Kitts, Saint Lucia, and Saint Vincent.

Short-term drought (at the end of June 2022) : Short term drought may develop or continue in in western Cuba, Dominica, southern French Guiana, Martinique, Puerto Rico, Saint Lucia, Saint Vincent, and Tobago.

Long-term drought (at the end of May 2022) : Long term drought is evolving in Antigua, Aruba, central and southern Belize, Dominica, Guadeloupe, Martinique, and Saint Lucia and might possibly develop or continue in northern parts of The Bahamas, Barbados, northern Belize, western Cuba, southern parts of The Dominican Republic, the USVI, Saint Martin, Saint Vincent and Trinidad.

BRIEF CLIMATE OUTLOOK –June to August 2022

An existing weak La Nina will likely phase into neutral conditions by mid-summer with slightly above normal sea surface temperatures across the Caribbean. Warmer sea surface temperatures across the region should provide moderate seasonal forecast confidence despite the possible emergence of ENSO neutral conditions, which contributes little to forecast skill. The majority of the region is expected to be at least as wet as usual or wetter, except for Aruba, Belize, and the windward islands. Wet spells are expected to increase into the mid-summer during the wet season across the islands. Maximum temperatures may be warmer than normal for Belize and most of the southeast part of the region. For temperature and precipitation outlooks for JAS 2022, 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 remain below normal -0.7°C; La Niña conditions have maintained into 2022.

Model forecast and guidance: The models forecast indicate La Niña conditions in AMJ (80-65% confidence), which may maintain into JJA (50-45% confid.).

Expected impacts on rainfall and temperatures: La Niña tilts the odds to more rainfall activity in AMJ and JAS, except in the northern Caribbean where it tilts the odds to less rainfall. ENSO neutral offers little contribution to seasonal rainfall or temperature prediction in the Caribbean.

Climate conditions in the Tropical North Atlantic and Caribbean

Recent observations: Warmer than usual SSTs persisted to 1°C above average around the northern section of the Caribbean Sea and in the sub-tropical portions of the North Atlantic in February. Elsewhere in the Caribbean SSTs were near normal.

Expected conditions: Models are forecasting SST to maintain anomalously warm (0.5-1°C above average) around the Caribbean and in the sub-tropical North Atlantic.

Expected impacts: Warm SSTs in and around the Caribbean tend to contribute to higher air temperatures with above-average humidity, seasonal rainfall totals and an increased frequency of extreme rainfall.

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.