

Caribbean Climate Outlook Newsletter - May to July 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: January to July 2023

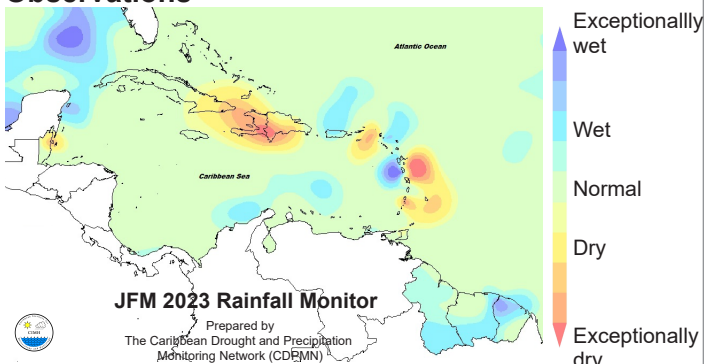
January to March 2023: The Pacific transitioned out of a long-lasting La Niña event. This part of the dry season was more intense than usual in Hispaniola and parts of the Lesser Antilles, resulting in wildfire weather by February or March, depending on the location. With the Caribbean cool season lasting through March, there was little heat discomfort.

May to July 2023: The Pacific may transition into El Niño conditions while ocean temperatures around the Caribbean are expected to increase to above-average. This makes it difficult to confidently forecast rainfall as the Caribbean transitions into the wet season. Nevertheless, long-term drought concerns are rising in Cuba, while the effects of frequent dry spells across the Islands and Belize will likely continue through May or June, with a peak in wild fire potential and Saharan dust intrusions. Recurring heatwaves are possible in the Islands, but unlikely in the Leeward Islands. By contrast, the potential for flooding, flash floods and cascading hazards will be moderate. Finally, tropical cyclones may develop as early as May.

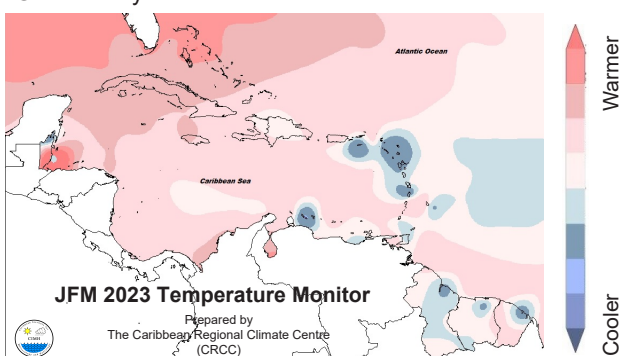
LOOKING BACK:

Jan. - Feb. - Mar. (JFM) 2023

Observations



- **RAINFALL:** Northeast Belize, southeasternmost Cuba, southern Dominican Republic, Haiti, east Martinique, St. Vincent very dry; southwest Dominica, west Guadeloupe, northwest French Guiana very wet.



- **TEMPERATURE:** Curaçao, parts of the coastal Guianas, many of the Lesser Antilles islands cooler than usual; Northwestern Bahamas and Belize signif. warmer than usual.

Notable Climate Records:

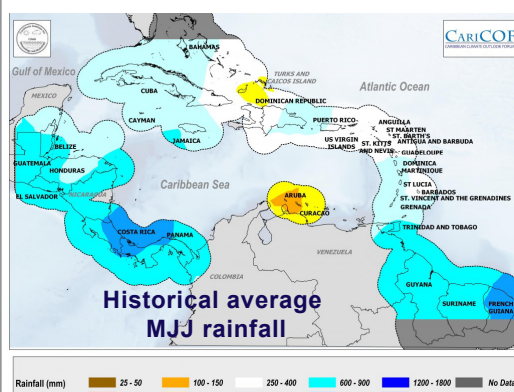
WET: JFM: No locations reported record high rainfall totals for this period.

DRY: JFM: 1 location in Barbados, 1 in Dominican Rep. recorded their lowest rainfall totals for this period (35-45% of avg.)

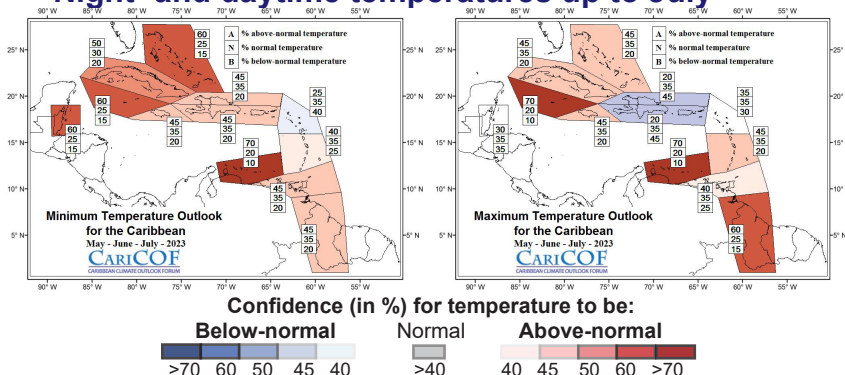
HOT: JFM: Grand Cayman recorded its highest max. and mean temperature, 2 locations in Belize their highest mean temp. and 1 location in Belize its highest min. temp. for this period.

WHAT NEXT?

Rainfall patterns May-June-July (MJJ)



Night- and daytime temperatures up to July



MJJ night-time (min.) and daytime (max.) temperatures are forecast to be high enough to be uncomfortable to some, especially because they may end up even higher than usual for this period in many locations, except in the Leeward Is. at night and the US Caribbean Territories during daytime. The first part of the Heat Season (which lasts from April/May to October) may manifest in recurring heatwaves, sharply increasing heat stress.

Wet days and wet spells up to July

What usually happens from May to July?

- Number of wet days: roughly 20 to 40, (ABC Is. 5-15; Guianas: 45-65).
- # of wet spells: 1 to 5 (Guianas: 4 to 7), of which 2 or 3 are very wet (ABC Is. up to 1; Guianas: 1 to 5).
- # of extreme wet spells: up to 1 in most locations.

Forecast and Implications:

- Moderate flooding, flash flood, landslide/rockfall and soil erosion potential in view of the likelihood of very wet spells and extreme wet spells.
- Accelerating recharge rates of large water reservoirs and soil moisture throughout the region, though possibly slower than usual in the islands where fewer wet spells than usual occur.
- Decreasing surface dryness could make environmental conditions more conducive to moisture related pests, particularly in Belize and the Guianas.

Drought conditions

Lastest drought situation: Moderate (or worse) short-term drought has developed in Barbados, northeast Belize, southeast Cuba, Hispaniola, eastern Martinique, St. Vincent, USVI; moderate (or worse) long-term drought has developed in southwest Belize, western Dominican Rep., Haiti, west & south Jamaica, northern Martinique, western Puerto Rico, St. Kitts, St. Vincent.

Short-term drought Short-term drought might possibly develop in western Belize and southern French Guiana.

Long-term drought Long-term drought is evolving across Cuba, in northwest Puerto Rico, and St. Vincent and might possibly develop or continue in Barbados, northwest Belize, southern Dominican Republic, Grenada, and southeast Puerto Rico.

BRIEF CLIMATE OUTLOOK - August to October 2023

Indications are that this part of the wet season may be drier than usual in the southern and eastern Caribbean islands, the Guianas and in Belize in view of a likely further development of El Niño. Combined with unusually high ocean temperatures around the Caribbean, this may further lead to frequent, excessive heat exposure due to high temperatures and humidity -- exacerbated during heatwaves. Whereas El Niño tends to slow down deep convective activity such as tropical cyclone development and heavy showers during this period, an unusually warm North Atlantic may, in fact, increase such activity. This increases the risk of flooding and flash floods, as well as cascading hazards. Next month's update should give us more clarity. *For temperature and precipitation outlooks for ASO 2023, 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 from La Niña to slightly above average (ENSO neutral conditions) by mid-April.

Model forecast and guidance: The forecast models indicate a likely transition to El Niño conditions in MJJ (60-70% confidence) and ASO (80% 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, a drier summer season, and reduced tropical cyclone activity, especially in September and October.

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 and eastern Tropical North Atlantic (TNA), but are near average in the Caribbean Sea.

Expected conditions: Models are confidently forecasting increasingly warm SST anomalies of 0.5°C to 1°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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