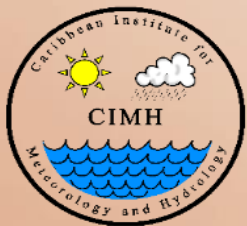


Heat Outlook for August 2024 to January 2025

Near-record heat causing significant heat stress can be expected until October (particularly in August and September)

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



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Health: Greater frequency of heat symptoms due to excessive heat, peaking in August & September (& October in the Guianas)

Public health:

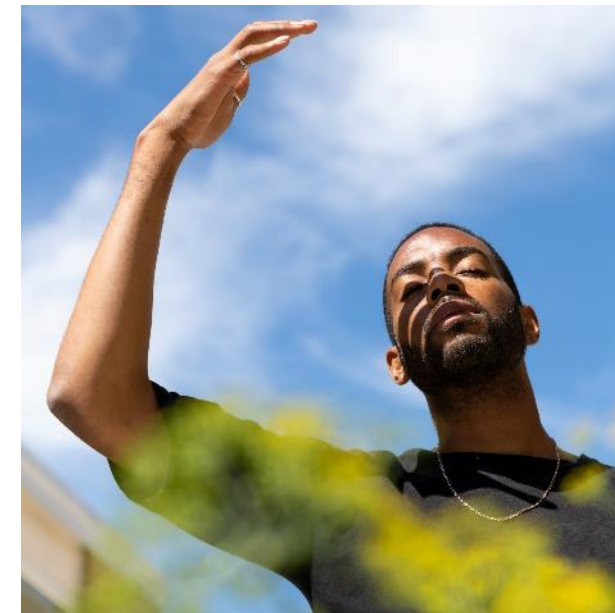
- *strong* increase in mild heat symptoms
- *significant* increase in heat illnesses, fainting episodes, hospitalisations, health services
- *likely* increase in biological risk (e.g. Aedes mosquito borne diseases, gastrointestinal disease)
- *exacerbation* of vulnerability in patients with chronic illness,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

Occupational health:

- *probable* 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:

Expect impacts from near-record heat, peaking in August to October

Livestock:

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

Crop agriculture:

- *exacerbation* of any evolving drought conditions leading to increased wilting
- *strongly* reduced productivity between 10 AM and 3 PM

Fisheries:

- *increased* 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:

Expect impacts from near-record heat, peaking in August & October

Tourism:

- *Heat adaptation* – significantly increased demand for AC and refrigeration and associated costs in hotels
- *Diving operations* – significant 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* – strongly 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

Expect impacts from near-record heat, peaking in August & 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 (where fuel stock is dry)
- *Operations: likely* reduced productivity of warehouse staff if unprotected

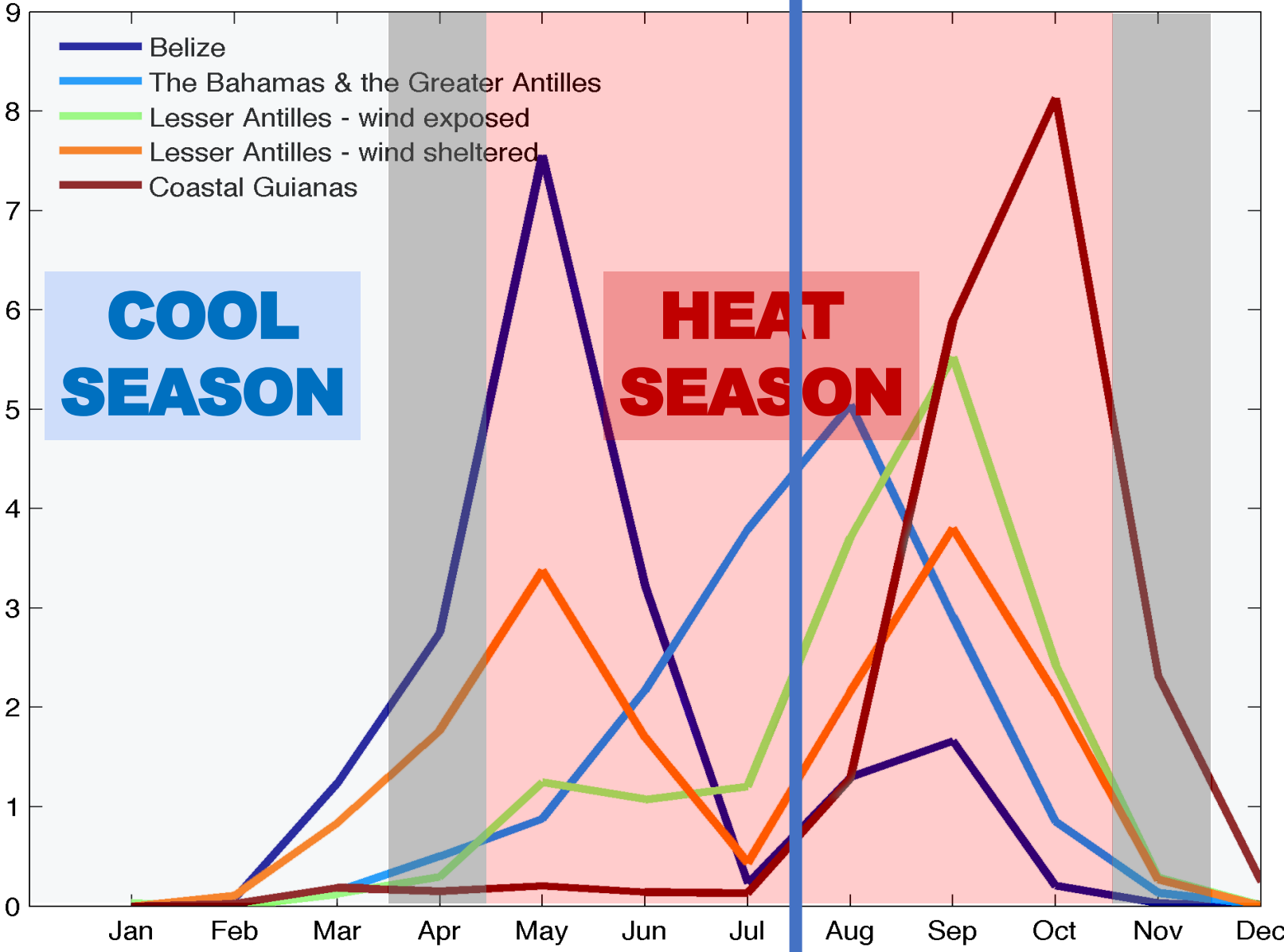


Child care and education:

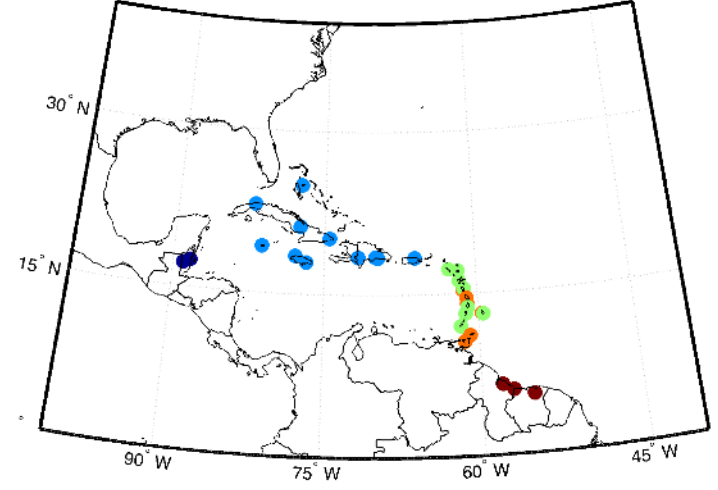
- *Learning: significantly* reduced productivity and reduced learning ability of students during the summer semester and at the start of the 2024-2025 school year
- *Child Protection: potential* increase in aggression during prolonged heatwaves

TODAY
(late-July)

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



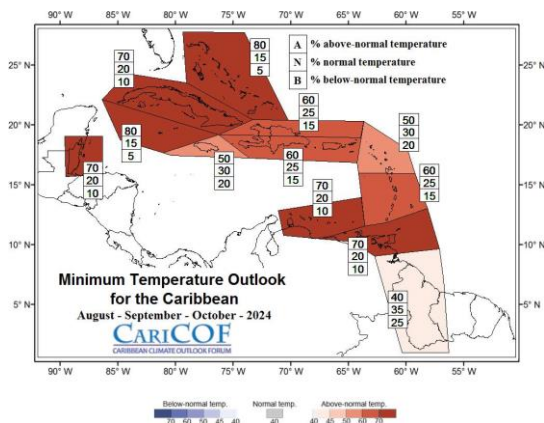
SUB-REGIONS



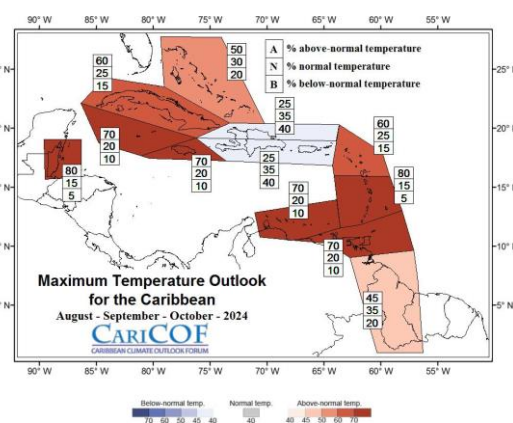
Overall, how hot will the next three to six months be?

Aug-Sep-Oct 2024

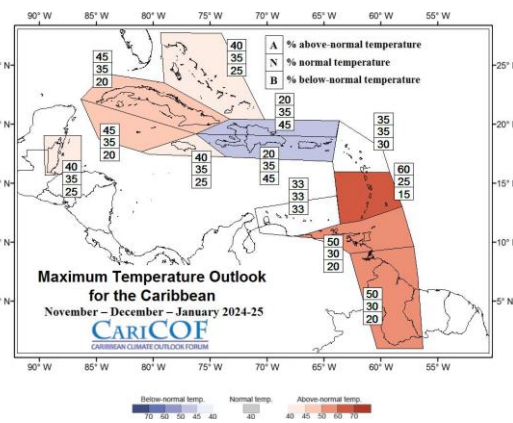
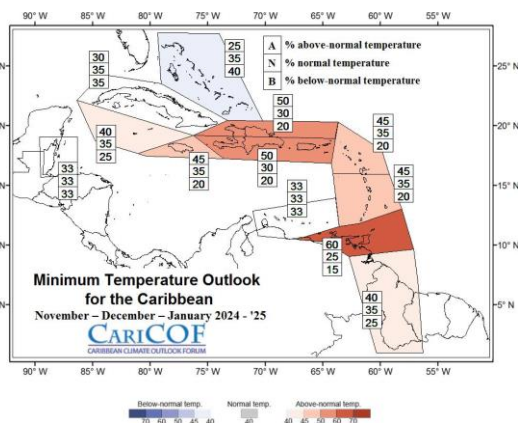
Night-time



Daytime



Nov-Dec-Jan 2024-25



← Milder Usual Hotter →

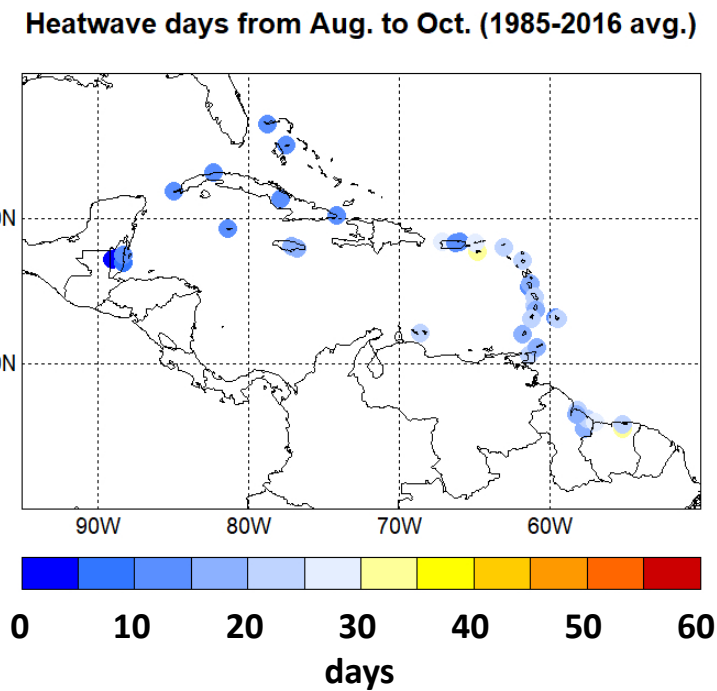
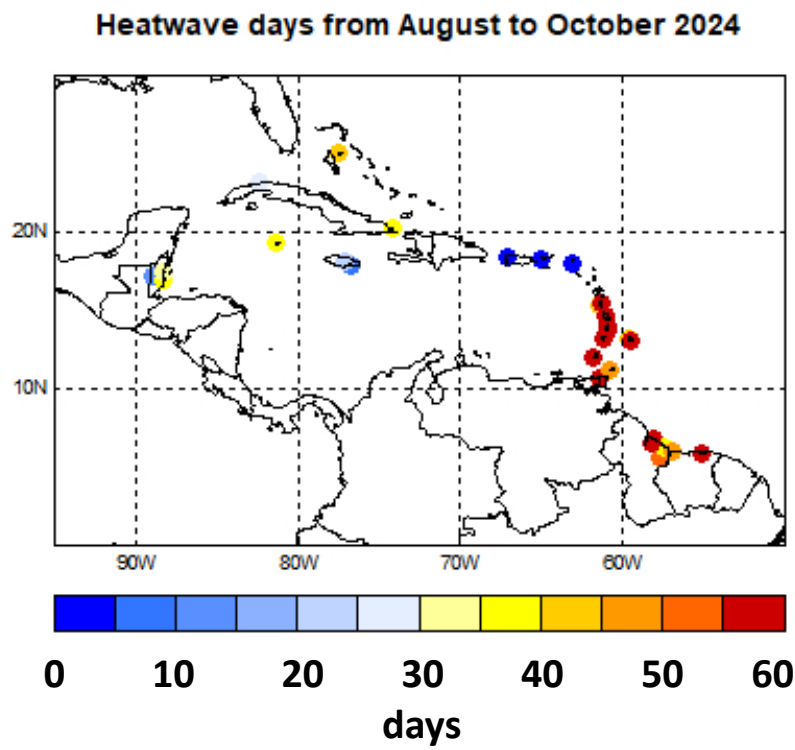
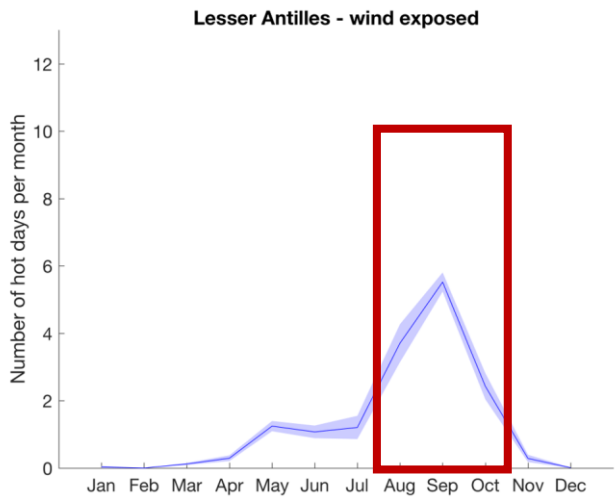
FORECAST

1. August to October, the peak of the Caribbean Heat Season in the Caribbean (incl. Guianas) is forecast to be considerably hotter than usual.
2. Intense, (near-)record night-time and daytime heat, with increasing humidity towards September.
3. Excessive heat should slowly decrease in November, transitioning into the Cool Season from December.

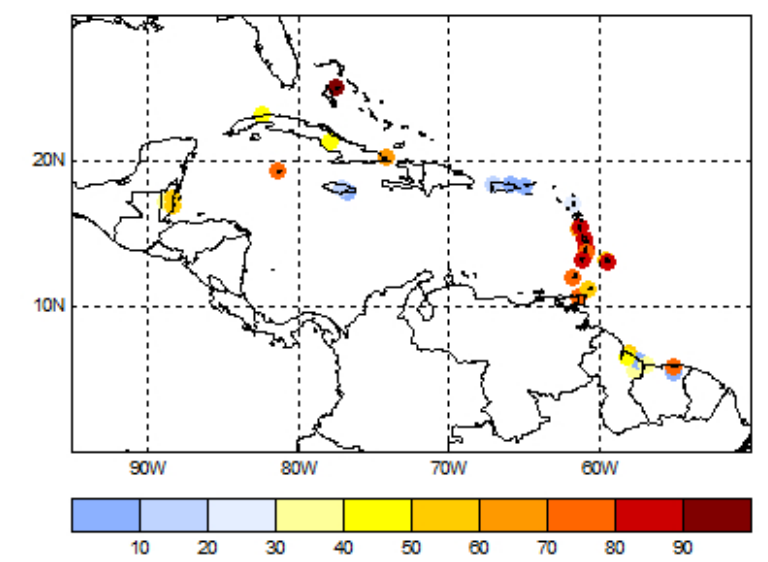
IMPLICATIONS

- 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 reach record levels.

How many heatwave days to expect for August to October 2024 (peak of the heat season in the Lesser Antilles)?



Prob. at least 30 heatwave days between Jul & Sep 2024



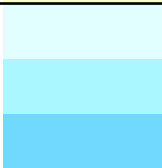
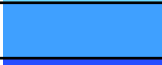



USUALLY: 15-30 heatwave days in Puerto Rico, coastal Guianas and the Lesser Antilles; 5-15 heatwave days elsewhere.

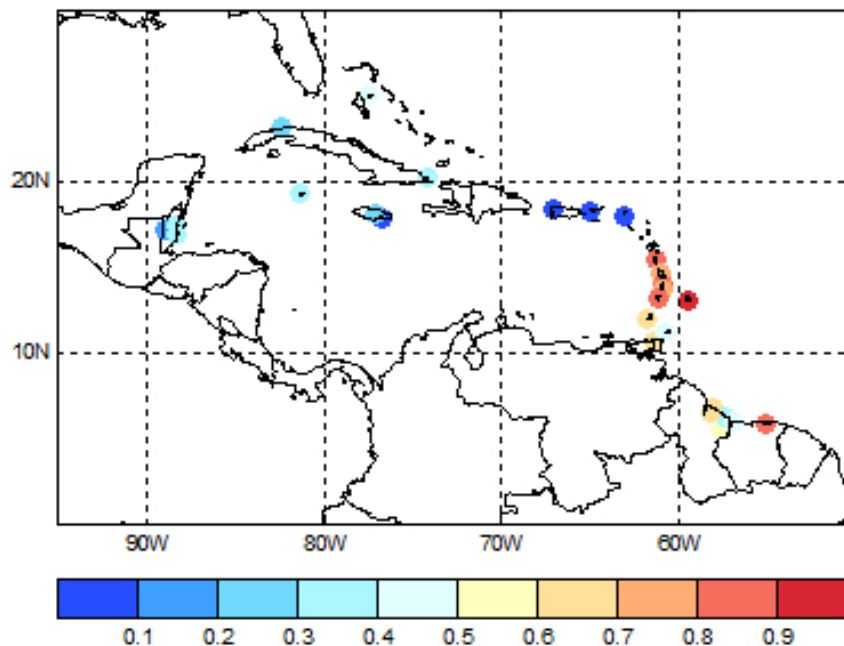
FORECAST: 50 or more heatwave days in Barbados, Guianas, Trinidad & Tobago; 25-50 heatwave days in The Bahamas, Belize, the Greater Antilles; **likely at least 30 heatwave days in The Bahamas, some areas in the Greater Antilles, Lesser Antilles, Suriname.**

Heat impact potential* during Aug-Sep-Oct 2024?

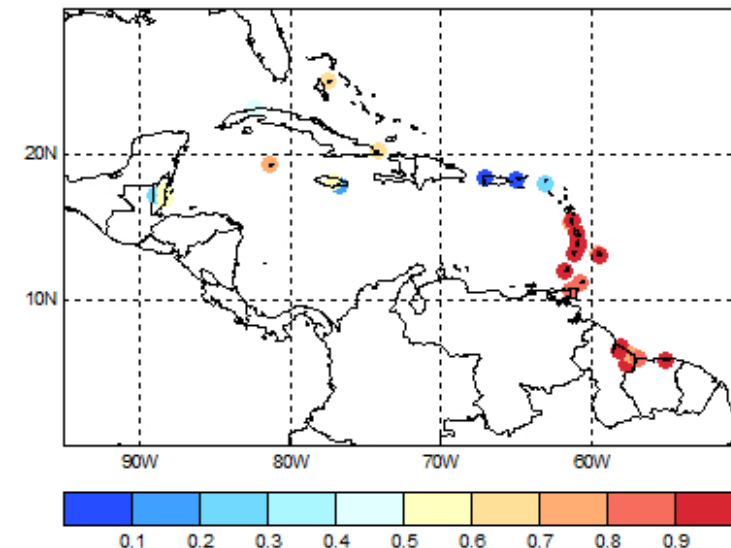
*heat impact potential = percentage of time spent in heatwaves during ASO 2024

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%

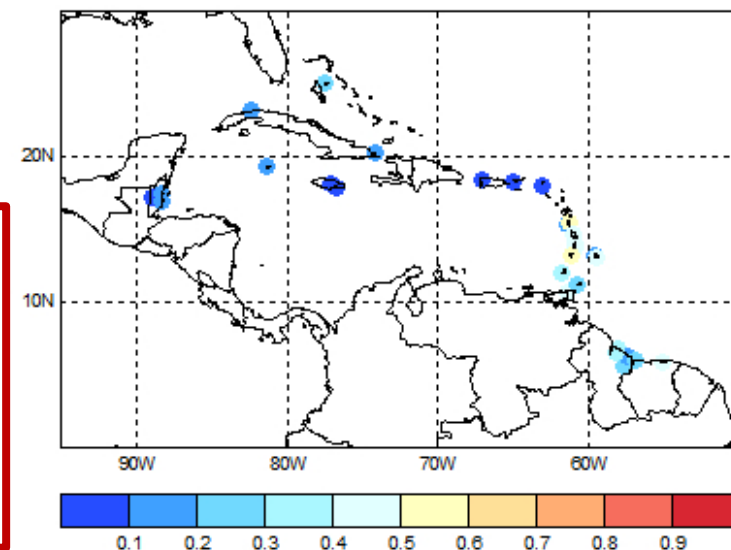
Heat impact potential - Aug. to Oct. 2024



Heat impact potential - Aug. to Oct. 2024 (upper)








Heat impact potential - Aug. to Oct. 2024 (lower)

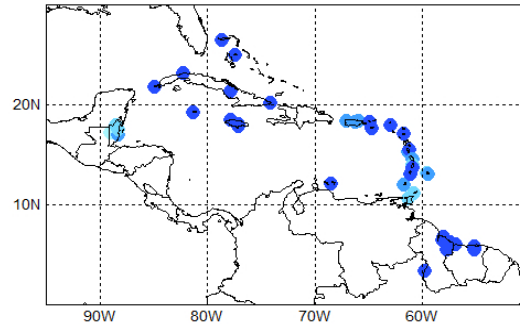


FORECAST: High to extremely high potential in Barbados, Guianas, Trinidad, Windward Is.; moderate potential in ABC Is., Northwestern Bahamas, Belize, Cayman Is., Cuba, Tobago (*left centre map*); **high potential further possible in Northwestern Bahamas, Belize, Greater Antilles, Tobago (*top right map*).**

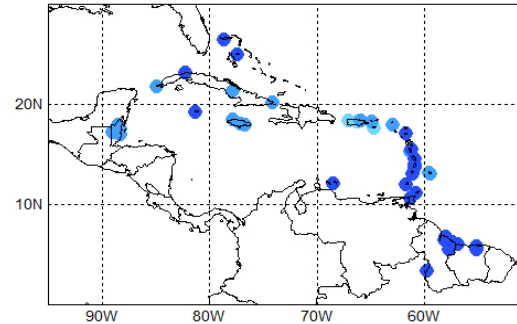
Historical monthly heat impact potential due to heatwaves during the heat season

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%

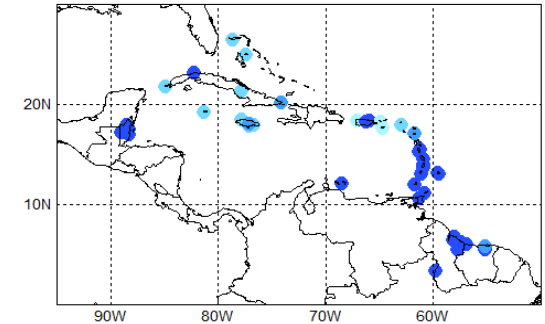
May



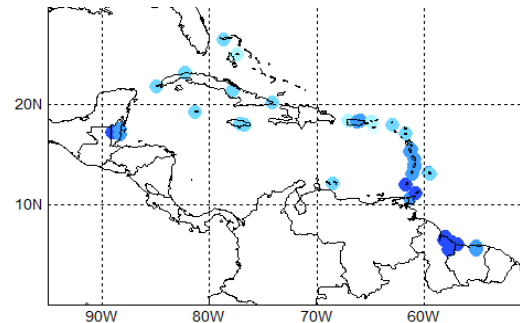
June



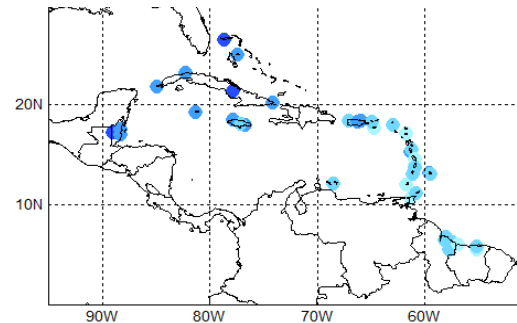
July



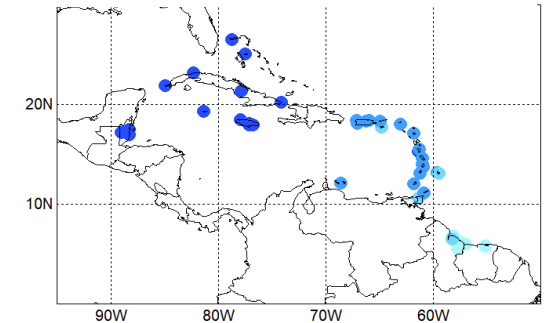
Aug



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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experimental and operational products
are available at
rcc.cimh.edu.bb**

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