

Caribbean Health Climatic Bulletin

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This Bulletin is a joint effort between the Caribbean Public Health Agency (CARPHA), the Pan American/World Health Organization (PAHO/WHO) and the Caribbean Institute for Meteorology and Hydrology (CIMH). It aims to help health professionals identify and prepare health interventions for favorable or inclement climate conditions in the Caribbean. The period covered is September 2018 to November 2018. It is recommended that health stakeholders should use the combination of monitoring (May 2018 - July 2018) and forecast (September 2018 - November 2018) climate information presented in this Bulletin in tandem with weather forecasts (1-7 days). This suite of information is intended to guide strategic and operational decisions related to health interventions and the management of health care systems.

What are the Key Climate Messages for September to November 2018?

- The period September to November usually marks the **wettest part of the year** in Belize and the Caribbean islands, with an annual peak in the frequency of wet days, wet spells and extreme wet spells. In the coastal Guianas, the **dry season** usually lasts until mid to late November. Meanwhile, the ABC Islands usually transition into their wet season at this time.
- **Temperatures** are usually initially high which, combined with a peak in air humidity, can feel **uncomfortable** until the end of September in northern parts of the region, and until October in the southern Caribbean. High temperatures are usual across the Guianas at this time.
- **Rainfall totals** from September to November are forecast to likely be the usual or drier across the ABC Islands, Belize, the Lesser Antilles and the Guianas (*medium confidence*). By contrast, The Bahamas and Cayman Islands are forecast to be at least as wet as usual (*medium confidence*).
- It is not unusual to have spells of moderate to heavy rainfall, i.e. wet spells, interspersed with dry spells during the late wet season. Most of the region is forecast to see a slightly lower number of **wet days and wet spells** than usual, reducing the potential for long-term flooding.
- At the same time, **flash floods** are a concern in the event of **extreme wet spells** in any area, but less likely so in the Guianas.
- Notwithstanding, a number of **dry spells** can still be expected in the ABC Islands, The Bahamas, northern and central portions of Belize, the Greater Antilles and the Guianas, but very few in the Lesser Antilles (*high confidence*).
- Region-wide, **drought** or excessive dryness is not forecast to be a major concern during this period (*high confidence*), but should be monitored closely in particular in northern Belize, the Cayman Islands and the Leewards.
- **Night-time and day-time temperatures** are forecast to be slightly cooler than in most recent years, making the September (and October) heat likely more tolerable than in recent years (*medium confidence*).
- **Heat waves** will become less likely towards November across the region (*high confidence*).
- The **tropical cyclone activity** of the 2018 Hurricane Season as a whole is unlikely to match last year's (*high confidence*). Although the credible forecasting sources suggest a below-normal to near-normal season as a whole (*medium to high confidence*), **preparedness** for the range of hazards brought about by tropical depressions, storms and hurricanes still **remains critical**.
- Episodes of **Saharan dust** incursions into the Caribbean usually are infrequent in this period, but can occur ahead of tropical weather systems. In the absence of drought this year, local dust levels should be on the low end.
- The **UV index** on sunny days will steadily decrease from around 10 to 8 in the north and from 12 to 10 in the south (on a scale from 1 to 12. For more information, see: <https://www.epa.gov/sunsafety/uv-index-scale-1>). Note that, despite the period marking the wet season in Belize and the Caribbean islands, many days in most areas have long sunny spells, increasing UV exposure.

What are the Health Implications for September to November 2018?

Non-communicable Diseases



- Excessive heat from high temperatures across the region (exacerbated by humid air across Belize and the Caribbean islands) will become less prevalent towards November. That said, especially during September (and October in the Guianas), **heat waves** can increase the risk of morbidity from **heat stress** in vulnerable persons, especially smaller children, the elderly, pregnant women and persons with NCDs such as diabetes and hypertension.



- Particularly in September (and October in the Guianas), there will be an increased risk of **dehydration**, which may present an associated increase in its symptoms such as apathy, general weakness, dizziness, fainting, and, in extreme cases, kidney failure. This risk decreases as we approach November.



- During the period, excessive exposure due to dangerous UV radiation can cause **skin damage** across the population on sunny days (for more information, see: <https://www.epa.gov/sunsafety/uv-index-scale-1>).

- There is the possibility of **skin infections** due to contact with contaminated stagnant and/or flood waters particularly in any area across Belize and the Caribbean islands.

Vector-Borne Illness



- The presence of stagnant water in the aftermath of a flood may promote the breeding of mosquitoes and increase the risk of associated mosquito borne diseases, such as **Dengue, Chikungunya and Zika** which are of great concern for Caribbean territories (For more information, click [here](#)).



- As the region enters the peak of the wet season, increased rainfall may also create more breeding places for mosquitoes, but it may not be to the same extent as in years with extremely high rainfall in the wet season.

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- However, note that in the case of flash floods, flood waters may wash away mosquito eggs, larvae and pupae, temporarily reducing mosquito populations.
- There may be accelerated mosquito proliferation in communities where water is stored in containers without protective mesh, or accumulating in any unattended, open containers (For more information, click [here](#)).
- There is increased risk of **Leptospirosis** due to the displacement of vectors such as rodents into dwellings, increasing the risk of contamination of household surfaces and food-stores.

Respiratory Illness



- The incidence of **asthma** and **allergic rhinitis** is likely to be lower compared to the previous season due to less frequent episodes of Saharan dust incursions into the Caribbean in the coming season.



- Increased humidity in Belize and the Caribbean islands throughout the period may cause dampness in some poorly ventilated residences and offices resulting in the growth of mold and increased **allergic reactions**.



- Where episodes of flooding may occur, particularly in Belize and the Caribbean islands, there is increased risk of **Leptospirosis** and **ENT** infections from contact with contaminated water.

Gastrointestinal Illness



- Where episodes of flooding may occur, cases of **gastroenteritis** may increase. This is particularly the case in any area across Belize and the Caribbean islands.

Well-Being and Mental Health



- Severe weather systems, which can come with a range of hazards, including high winds, landslides, flash floods, among others, are expected to affect Caribbean territories in the coming period. Health practitioners and administrators are urged to maintain a heightened state of **readiness** throughout the remainder of the 2018 Atlantic Hurricane Season.



- Health systems and infrastructure in countries affected by Hurricanes during the 2017 season may still be undergoing recovery and may be unable to fully support the health-related needs of their populations.

- **Food insecurity** would be a concern due to the potential of widespread crop damage resulting from extreme weather events that may occur during this period.

- **Psychosocial impacts** are still being felt in the countries affected by the 2017 Hurricanes Irma and Maria. When disasters have seasonal patterns, like hurricanes, floods and drought, anxiety among survivors will increase as the season starts.

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For More Health Information:

CARPHA
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PAHO
<http://www.paho.org>

For More Climate Information:

Caribbean Regional Climate Centre (RCC)
<http://rcc.cimh.edu.bb>

More on Climate

Looking Back: May to July 2018

Rainfall

- Rainfall totals were above average in portions of the Bahamas, Cuba and the Guianas, but below average in Barbados, northern Belize, southern Hispaniola, portions of the Leeward Islands and in Tobago. Despite local dryness, long-term drought has not been, and continues not to be a major issue in the Caribbean region at this time.

Temperature

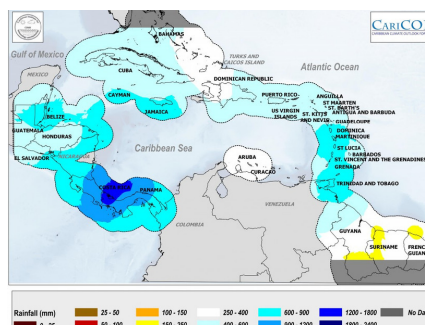
'Feels-like' temperatures were increasingly high towards July, and became uncomfortable in some areas in the Greater Antilles, and notably in Jamaica.

Warmer than average temperatures prevailed in The Bahamas, Cuba and Jamaica. By contrast, most islands east- and southwards of Hispaniola were slightly cooler than average.

What do we Usually Expect for September to November?

Rainfall

- This period typically marks the late wet season in Belize and the Caribbean Islands, but the dry season in the Guianas and the transition into the wet season in the ABC Islands. This is illustrated in the Figure below (Historical Average Rainfall Totals). Click on the image to see a larger map.



Temperature

- September to October (November in the Guianas) form the tail end of the hotter half year across the region, with the annual peak in 'feels-like' temperatures usually ending in September. The likelihood and frequency of heat waves throughout the region is relatively high in September (and October in the Guianas), but essentially decreasing to nil afterwards.

Disclaimer

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 epidemiological insights from CARPHA and PAHO. The information contained herein is provided with the understanding that the CARPHA, the PAHO 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 disseminated by the public with appropriate acknowledgment of its source but shall not be modified in content and then presented as original material.