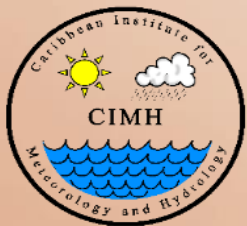


Heat Outlook for October 2024 to March 2025

Near-record heat causing episodes of significant heat stress can be expected through October

Participating countries and territories

Antigua & Barbuda, Aruba, Bahamas, Barbados, Belize, Cayman Islands, Cuba, Curaçao, Dominica, Dominican Republic, French Guiana, Grenada, Guadeloupe, Guyana, Haïti, Jamaica, Martinique, Puerto Rico, St. Barth's, St. Kitts & Nevis, St. Lucia, St. Maarten/St. Martin, St. Vincent & the Grenadines, Suriname, Trinidad & Tobago and the US Virgin Islands



caricof@cimh.edu.bb

Health: Frequency of heat-related symptoms finally decreasing after October

Public health:

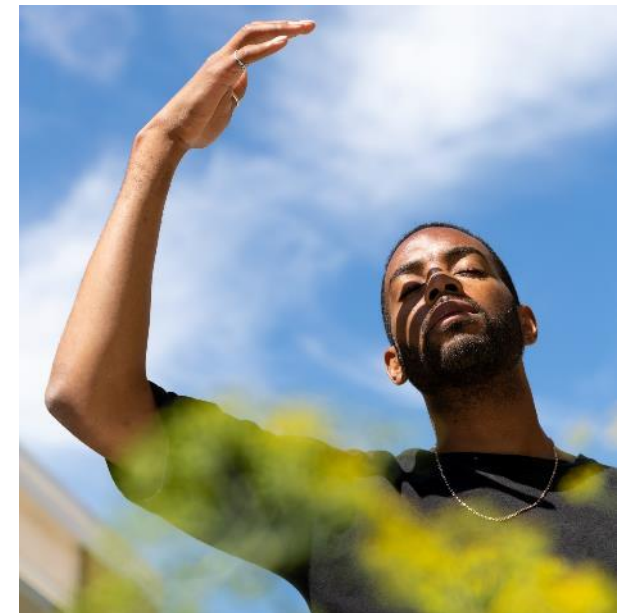
- *significant* increase in mild heat symptoms
- *notable* increase in heat illnesses, fainting episodes, hospitalisations, health services
- *likely* increase in biological risk (e.g. Aedes mosquito borne diseases, gastrointestinal disease), especially combined with rainfall extremes
- *exacerbation* of vulnerability in patients with chronic illness, children, pregnant women and the elderly

Occupational health:

- *significant* increase in exhaustion during intense outdoor activity
- *significantly* reduced labour performance and productivity if unprotected

Well-being:

- *significantly* increased sweating and water consumption
- snacking/binge eating leading to acute negative health impacts (hypertension, diabetes) and weight gain
- *increased* fatigue, irritability and aggression during prolonged heatwaves



Agriculture:

Guianas & Southern Caribbean: frequent heat impacts through October



Livestock:

- *increased* cooling and ventilation need to mitigate heat stress in small and large livestock
- *potential* stunted growth rate/dieback of chickens in broilers and egg production of layers
- *likely* reduced dairy production

Crop agriculture:

- *exacerbation* of any evolving drought increasing crop wilting
- *significantly* reduced productivity between 10 AM and 3 PM

Fisheries:

- *near-record* water temperatures potentially reducing catch of reef fish, die-off and migration of pelagic fish
- *significant* potential for mass coral reef bleaching

Forestry:

- *exacerbation* of any evolving drought conditions
- increased wildfire potential where fuel stock is dry



Tourism – Energy – Water:

Guianas & Southern Caribbean: frequent heat impacts through October

Tourism:

- **Heat adaptation** – significantly increased demand for AC and refrigeration and associated costs in hotels
- **Diving operations** – very high potential for mass coral reef bleaching, resulting in long-term reduction in demand

Energy:

- **Production** – reduced efficiency of power generation; potential increase in interruptions as a result of spikes in cooling demand
- **Demand and consumption** – significantly increased cooling need in households, hotels, restaurants

Water:

- **Quantity and quality** – recharge of water reservoirs along the wet season slowed down due to increased evapotranspiration; potential increase in algal blooms
- **Consumption** – likely increase in households, hotels and power utilities



DRM – Child Care & Education

Guianas & Southern Caribbean: frequent heat impacts through October



DRM:

- **Risk:** *potentially* increased mortality and increased need for cooling strategies immediately post disaster (e.g. intense heat after passage of tropical cyclone); increased wildfire potential (particularly where fuel stock is dry)
- **Operations:** *likely* reduced productivity of warehouse staff if unprotected

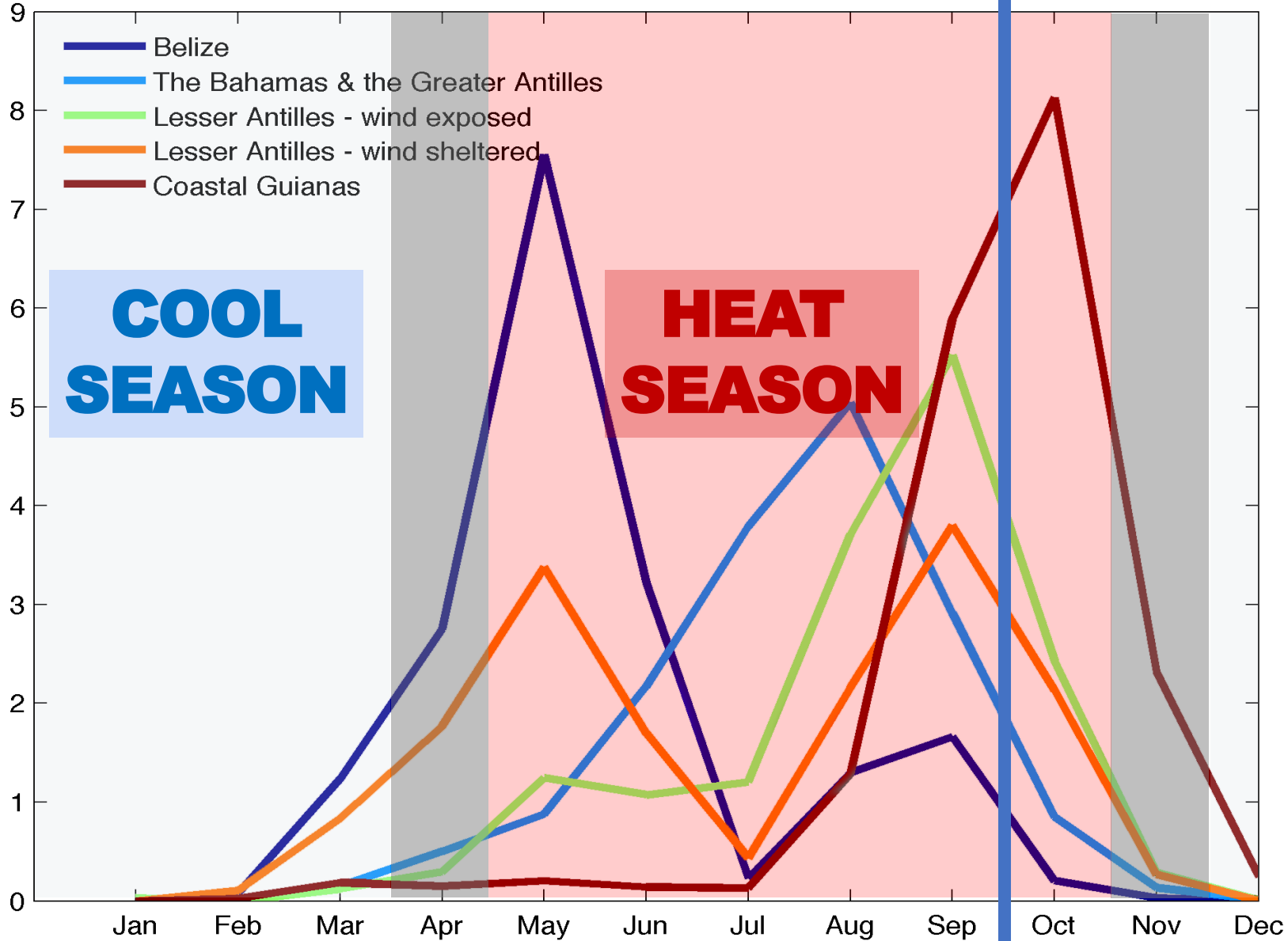


Childcare and education:

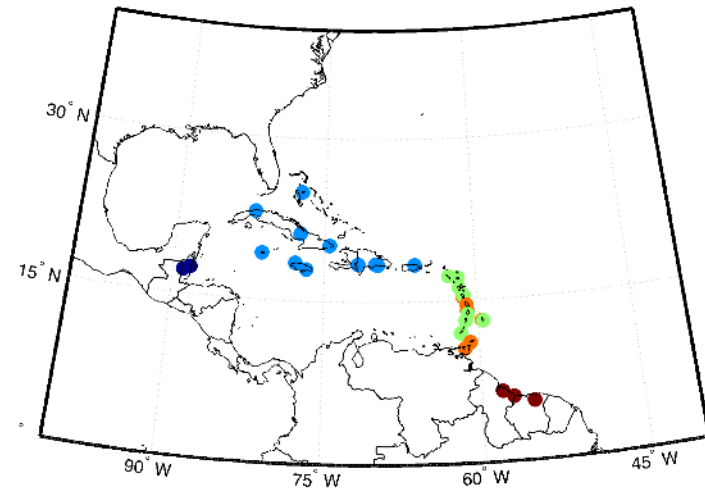
- **Learning:** *significantly* reduced productivity and reduced learning ability of students during the summer semester and at the start of the 2024-2025 school year
- **Child Protection:** *potential* increase in aggression during prolonged heatwaves

TODAY
(late-September)

**Number of days per month
spent in heatwaves**



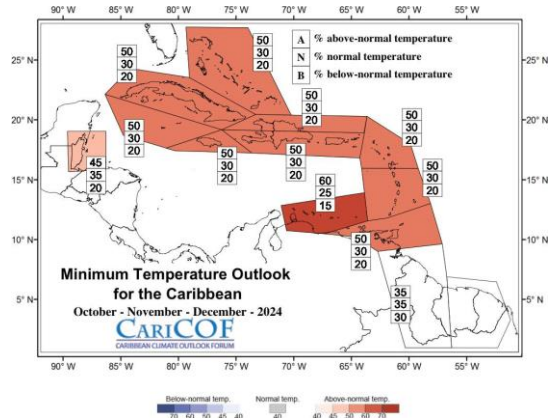
SUB-REGIONS



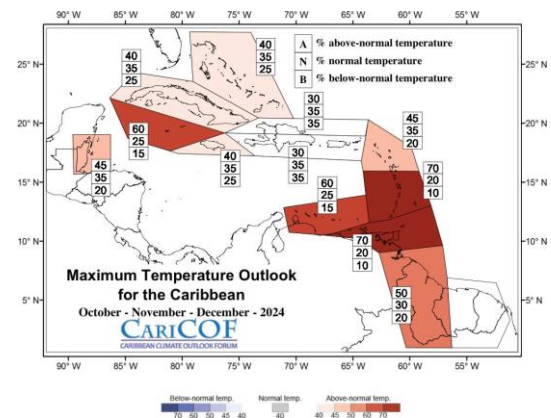
Overall, how hot will the next three to six months be?

Oct-Nov-Dec 2024

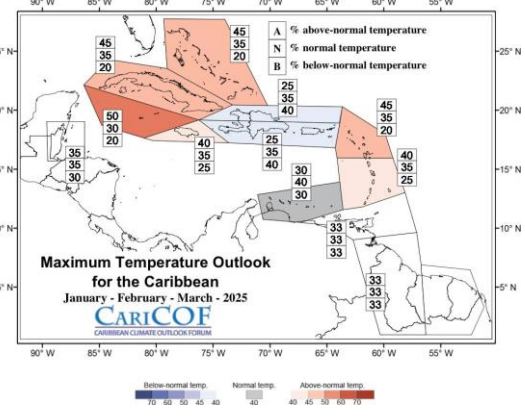
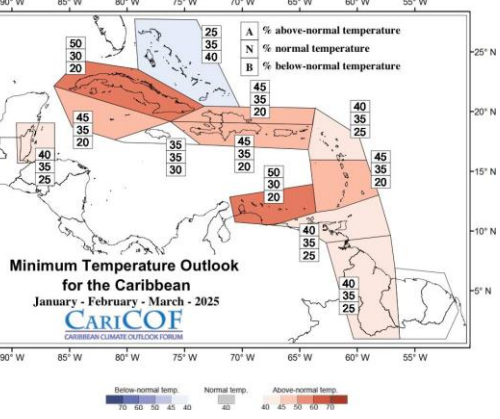
Night-time



Daytime



Jan-Feb-Mar 2025



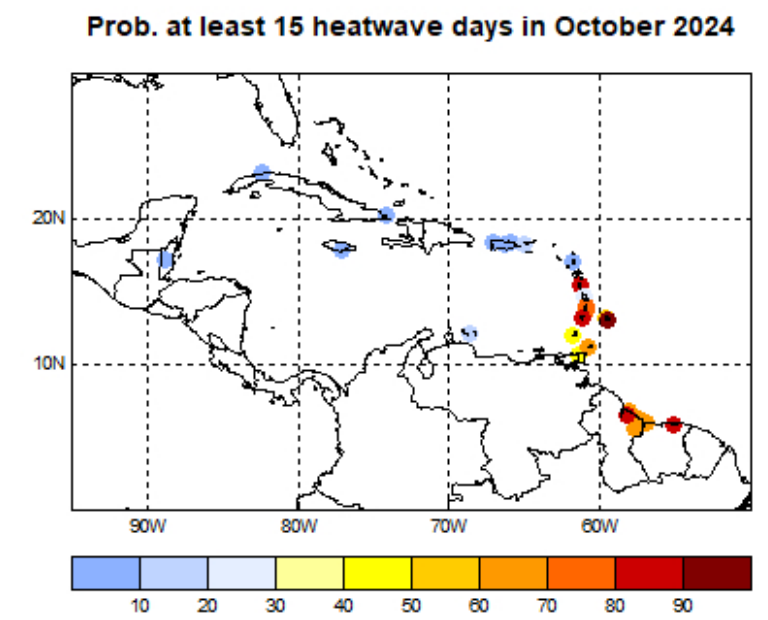
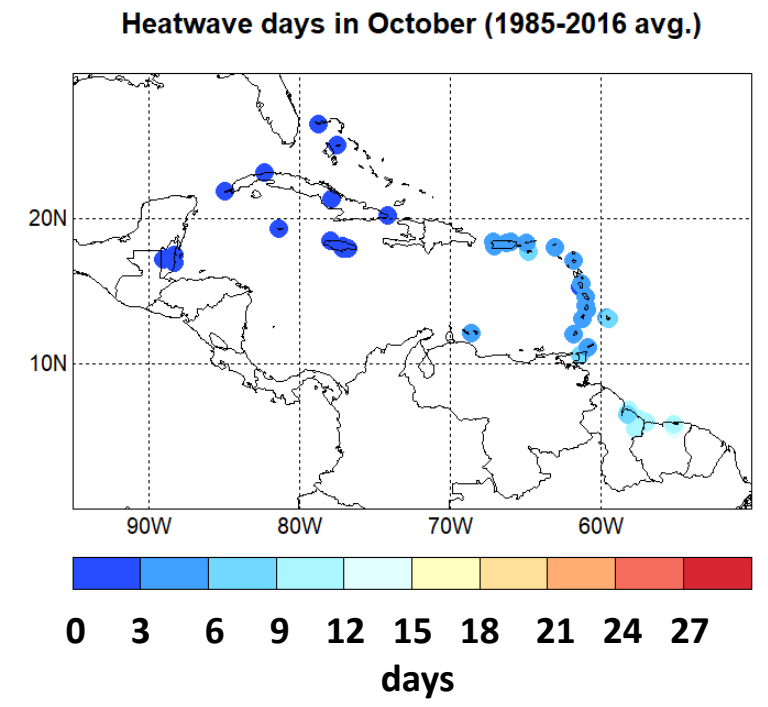
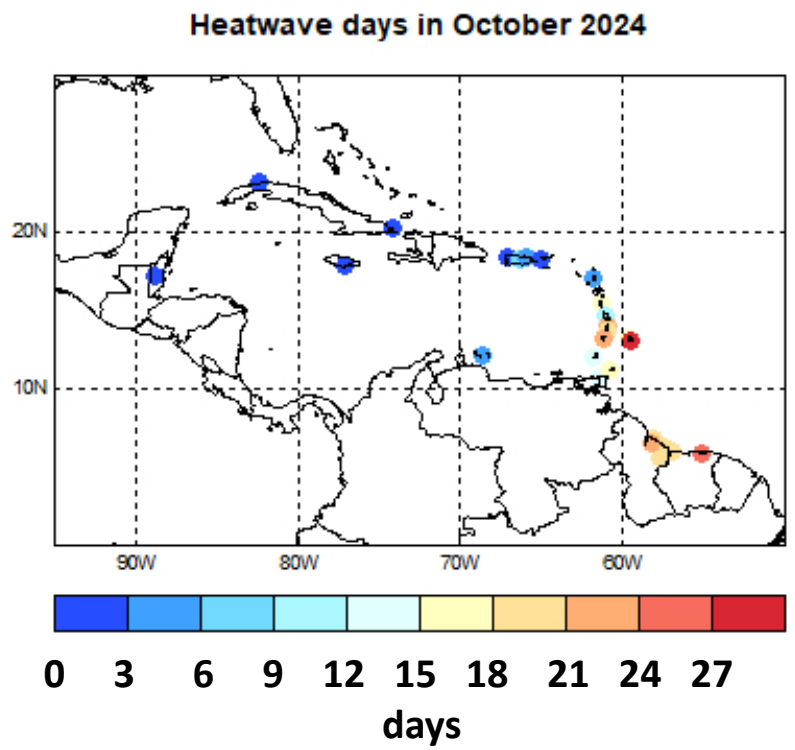
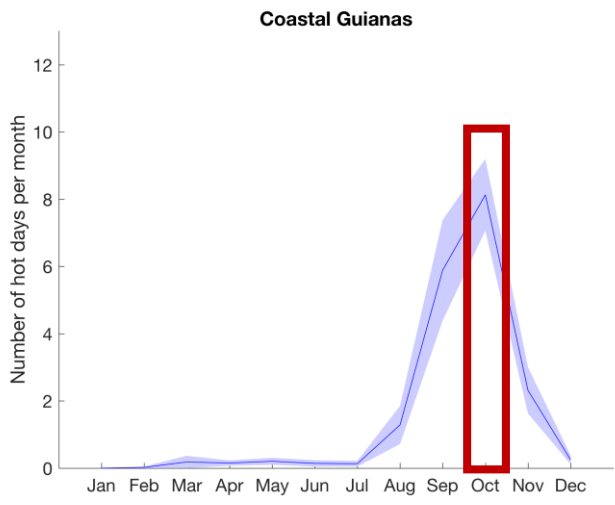
FORECAST

1. October (tail end of the Heat Season) to December (start of the Cool Season) in the Caribbean (incl. Guianas) is forecast to remain considerably hotter than usual, particularly during dry spells.
2. Intense, (near-)record night-time and daytime heat, with increasing humidity through October.
3. Episodes of excessive heat should be rare from December to March despite the possibly warmer than usual temperatures.

IMPLICATIONS

- Frequent, very likely intense (and persistent) episodes of heat stress in the vulnerable population & small livestock because of high temperature and increasing humidity.
- Cooling need may still reach record levels for October, particularly during dry spells.

How many heatwave days to expect for **October 2024** (peak of the heat season in the Guianas)?



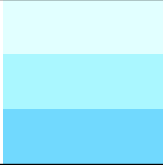




USUALLY: 8-14 heatwave days in coastal Guianas; 3-8 in ABC Is., Lesser Antilles and Puerto Rico; no more than 3 elsewhere.

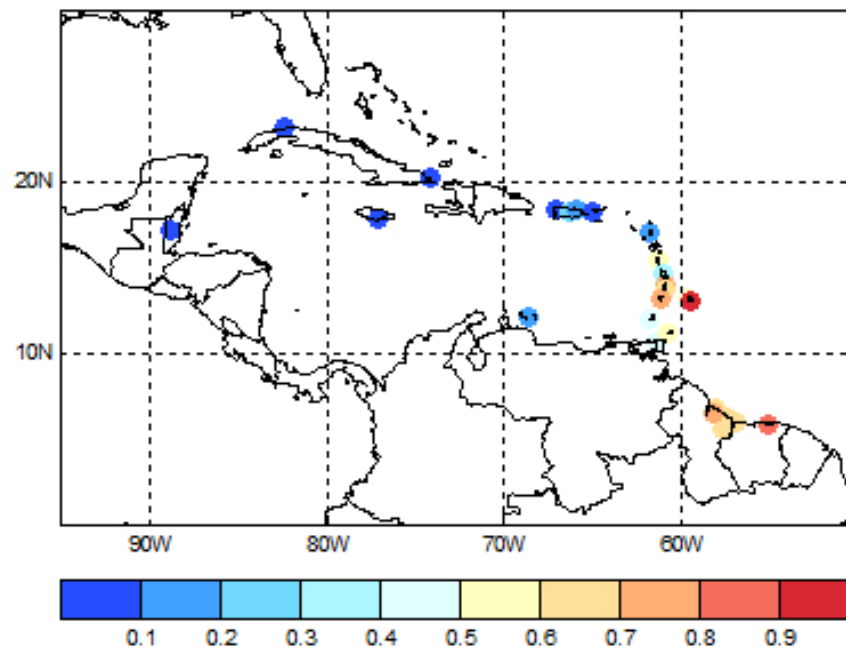
FORECAST: Strong increase in the number of heatwaves in Barbados, coastal Guianas, Trinidad & Tobago, and Windward Is.; *likely at least 15 heatwave days in Barbados, coastal Guianas, Tobago, and Windward Is.*

Heat impact potential* during October 2024?

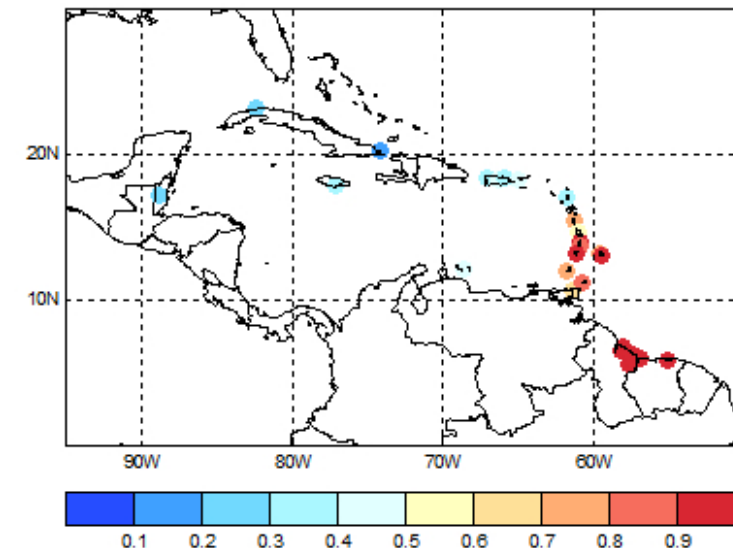
*heat impact potential = percentage of time spent in heatwaves during the forecast period

Heat impact potential	Colour codes	Percentage of time spent in heatwaves
EXTREMELY HIGH		>80%
HIGH		50-80%
MODERATE		20-50%
SLIGHT		10-20%
MARGINAL		0-10%

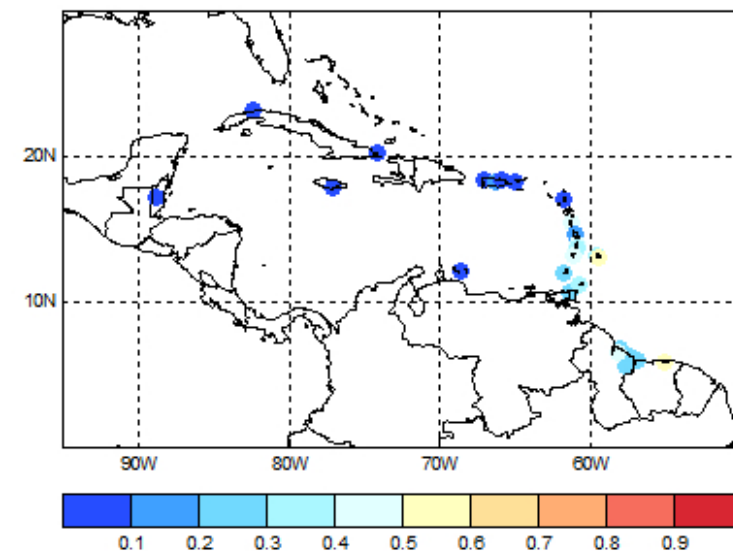
Heat impact potential - October 2024 (best estimate)



Heat impact potential - October 2024 (upper estimate)








Heat impact potential - October 2024 (lower estimate)

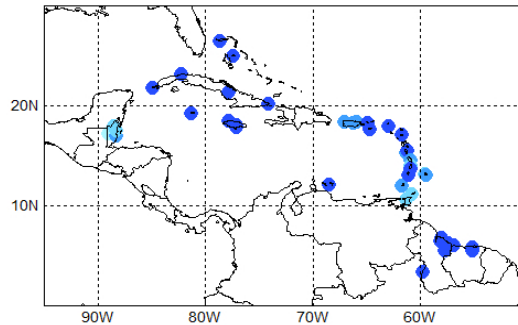


FORECAST: *High to extremely high potential in Barbados, Guianas, Trinidad & Tobago, Windward Is.; moderate potential in ABC Is., Cayman Is. (left centre map).*

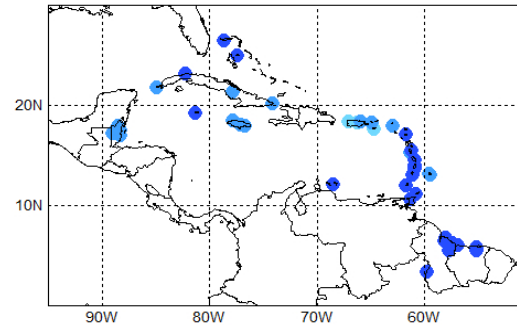
Historical monthly heat impact potential due to heatwaves during the heat season

Heat impact potential	Colour codes	Percentage of time spent in heatwaves
EXTREMELY HIGH		>80%
HIGH		50-80%
MODERATE		20-50%
SLIGHT		10-20%
MARGINAL		0-10%

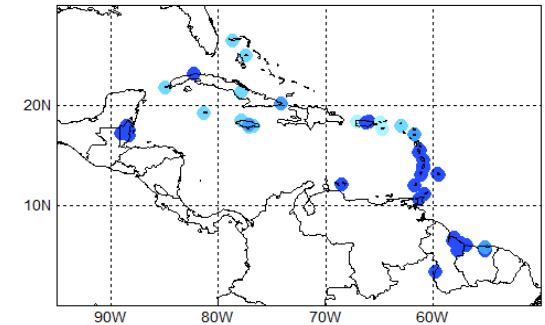
May



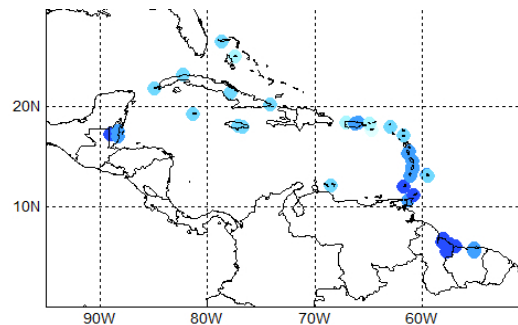
June



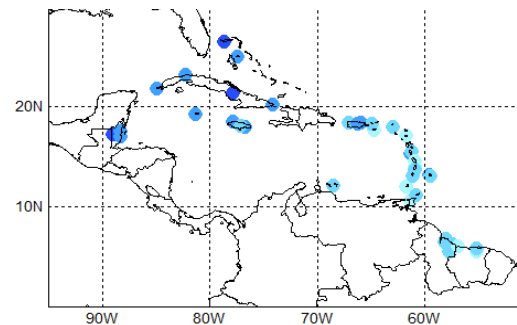
July



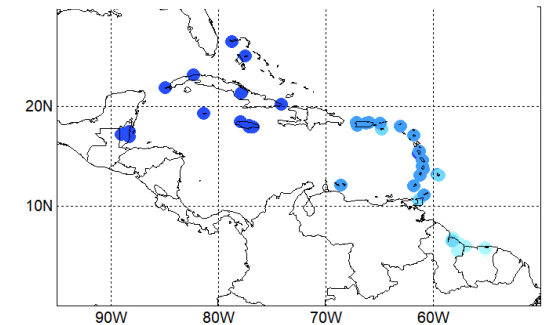
Aug



Sept



Oct



- May: Moderate potential in Belize; marginal to slight elsewhere.
- Jun.: Slight potential in Barbados and areas from St. Martin westwards; marginal elsewhere.
- Jul.: Slight to moderate potential in the Greater Antilles & Leeward Is.; marginal to slight elsewhere.
- Aug.: Moderate potential in Barbados & islands westwards of Guadeloupe; marginal elsewhere.
- Sep.: Moderate potential in the ABC Is., Lesser Antilles, Guianas; marginal to slight elsewhere.
- Oct.: Moderate potential in Barbados, the Guianas & St. Croix; marginal westwards of Hispaniola; slight elsewhere.



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Coordination: Caribbean Institute for Meteorology & Hydrology
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