

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) to help health professionals identify and prepare health interventions for favorable or inclement climate conditions in the Caribbean for the period June 2018 to August 2018. It is recommended that health stakeholders should use the combination of monitoring (Feb 2017 - April 2018) and forecast (June 2018 - August 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 June 2018 to August 2018?

- The period June to August marks the **first part of the wet season** in Belize and the Caribbean islands. In the Guianas, the **transition from the wet to the dry season** usually occurs during August. Meanwhile, the ABC Islands are in their long dry season. Note that, more often than not, a drier spell of a couple of weeks takes place some time between July or August in areas westwards of Puerto Rico.
- **Temperatures**, though high throughout the period across the region, usually become more **uncomfortable** towards August due to increasing air humidity. Heat discomfort peaks in the event of **heat waves**, which become increasingly likely towards August across the region.
- Regionally, **rainfall totals** from June to August are likely to be the usual or drier across Belize and the islands (*medium to high confidence*). By contrast, the Guianas are forecast to be at least as wet as usual (*medium confidence*).
- Most of the region is forecast to see a slightly lower number of **wet days and wet spells** than usual for the wet season.
- At the same time, a relatively high number of **dry spells** can be expected in the ABC Islands, The Bahamas, portions of Belize, the Greater Antilles and the Leeward Islands (*high confidence*).
- **Flash floods** are a concern in the event of extreme wet spells, particularly in the Guianas where an increase in chances of extreme wet spells is forecast (*medium confidence*).
- **Night-time and day-time temperatures** in the Caribbean are forecast to be slightly cooler than usual and amongst the coolest in recent years (*high confidence*) making the summer heat likely more tolerable than in recent years (*medium confidence*).
- Drought or excessive dryness is not forecast to be a major concern during this period (*high confidence*).
- The **tropical cyclone activity** of the 2018 Hurricane Season as a whole is unlikely to match last year's (*medium confidence*). Although the credible forecasting sources suggest a near-normal season as a whole (*medium 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 relatively frequent in this period, especially ahead of tropical weather systems (access more detailed forecast information on dust and air quality in the Caribbean here: <http://dafc.cimh.edu.bb/>). In the absence of drought this year, local dust levels should be on the low end in comparison to recent years.
- The **UV index** on sunny days will be near its annual maximum at around 12 across the region (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, most days in most areas have long sunny spells, increasing UV exposure.

What are the Health Implications for June 2018 to August 2018?

Non-communicable Diseases

-  High temperatures combined with increasingly humid air across the region, as well as, with **heat waves**, which become increasingly likely towards August across the region can increase the risk of morbidity from **heat stress**, in vulnerable persons, especially smaller children and the elderly.
- Throughout the 3 month period, there will be an increased risk of **dehydration**, which may present an associated increase in its symptoms with it such as apathy, general weakness, dizziness, fainting, and, in extreme cases, kidney failure.
-  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 in the Guianas.

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.
-  As the region enters the first half of the wet season, increased rainfall may also create more breeding places for mosquitoes.
-  However, note that in case of flash floods, flood waters may sweep away mosquito eggs, larvae and pupae, potentially reducing mosquito populations.
-  There may be accelerated mosquito proliferation in communities where water is stored in containers without protective mesh.
- There is increased risk of **Leptospirosis** due to displacement of vectors such as rodents into houses, increasing the risk of contamination of household surfaces and food-stores.

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Respiratory Illness



- Persons with **asthma**, and those prone to **allergic rhinitis** may experience symptoms due to frequent episodes of Saharan dust incursions into the Caribbean in the coming season. In addition, persons resident in the ABC islands, as well as, areas westwards of Puerto Rico may experience symptoms compounded by local dust kicked up when the ground surface is dry. In these areas, increased allergens in the atmosphere may also occur from **plant materials** (e.g. pollen) potentially triggering increased incidences of upper respiratory tract infections.



- Increased humidity in the Guianas up until early August 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 the Guianas, there is increased risk of **ENT** from contact with contaminated water.

Well-Being and Mental Health



- Food insecurity** is still a concern in affected Caribbean territories due to widespread crop damage caused by hurricanes during the 2017 Hurricane Season.
- Health systems in these countries may still be undergoing recovery and may be unable to fully support the health-related needs of their populations.



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

Gastrointestinal Illness



- Where episodes of flooding may occur, cases of **gastroenteritis** may increase. This is particularly the case in the Guianas.

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For More Health Information:

CARPHA

<http://carpha.org>

PAHO

<http://www.paho.org>

For More Climate Information:

Caribbean Regional Climate Centre (RCC)

<http://rcc.cimh.edu.bb>

More on Climate

Looking Back: February to April 2018

Rainfall

- Most areas observed at least the usual rainfall totals, in particular in south-western Dominica and Grenada, where rainfall was extremely high. As a result, long-term drought is not currently a major issue in the Caribbean region.

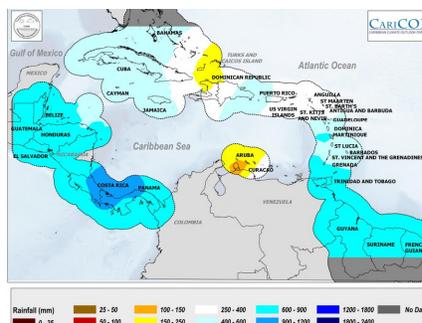
Temperature

- 'Feels-like' temperatures were cool up till March and started rising in April.
- Slightly warmer than average temperatures prevailed in much of the region, though northern and central portions of The Bahamas, Western Cuba and western Jamaica recorded temperatures more than 1°C above average. By contrast, slightly cooler than avg. temperatures were recorded in Barbados, Grenada, St. Vincent and the Grenadines and north-eastern Suriname.

What do we Usually Expect for June to August?

Rainfall

- This period typically marks the first half of the wet season in Belize and the Lesser Antilles, the centre of the wet season in The Bahamas and the Greater Antilles, and the transition from the primary wet season and dry seasons during August in the Guianas. This is illustrated in the Figure below (Historical Average Rainfall Totals). Click on the image to see a larger map.



Temperature

- July to August forms part of the hotter half year across the region, with the annual peak in 'feels-like' temperatures usually starting in August. The likelihood and frequency of heat waves throughout the region is relatively low in June and July, but high in August.

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 acknowledgement of its source but shall not be modified in content and then presented as original material.