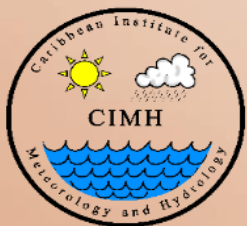


Heat Outlook for June to November 2024

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

Public health:

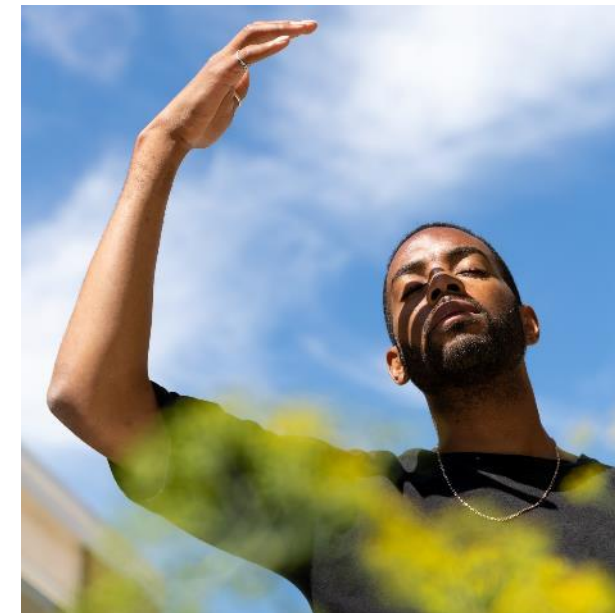
- *strong* increase in mild heat symptoms
- *significant* increase in heat illnesses, fainting episodes, hospitalisations, health services
- *likely* increase in biological risk (e.g. Aedes mosquito borne diseases, gastrointestinal disease)
- *exacerbation* of vulnerability in patients with chronic illness,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

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 & September



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

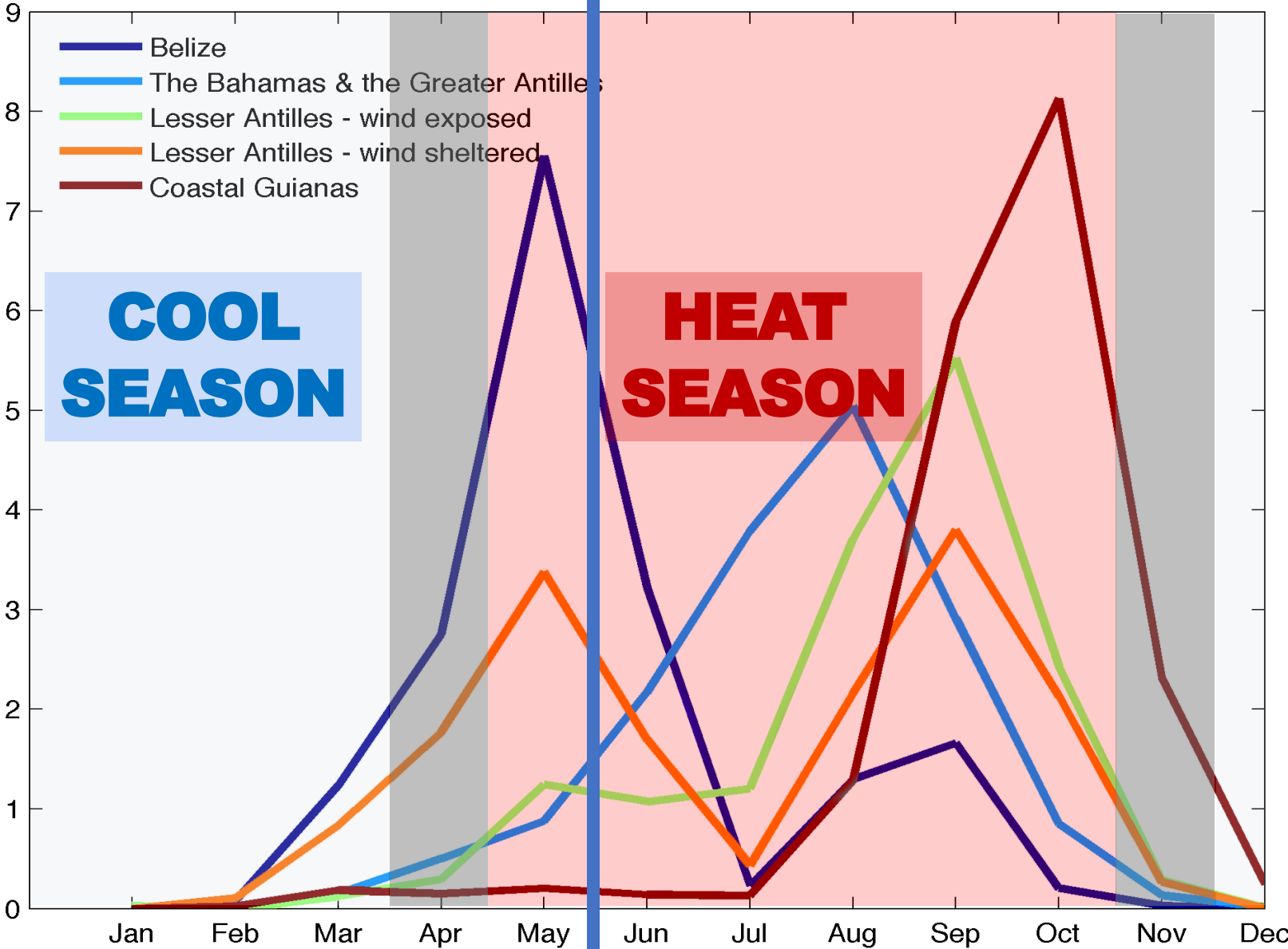


Child care and education:

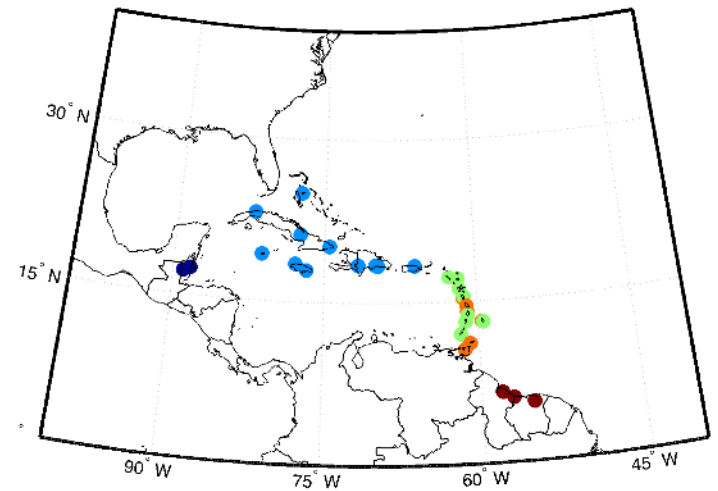
- *Learning: significantly* reduced productivity and reduced learning ability of students during the summer semester and at the start of the 2024-2025 school year
- *Child Protection: potential* increase in aggression during prolonged heatwaves

TODAY
(late-May)

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



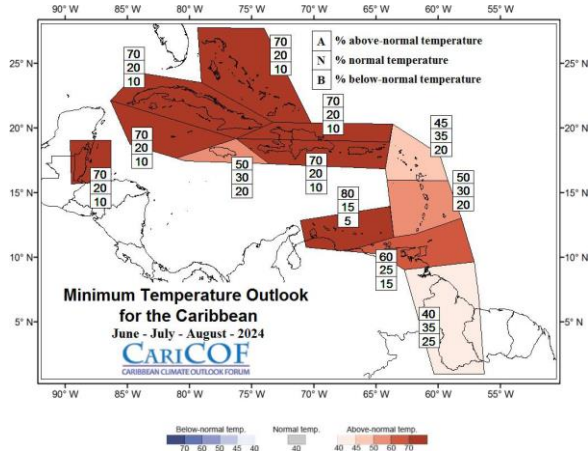
SUB-REGIONS



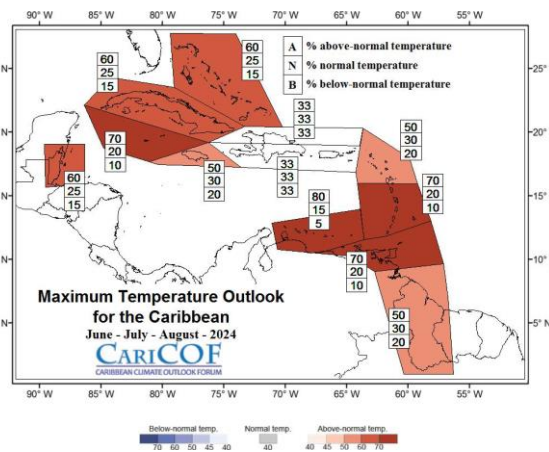
Overall, how hot will the next three to six months be?

Jun-Jul-Aug 2024

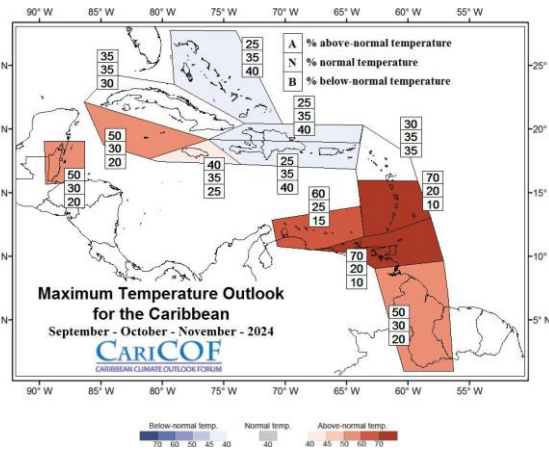
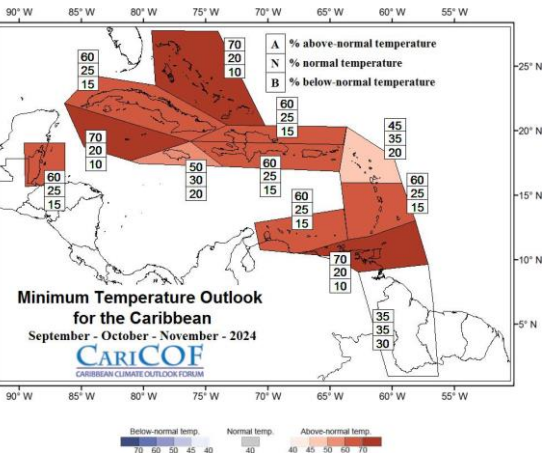
Night-time



Daytime



Sep-Oct-Nov 2024



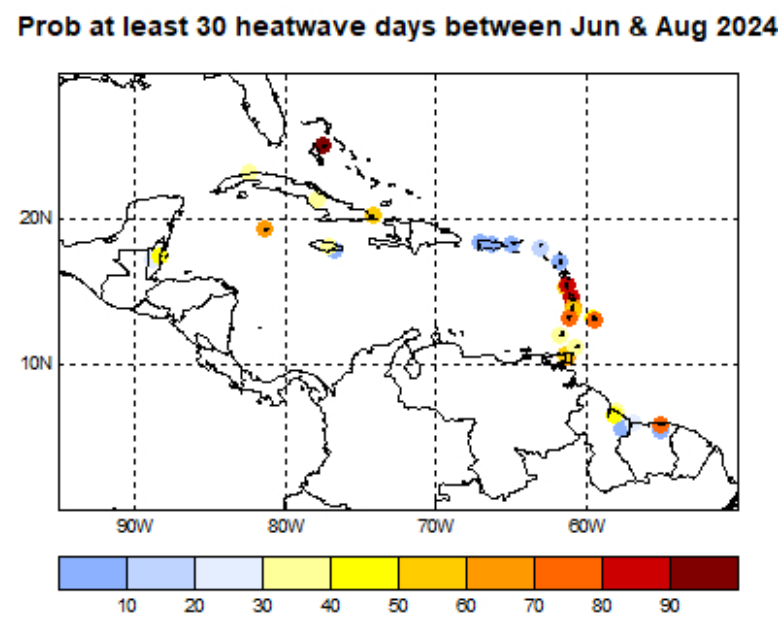
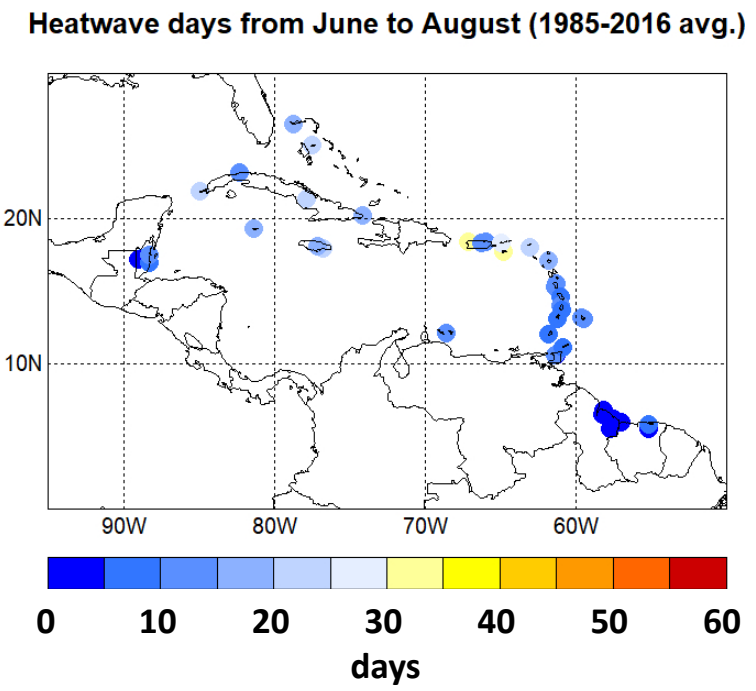
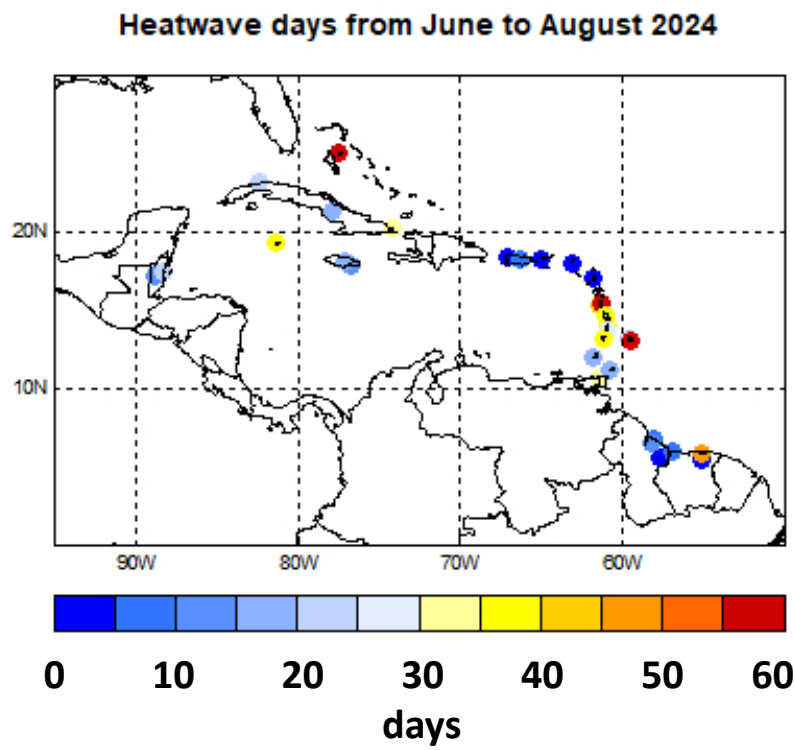
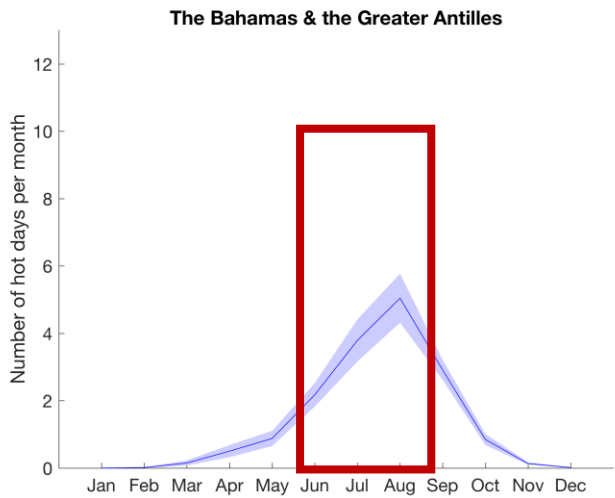
FORECAST

1. June to August, marking the middle part of the Caribbean Heat Season in the Caribbean Islands and Belize is forecast to be noticeably hotter than usual.
2. Intense, (near-)record night-time and daytime heat with increasing humidity from June to September.

IMPLICATIONS

- Frequent, very likely intense (and persistent) episodes of heat stress in the vulnerable population & small livestock because of high temperature and increasing humidity through September.
- Cooling need rising faster than in most other years, peaking in August and September.

How many heatwave days to expect for June to August 2024?


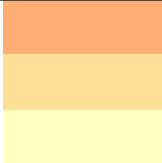





USUALLY 25-30 heatwave days in the USVI; 15-20 in The Bahamas, across the Greater Antilles; 5-10 in Belize, wind-sheltered areas of the Lesser Antilles; no more than 5 elsewhere.

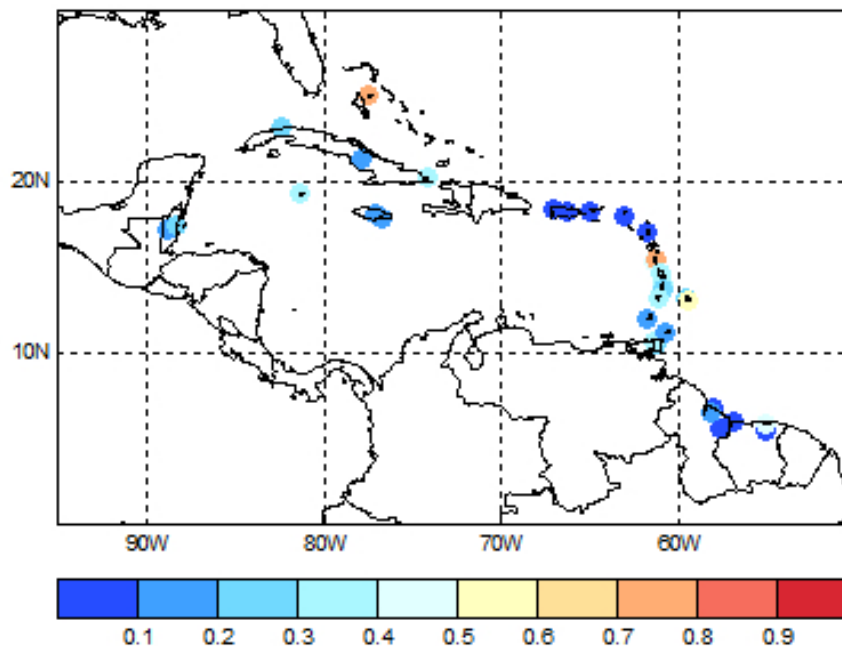
FORECAST: 50 or more heatwave days in The Bahamas, Barbados, Dominica, 20-40 heatwave days in Belize, Greater Antilles, Trinidad & Tobago and wind-sheltered areas of the Windward Islands; **likely at least 30 heatwave days in The Bahamas, Barbados, Belize, Greater Antilles**

Heat impact potential* during Jun-Jul-Aug 2024?

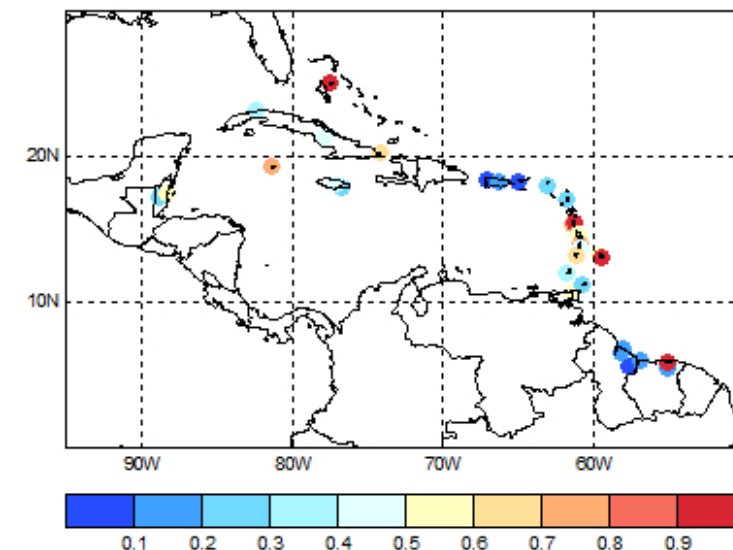
*heat impact potential = percentage of time spent in heatwaves during JJA 2024

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%

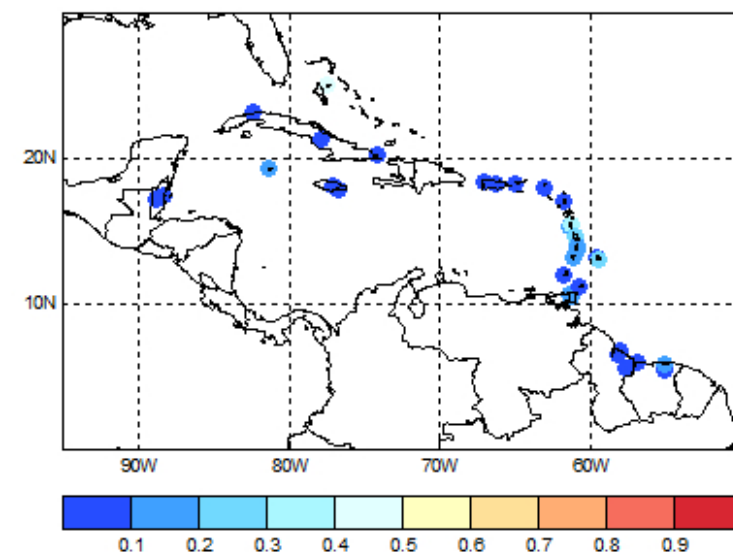
Heat Impact Potential - June to August 2024



Heat Impact Potential - June to August 2024 (upper)








Heat Impact Potential - June to August 2024 (lower)

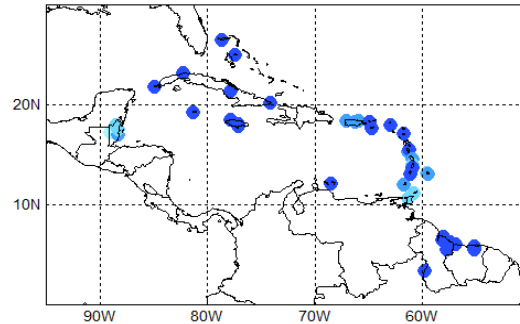


FORECAST: High potential in The Bahamas, Barbados, Dominica; moderate potential in Cayman Is., Cuba, parts of Suriname, Trinidad, Windward Is. (*left centre map*);
Extremely high potential possible in The Bahamas, Barbados, Dominica (*top right map*).

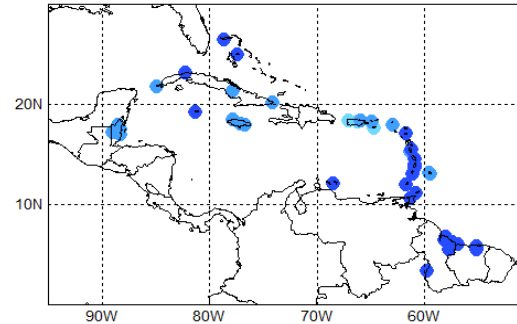
Historical monthly heat impact potential due to heatwaves during the heat season

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%

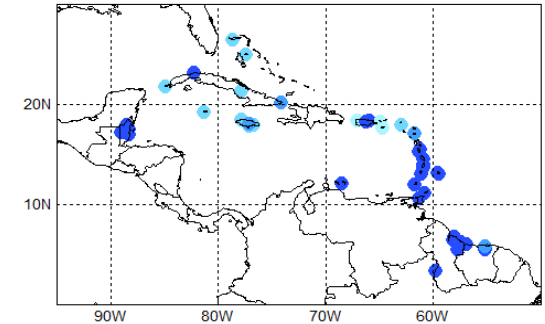
May



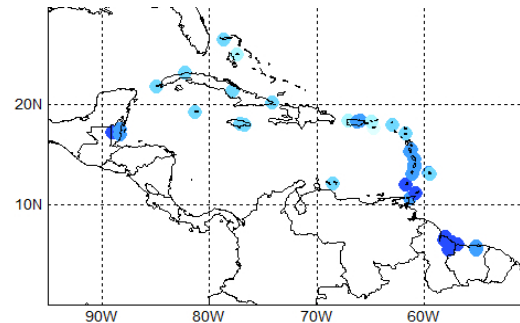
June



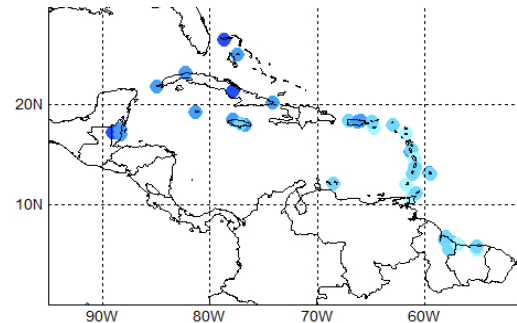
July



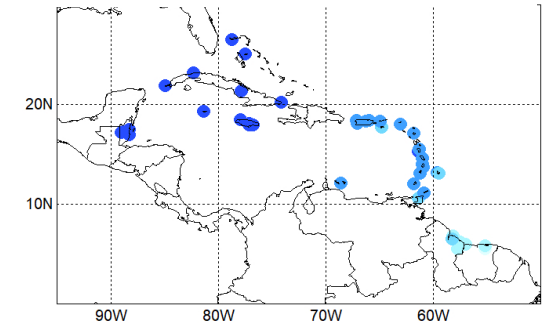
Aug



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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**Regional climate data, information, tools,
experimental and operational products
are available at
rcc.cimh.edu.bb**

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