A Joint Bulletin of the CTO, the CHTA and the CIMH

CARIBBEAN TOURISM CLIMATIC BULLETIN

for Tourism Businesses and Policymakers

June - August 2024 I Vol 8 I Issue 2

Purpose

This Bulletin is a joint effort between the Caribbean Tourism Organization (CTO), the Caribbean Hotel & Tourism Association (CHTA) and the Caribbean Institute for Meteorology and Hydrology (CIMH) to help tourism businesses and policymakers identify and prepare for favourable or inclement climate conditions in the Caribbean and source markets, before they occur. It is recommended that industry stakeholders use the seasonal climate forecast information for the upcoming period (June - August 2024) presented in this Bulletin in tandem with weather forecasts (1-7 days). This suite of information can inform strategic and operational decisions related to the use of environmental resources, marketing, and enhancement of the visitor experience.

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Glossary

Seasonal climate forecast - the guidance offered by a forecaster or forecast centre on climate conditions during the coming months. Forecast information in this Bulletin pertains to the 3 months highlighted in the Issue.

Wet Day – A 24 hour period during which the rainfall total is at least 1 mm.

Wet Spell – A multi-day period during which the rainfall total is large enough to cross a certain threshold.

Extreme wet spell – 3 consecutive days of which the total rainfall is extremely high, with increased flash flood potential.

Caribbean Heat Season - most heatwaves and the associated spikes in heat stress occur between April or May and October in the Caribbean

Short-term drought – A rainfall deficit over a total period of 6 months.

Long-term drought – A rainfall deficit over a total period of 12 months.

Dry day – A 24 hour period during which the rainfall total is less than 1 mm.

Dry spell – A succession of at least 7 consecutive dry days.

Caribbean Cool Season - occurs between December and February or March when the Caribbean experiences comfortably cool weather

The Guianas – French Guiana, Guyana and Suriname.

US Caribbean Territories – Puerto Rico, U.S. Virgin Islands.

Leeward Islands – Anguilla, Antigua and Barbuda, British Virgin Islands, Guadeloupe, Montserrat, Saba, St. Barthélemy, St. Eustatius, St. Kitts and Nevis, St. Maarten and St. Martin.

Windward Islands – Dominica, Grenada, Martinique, St. Lucia and St. Vincent and the Grenadines.

Lesser Antilles – Leeward and Windward Islands along with, Barbados and Trinidad and Tobago.

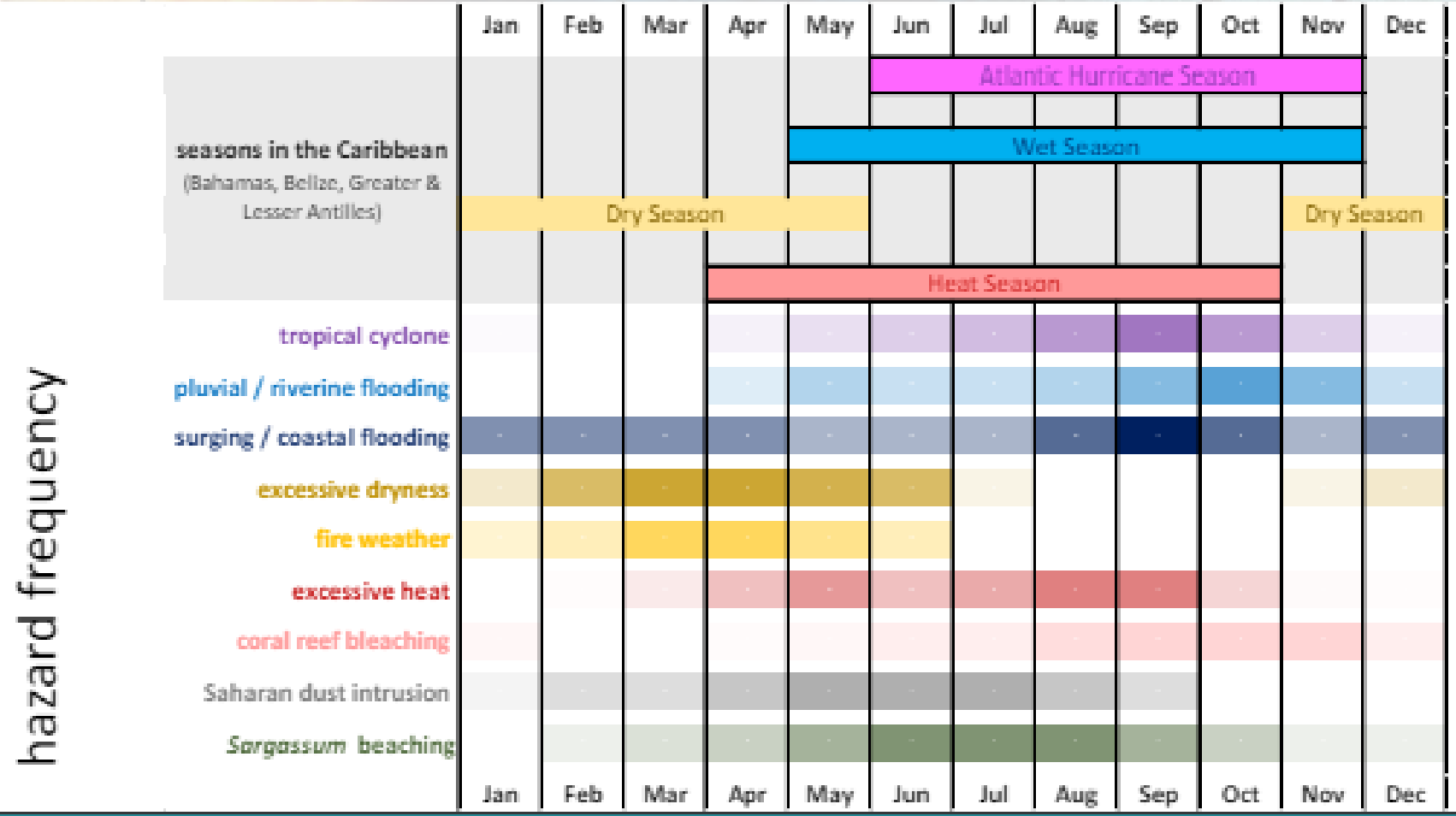
Greater Antilles – Cayman Islands, Cuba, Dominican Republic, Haiti, Jamaica and Puerto Rico.

ABC Islands – Aruba, Bonaire, Curacao

Lucayan Islands – The Bahamas, Turks and Caicos Islands.

For more technical climate terms: https://rcc.cimh.edu.bb/glossary-of-terms/

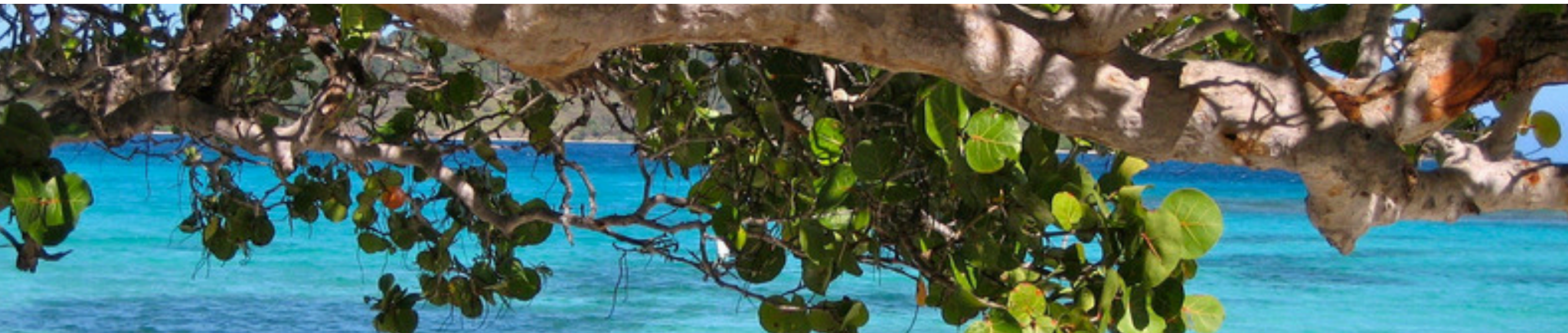
Climatological seasonality of hazards



CLIMATE RISK MANAGEMENT IN CARIBBEAN TOURISM

Climate risk management remains a critical factor in ensuring tourism sector resilience and managing the overall visitor experience. Tourism interests across the region should be prepared to deal with weather and climate emergencies in addition to ongoing concerns related to managing respiratory issues and dengue, as well as other possible threats as they arise.

The CTO, CHTA, and CIMH will continue to closely monitor the situation.



Climate Advisories: Caribbean

June through August forms part of the Caribbean Heat Season and marks: 1) part of the long Dry Season in the ABC Islands, 2) the early Wet Season in Belize and the Lesser Antilles, 3) the summer portion of the Wet Season in the Greater Antilles, and 4) the transition from the Wet to the Dry Season in the Guianas. What should you do?

The **2024 Atlantic Hurricane Season** officially starts on 1 June. Severe weather events can occur at this time and come with a range of hazards, including high winds, landslides, long-term flooding, flash floods, coastal flooding, among others.

The **Caribbean Heat Season** – characterised by the recurrence of heatwaves and hotter night-time and daytime temperatures – usually peaks toward late-August (except in the Guianas, where the Heat Season starts with the onset of the long dry season in August). This year, as a result of ocean temperatures being around 1-2°C warmer than average, the Heat Season started about 1-1.5 month earlier than usual, and has been especially intense in the Lesser Antilles.

This season is also typically characterised by a progressive increase in **intense shower and thunderstorm activity**, as well as the number of wet days and wet spells, but a decreasing number of dry days and dry spells towards the end of August in many of the Caribbean Islands and in Belize. The resulting increase in surface moisture quickly decreases wildfire potential and the concentration of local dust in the air.

See page 15 for more details on the climatological seasonality of hazards in the Caribbean.

Climate Advisories: Caribbean (Cont'd)

What is different this year?

This year, a waning El Niño event will likely make way for its cold counterpart in the tropical Pacific Ocean, namely a **La Niña**, by June-July-August. Meanwhile, (near-)**record warm** sea surface temperatures are expected to prevail in the North Atlantic Ocean and the Caribbean Sea.

While episodes of dry **Saharan air layer intrusions** (henceforth referred to as **SAL intrusions**) in the Caribbean – carrying Saharan dust – tend to annually peak from May to July, these tend to become less prevalent towards the end of August. While the body of science currently allows us to confidently forecast such Saharan air intrusions into the Caribbean up to 2 weeks in advance, we are not yet able to forecast their frequency on monthly or seasonal timescales. This leads to a major unknown in forecasts for June-July-August: **how often will the Caribbean face Saharan air intrusions?**

If there are few intrusions, the general scenario painted above will probably materialise. We will call this scenario ‘Scenario A’, which is the one we can confidently forecast. On the other end of the spectrum, the – unpredictable, yet equally likely – alternative scenario with frequent Saharan air intrusions is called ‘Scenario B’ (see page 14 for more details).

Ultimately, it is expected that June-July-August will end up somewhere between Scenario A and Scenario B.

Climate Advisories: Caribbean (Cont'd)

Year 2024 in climate

CariCOF outlooks (May to August) lean towards Scenario A...

Scenario A: infrequent SAL intrusions

Region-wide **intense Heat Season:**

- ➔ considerably higher than usual night- and daytime temperatures.
- ➔ frequent/persistent and intense heatwaves.
- ➔ potential for intense marine heatwaves triggering mass coral bleaching event from August.

Scenario B: very frequent SAL intrusions

- ➔ potentially **record-breaking humid heat**
- ➔ prolonged duration of intense marine heatwaves

In view of the intense heat season and the resulting **heat stress**, tourism practitioners should expect a significantly higher demand for cooling/hydration services (e.g. AC use and refrigeration use, use of pools and showers, and drinking water) than usual for the period, and should advise their staff and guests accordingly in the upcoming period.

Climate Advisories: Caribbean (Cont'd)

Year 2024 in climate

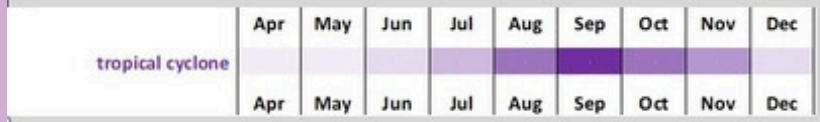
CariCOF outlooks (May to August) lean towards Scenario A...

Scenario A: infrequent SAL intrusions

Hyperactive 2024 Atlantic Hurricane Season

- ➔ Consensus across well-established forecasting agencies suggests:
  - ➔ 23-29 tropical storms
  - ➔ 11-13 hurricanes
  - ➔ 5-7 major hurricanes
- ➔ 66% chance of at least 1 major hurricane tracking through the Caribbean
- ➔ CIMH forecasts 7-14 named storms through August and 13-19 from September onwards.

Scenario B: very frequent SAL intrusions



➔ **muted/erratic tropical cyclone activity** before mid-August.

Severe weather systems related to tropical cyclones, as well as heavy showers may affect Caribbean territories repeatedly. Tourism operators are advised to constantly monitor and abide by weather advisories issued by National Meteorological Services and other information provided by the Caribbean Disaster Emergency Management Agency (http://cdema.org/) and the US National Hurricane Center (https://www.nhc.noaa.gov/). At all times, tourism operators should maintain a state of readiness, including communication plans and response protocols to deal with sudden eventualities. This is particularly critical in view of the forecasted hyperactive 2024 Hurricane Season along with an intense wet season.

Climate Advisories: Caribbean (Cont'd)

Year 2024 in climate

CariCOF outlooks (May to August) lean towards Scenario A...

Scenario A: infrequent SAL intrusions

Potentially **explosive start of the wet season in May in some areas**

- high to extremely high potential for flooding, flash floods, cascading hazards & impacts (except ABC Islands).
- environmental conditions conducive to moisture-related pests.

Scenario B: very frequent SAL intrusions

- **erratic, intense wet spells** through July

In line with the forecasted intense wet season, **drought** concerns by the end of August in the Caribbean are few. Tourism facilities should continue to enhance/upgrade their water conservation practices, as well as rainwater harvesting and repairs to leaky pipes, etc., and advise staff and guests of the need to reduce water wastage on an ongoing basis.

Climate Advisories: Caribbean (Cont'd)

In view of the very high to extremely high exposure to **harmful UV light** on sunny days, visitors should be encouraged to apply high SPF sunscreen lotion regularly (preferably reef safe), and seek shaded areas between the hours of 10 AM and 3 PM. Outdoor tourism operators and staff should also be mindful to minimise skin exposure during these times, and to wear sunscreen and protective clothing when they work outdoors.

Widespread marine heatwaves triggering **coral bleaching** are expected to occur from August onwards. Though a portion of the recently bleached corals may recover in cooler, clear and clean water, the forecasted sea surface temperatures will very likely produce a long period of heat stress after August, ultimately reducing the chance of recovery. Therefore, it is imperative to minimise runoff of pollutants into coastal waters and to encourage the use of reef-safe sunscreen by guests and locals alike. This can increase the survival chances of coral reefs. Until July, this is also a good season to engage in coral reef restoration activities, especially in destinations where there is an on-going standalone program or partnership between tourism practitioners and coastal managers.

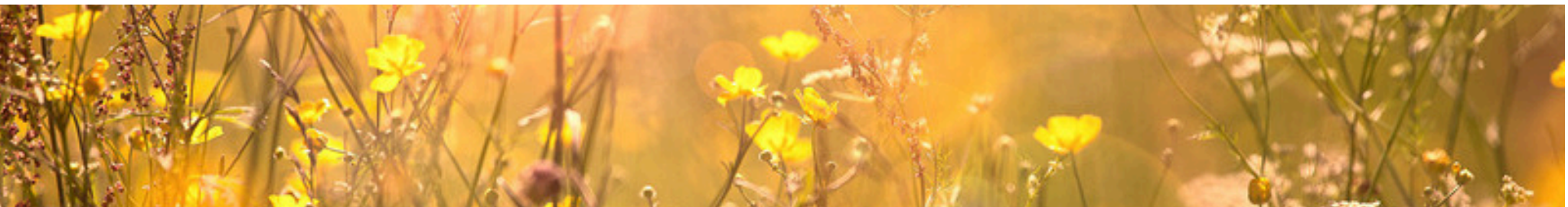
Climate Advisories: Caribbean Source Markets

June to August marks the summer season in the source markets. What should you do?

Source markets tend to experience the warm and sunny summer conditions vacationers are seeking at this time, with the exception of northern Europe. Tourism operators are therefore recommended to focus on enhanced marketing efforts to attract visitors. Additionally, they should differentiate themselves through innovative package offers, memorable customer service, and activities that take advantage of the unique cultural heritage, gastronomy, and pristine natural environments on offer.

Furthermore, inbound Tour Operators are recommended to monitor the weather forecasts in the source markets during this season. They should be on the lookout for reports of inclement summer weather in Canada and northern Europe, as well as reports of wildfires causing a deterioration in air quality in Canada, the Northern US and the Mediterranean tourism markets.

A few competing markets in South East Asia (Bali, Indonesia in particular) are expected to see much wetter than usual conditions with increased chance of extensive flooding.



Surf and Sargassum Outlook

Surf's Up

Surfers, divers, fishers and marine craft operators should consult the 7-day wave forecast before planning activities. Click here to access this product: **http://ww3.cimh.edu.bb/**

Sargassum Outlook

Tourism operators may consult the University of the West Indies / Centre for Resource Management and Environmental Studies (UWI/CERMES)'s Sargassum sub-regional Outlook Bulletin for the Eastern Caribbean or the monthly University of South Florida (USF)/NASA Sargassum Outlook Bulletin for the entire Caribbean before planning activities.

Click here to access the latest UWI/CERMES product: **https://www.cavehill.uwi.edu/cermes/projects/sargassum/outlook-bulletin.aspx**

Click here to access the USF/NASA product: **https://optics.marine.usf.edu/projects/SaWS.html**

Additionally, a Sargassum resource guide is available from the Caribbean Alliance for Sustainable Tourism (CAST) and can be accessed here: **https://caribbeanhotelandtourism.com/publications/** Additional resources and publications for Sargassum management are also available from CTO here: **https://www.onecaribbean.org/our-work/sustainable-tourism-dept/sargassum-resources/**

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Stay Alert & Be Prepared!

Upcoming Events:

CTO/CHTA 2024 Crisis Readiness Webinar, June 11, 2024

Websites

Caribbean Tourism Organization:
www.onecaribbean.org

Caribbean Hotel and Tourism Association:
www.caribbeanhotelassociation.com

Regional Climate Centre:
http://rcc.cimh.edu.bb