



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

CARIBBEAN TOURISM CLIMATIC BULLETIN

for Tourism Businesses and Policymakers

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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 (September - November 2021) 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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COVID-19 PANDEMIC

The impact of COVID-19 has been unprecedented to tourism activities and businesses across the region. Climate risk management linked to enhancing visitor health and safety, remains a critical factor in ensuring tourism sector resilience and managing the overall visitor experience.

The convergence of the COVID-19 pandemic with an active Atlantic Hurricane season may present a challenge to Caribbean countries.

Tourism interests across the region should be prepared to deal with weather and climate emergencies in addition to the added concern of managing the current COVID-19 pandemic. The CTO, CHTA, and CIMH will continue to closely monitor the situation and issue the relevant climate outlooks.

Looking Back: May - July 2021



This period marked the transition from the **dry to the wet season** in the Caribbean Islands and Belize, and the **primary wet season** in the Guianas. During this period, short term drought in northwestern parts of the Bahamas contrasted with record rainfall totals in Grenada, large parts of the Guianas and in Trinidad, triggering some of the worst flooding in recent history in Guyana. This pattern, along with the absence of unusual heat is partially explained by a faded La Niña. In addition, small pockets of short term drought occurred in Antigua and northwest Martinique and a few locations were extremely wet, e.g. western Puerto Rico and small portions of southern Cuba.



May to July further marked the first half of the Caribbean **heat season**. Heat discomfort was significantly lower than in 2020, thanks to near average temperatures in much of the Caribbean and even a number of locations being significantly cooler than usual (i.e. southeast Guadeloupe and southeast Jamaica). One exception was coastal Belize, which was around 1°C warmer than usual.

Climate Advisories: Caribbean

September through November marks: 1) the late wet season in the Caribbean Islands and Belize, 2) the transition to the wet season in the ABC Islands, and 3) the dry season in the Guianas. What should you do?



The **2021 Hurricane Season** officially lasts until November 30th, with the peak of tropical cyclone activity typically lasting until around mid-October, but storms and hurricanes have occurred after the official end date. The 2021 Hurricane Season has already produced 13 named Tropical Storms, 5 hurricanes and 3 major hurricanes as of 8 September 2021. As of early-August, there remained a strong consensus in the forecasts that this year will bring an active season with a 2021 season total of between 15-21 tropical storms, of which there would be between 7-10 hurricanes (*high confidence*). Higher numbers are not precluded.



Severe weather events are expected to affect Caribbean territories. Such systems include but are not restricted to tropical cyclones and can come with a range of hazards, including high winds, flash floods, land slippage or rockfall, power outages and possible contamination of food and water supplies. Tourism operators are advised to keenly monitor weather advisories issued by the 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/>). Given the current global COVID-19 pandemic and the required protocols, tourism operators should maintain an updated state of readiness, including communication plans and response protocols to deal with sudden eventualities, at all times.

Climate Advisories: Caribbean Cont'd



Climatically, September to November forms the **second half of the Caribbean Wet Season** with a large number of wet days and frequent wet spells, but at the same time, still a number of short dry spells, particularly in the Greater Antilles. This year, the possibility of another La Niña event in the Pacific (after the one that ended in April) slightly tilts the odds towards even more frequent and more intense rainfall, and higher rainfall totals across the Caribbean (*medium confidence*).



The intense and frequent heavy showers clustered in **very wet spells** throughout the period results in a high potential (i.e. occurs once every other year or even more often) for long-term flooding in flood-prone areas of the Caribbean Islands and Belize. By contrast, in the coastal Guianas, apart from locations which are still flooded at the time of writing, flooding potential should be *limited* (i.e. occurs once or twice in 10 years) to *moderate* (i.e. occurs two to five times in 10 years) up until the onset of their secondary wet season in mid- to late-November. Similarly, up to two or three severe weather events that produce **extreme wet spells** can be expected during these three months in the Caribbean Islands and Belize, resulting in *high* to *extremely high* (i.e. occurs at least once in most years) potential for flash floods and cascading hazards. By contrast, with usually up to 1 extreme wet spell at any given location in the coastal Guianas, there will only be *limited* flash flood potential there. Extreme wet spells may coincide with thunderstorms and high winds, and may result in flash floods, land slippage or rock fall, power outages and possible contamination of food and water supplies. Therefore, proper planning / contingencies for these scenarios is imperative for tourism operators, especially those operating outdoors. Tourism facilities should clear their drainage and clean catchment systems as soon as possible.

Climate Advisories: Caribbean Cont'd



As a result of the usual or significantly higher rainfall totals so far this year in most places, **drought** is currently not a widespread concern in the Caribbean. As of August 1st, **short-term drought** (on a 3-6 months timescale) has developed in Antigua, the northwestern Bahamas and northwest Martinique, while **long-term drought** (on a 12 months timescale), which may affect water availability across a multitude of socio-economic sectors in a country, has developed in northwest Martinique and St. Croix. Short term drought is unlikely to be of significant concern by the end of November, with the possible exception of the northern Bahamas, southeast Belize, and Dominica (*medium confidence*). However, though not a widespread concern, long term drought is expected to evolve by the end of November in The Bahamas (*medium to high confidence*), and may possibly develop or persist in Dominica, coastal French Guiana, Martinique, St. Vincent and parts of Suriname (*medium confidence*). Despite the limited drought concern, 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



Night-time and day-time temperatures in the Caribbean are forecast to remain close to the usual or slightly higher for the remainder of the Caribbean Heat Season - which started in April/May and typically would end in October, except in the Guianas, where it ends in November. **Heatwaves** (and heatwave days) are usually frequent in September in the Caribbean Islands and Belize, particularly in the ABC Islands and the Lesser Antilles, where there typically are between 7 and 15 heatwave days in this month. By contrast, by October, there are usually no more heatwave days in the Bahamas, Belize and Greater Antilles but still around 6 to 12 heatwave days in the ABC Islands and the Lesser Antilles. In the coastal Guianas, the hot and dry season usually produces 20 to 30 heatwave days between September and November (*high confidence*). The September to November heat outlooks suggest that the number of heatwaves will not be excessively high this year, as opposed to the particularly hot year 2020 (*high confidence*). Nevertheless, in view of seasonably high temperatures, heatwaves, high air humidity, and the possible occurrence of short-lived dry spells - which increase the chance of heat waves - **heat exposure** is still expected to be a recurrent concern lasting through September or October (*medium confidence*). Tourism practitioners should expect an increase in demand for cooling/hydration services (e.g. AC use and refrigeration use, use of pools and showers, and drinking water) through September in the Bahamas, Belize and the Greater Antilles, through October in the ABC Islands and the Lesser Antilles, and through November in the Guianas. Persons (i.e. both staff and visitors) should be sensitised to the importance of staying cool and properly hydrated.

Climate Advisories: Caribbean Cont'd



Notwithstanding that it is the wettest part of the year in the Caribbean Islands and Belize, there remains a high risk of skin damage due to intense ultraviolet (UV) light emitted by the sun. The **UV index** will progressively decrease from extremely high to very high on sunny days towards November. 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.

Climate Advisories: Caribbean Cont'd



Ocean temperatures will peak in September and slowly decrease towards November and are forecast to remain close to average throughout the period in most areas. As such, the temperatures are forecast to potentially be warm enough to trigger **coral bleaching** in the northwestern Bahamas, Cuba, Grenada and Tobago in October, as well as, along the northern shores of the Greater Antilles and Leeward Islands, and from Saint Lucia southwards to Tobago in November. Those areas will be under Alert Level 1 (i.e. bleaching is likely) in October or November, respectively, except Tobago which is forecast to be under Alert level 2 in November (i.e. widespread bleaching is expected). 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, which can increase the survival chances of coral reefs.

The frequency of **Saharan dust** incursions into the Caribbean tends to decrease during this period (access more detailed forecast information on dust and air quality in the Caribbean here: <http://dafc.cimh.edu.bb/>). Similarly, local dust levels should be on the low end throughout the remainder of the Wet Season. Tourism practitioners should be aware that there may be an increase in symptoms in visitors and staff with respiratory ailments.

Climate Advisories: Caribbean Source Markets

September to November marks the Autumn season in the source markets. What should you do?

Although there are some restrictions to foreign travel from some northern source markets, they will experience less sunny and cooler weather in the Autumn season. This may create a climate driven increase in demand for Caribbean vacations. 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 (bearing in mind COVID-19 protocols), and activities that take advantage of the pristine natural environments on offer. Furthermore, inbound Tour Operators are recommended to monitor the weather forecasts, as well as, the COVID-19 situation in the source markets during this season. They should be on the lookout for reports of inclement autumn weather in Canada, northern Europe and the United States.

In addition, some competing markets in the ASEAN region of Southeast Asia and in the southwest Pacific are expected to likely see wetter than usual conditions, with increased chances of flooding and reduced sunshine. Marketing efforts could focus on attracting visitors to the generally sunny, warm and breezy weather, and general health and safety in the Caribbean region.

Climate Outlook for the Caribbean

We are moving into the wettest time of the year. What do we expect for the Caribbean?

How wet?

Rainfall totals from September to November are likely to be at least as high as usual across the ABC Islands, the Guianas and Trinidad and Tobago, but the usual or less in the Cayman Islands (*medium confidence*).

How dry?

Short term drought (on a 3-6 months timescale) might possibly develop or continue in the northern Bahamas, southeast Belize, and Dominica (*medium confidence*).

Long term drought (on a 12 months timescale) is evolving in The Bahamas (*medium to high confidence*) and might possibly develop or continue in Dominica, coastal French Guiana, Martinique, St. Vincent and parts of Suriname (*medium confidence*).

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://www3.cimh.edu.bb/>

How hot?

September-October-November night-time (low) and daytime (high) temperatures are forecast to be close to the usual or slightly higher in many areas. Heat stress is expected to peak in September in the Lesser Antilles (October in the Guianas), especially during heatwaves, but not to the same degree as during the same period last year.

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/docs/bulletin/sargassum_outlook_bulletin_issue_04_mjj_cermes_202.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://www.onecaribbean.org/wp-content/uploads/SargassumResourceGuideFinal.pdf>

Climate Outlook for Caribbean Source Markets

What do we expect in the source markets?

With the beginning of the Autumn season in September, based on historical information, we expect less sunny and cooler weather in most northern source markets. While the current rainfall forecasts provide no specific indication of seasonal climate beyond these historical expectations, temperatures are unlikely to be cooler than usual (*medium confidence*).



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Upcoming Events

CTO

September 27, 2021: Caribbean World Tourism Day

To register for the event visit:

<https://bit.ly/3AcqZhX>

For further information, visit

<https://www.onecaribbean.org/events-calendar/caribbean-world-tourism-day-2021/>

CIMH

Late November 2021: 2021/2022 Dry Season Caribbean Climate Outlook Forum (CariCOF)

Disclaimer

Websites

Caribbean Tourism Organization:
www.onecaribbean.org

Caribbean Hotel and Tourism Association:
www.caribbeanhotelassociation.com

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

This Bulletin provides a broad overview of climate conditions up to 3 months in advance. It is based on insights drawn from CIMH's suite of technical climate information products and industry insights from the CTO and the CHTA. The information contained herein is provided with the understanding that the CTO, the CHTA, and the CIMH make no warranties, either expressed or implied, concerning the accuracy, completeness, reliability or suitability of said information. The Bulletin may be freely used and distributed by the public with appropriate acknowledgement of its source but shall not be modified in content and then presented as original material. CTO, CHTA and CIMH disclaim any liability with respect to the use of any information within this document by any person or entity.

Glossary

Seasonal climate forecast - the guidance offered by a forecaster or forecast centre on the climate conditions during the coming months.

NB: This forecast information pertains to the 3 months highlighted in the Issue.

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.

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.

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/>