

Caribbean Health Climatic Bulletin

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This bulletin is a joint effort between the CARPHA, the PAHO and the CIMH to help health professionals identify and prepare for favorable or inclement climate conditions in the Caribbean. Use of this information can help to inform strategic and operational decisions related to the management of health care systems.

What are the Key Climate Messages for August to October?

- The months of August to October represent the **peak of the Atlantic hurricane season**. Forecasters advise a **higher likelihood of an above-normal season, with an increase in the predicted number of named storms and major hurricanes**. It could be the most active Atlantic hurricane season since 2010.
- The period August to October is also the **wettest part of the wet season**. **Rainfall totals** are forecast to be **at least as high as usual** in the Antilles (except Trinidad and Tobago), The Bahamas and Belize, but **less than usual, or usual** in Trinidad and Tobago. There is **no clear signal** for the Guianas at this time, which are entering their **hot, dry season**.
- As we continue into the **wet season**, it is forecasted that there will be an **increase in wet days and wet spells**. **Flash flooding and long-term flooding** is a concern due to the **possibility of extremely wet spells**.
- With a **peak in temperatures** between August and October across the Caribbean – as well as a **peak in humidity** in the islands and in Belize, the entire region will be susceptible to the effects of **excessive heat and heatwaves**.
- **Nighttime and daytime temperatures** in the Caribbean are forecast to generally be **at least as high as usual for this time of year**.
- **Short-term drought** is evolving in Haiti and might persist in The Bahamas through October. **Long-term drought** is evolving in central parts of The Bahamas and may develop in the north as well.
- **Episodes of Saharan dust incursions** into the Caribbean will become **less frequent**. By contrast, in the Guianas, **surface dryness** may lead to **greater levels of dust** in the atmosphere.

What are the Health Implications for August to October?

Respiratory Illness

- There may be a decreasing trend in symptoms in persons with **asthma**, as well as persons with allergies to dust due to fewer episodes of Saharan dust incursions into the Caribbean. However, in the Guianas, there may potentially be an increasing trend in **asthma** symptoms due to surface dryness.
- There may be increased risk of **Legionella** growth in water systems due to higher temperatures.
- There may be an increase in **allergic reactions** to fungal spores from **mold**. Increased humidity, except in the Guianas, may cause dampness in some poorly ventilated residences and offices resulting in growth of **mold**.
- Where episodes of flooding may occur, there is increased risk of **ENT** (ear, nose and throat) infections from contaminated water.



Non-communicable Diseases

- Morbidity from **heat stress** is likely to peak between August and October, especially in persons with **pre-existing chronic non-communicable diseases**.
- There is an increasing risk of **dehydration**, possibly leading to apathy, general weakness, dizziness, fainting, and kidney failure.
- Increased temperatures, in particular heatwaves, may lead to **heat rash** in vulnerable persons, including babies, young children, the obese and the elderly.
- There is an increased risk of **skin damage** up until October, due to the very intense UV radiation at this time of year on sunny days.
- There is the possibility of **skin infections** due to contact with contaminated flood waters.



Vector-Borne Illness

- With the combined peak in heat and moisture, there may be an increase in cases of vector borne diseases such as **Dengue, Chikungunya, Zika and Yellow Fever**.
- The increased temperatures may shorten the maturation time for mosquitoes and for pathogens that mature inside the mosquito.
- In addition, increased rainfall may create more breeding places for mosquitoes.
- Some mosquito eggs laid last year may still be present in breeding areas and may become activated by settling rain water, thus contributing to increased mosquito populations.
- However, note that in the case of flash floods, flood waters may sweep away mosquito eggs, larvae and pupae, potentially reducing the number of cases.
- There is also the possibility of impacts from new and re-emerging diseases related to *Aedes aegypti*, for example **Mayaro Virus Disease**.
- There may be accelerated mosquito proliferation during drought in Haiti and The Bahamas, in areas where water is stored in containers without protective mesh.
- During the wet season, there is increased risk of **Leptospirosis** due to human contact with flood waters contaminated with the urine of infected animals, as well as food or soil exposed to these contaminated flood waters.



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Gastrointestinal Illness



- Cases of **gastroenteritis** may increase in frequency. Increased temperatures may accelerate proliferation of pathogens.
- In the event of flash floods, contamination of food and water supplies might occur.



Physical Injury or Death



- There is the possibility of persons suffering **injury or death**. Flash flooding may lead to cases of drowning, persons being swept away by flood waters, physical trauma by debris in the flood water, possible landslides, and electrocution.
- **Injury or death** may also be caused by exposure to debris blown by hurricane or storm winds.

Well-Being and Mental Health



- There may be increased **mental stress**, and resulting violence, due to higher temperatures.
- **Mental stress** may be brought on by loss of property due to hurricane or storm winds, and flash flooding.
- **Food security**, in particular diversity of dietary options, may be reduced in more isolated communities during the wet season. There may be significantly less rainfall than usually expected in a few places, causing drought and leading to reduced crop yields, which is a possible scenario for Haïti to closely monitor. Flooding may lead to crop damage. Proliferation of moisture related pests, such as **Black Sigatoka** may hamper food crop production.
- **Food security** may also be threatened by crop damage caused by hurricane or storm winds.

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For More Climate Information:

Caribbean Regional Climate Centre (RCC)
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More on Climate Looking Back: April to June 2017

Rainfall

- Port-au-Prince, Haïti, experienced its driest April to June period on record.
- In April, NW Belize, NE Trinidad and Tobago were very dry. However, conditions were very wet in the east Belize, Cayman, Cuba, Dominican Rep. and St. Croix.
- In May, Cayman and W Dominican Republic were very dry while NW Suriname was very wet.
- In June, parts of Barbados, W Cuba, N Dominica, Grenada, Guadeloupe, S Jamaica, W Puerto Rico, St. Kitts, NW Suriname and Trinidad were very wet.

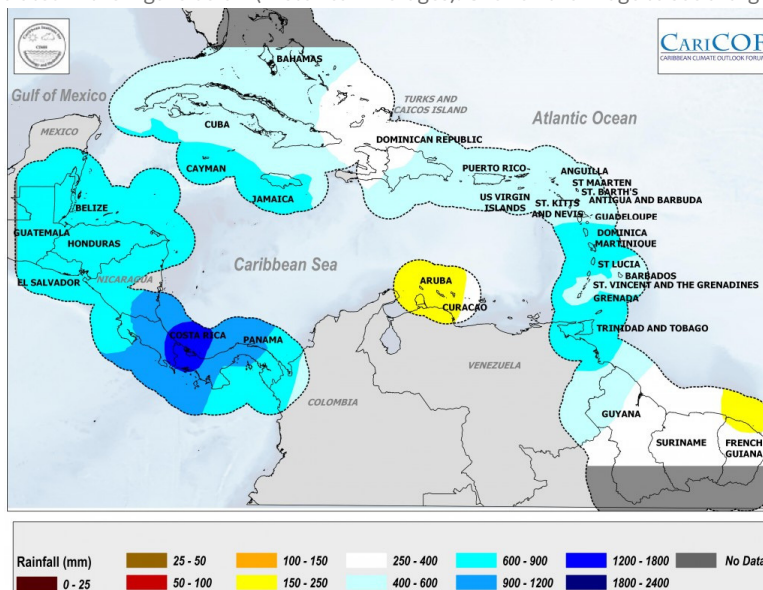
Temperature

- Most countries were warmer than average, especially The Bahamas, Jamaica and the Windwards. Exceptions were Antigua, parts of the Guianas and St. Kitts.

What do we Usually Expect for August to October?

Rainfall

- Typical rainfall patterns for this transition period between the dry and the wet season are illustrated in the Figure below (Historical Averages). Click on the image to see a larger map.



Temperature

- Temperatures tend to plateau between May and October, which constitutes the warmer half of the year, but with heatwaves being most frequent between August and October, in particular in the Lesser Antilles and the Guianas.

Disclaimer

This bulletin provides a broad overview of climate conditions up to three months in advance. It is based on insights drawn from CIMH's suite of technical climate information products. It is recommended that stakeholders should use this information in combination with nearer term weather forecasts to guide operational decision making. The information contained herein is provided with the understanding that the Caribbean Public Health Agency (CARPHA), the Pan American Health Organization (PAHO) and the Caribbean Institute for Meteorology and Hydrology (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.