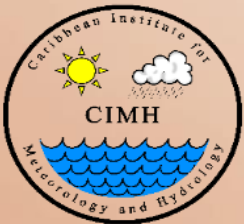


Heat Outlook for April to September 2023

Excessive heat can be expected, especially 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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CARICOF
CARIBBEAN CLIMATE OUTLOOK FORUM

Health: Greater frequency of mild heat symptoms due to excessive heat, particularly towards August & September

Public health:

- strong increase in mild heat symptoms
- increase in heat illnesses, fainting episodes, hospitalisations, health services
- potential 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

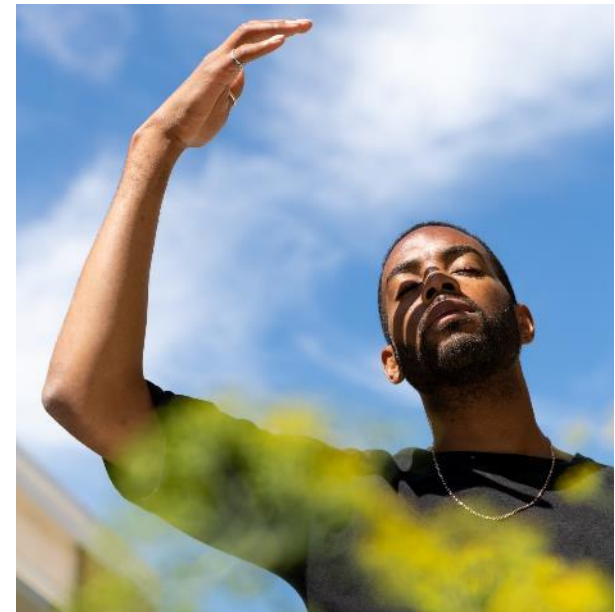


Occupational health:

- potential increase in exhaustion during intense outdoor activity
- reduced labour productivity

Well-being:

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



Agriculture:

Expect impacts from excessive heat from July to September

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
- reduced dairy production

Crop agriculture:

- exacerbation of drought conditions leading to increased wilting
- 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

Forestry:

- exacerbation of any drought conditions
- increased wildfire potential if fuel stock is dry



Tourism – Energy – Water:

Expect impacts from excessive heat, particularly in August & September

Tourism:

- *Heat adaptation* – Increased demand for AC and refrigeration and associated costs in hotels
- *Diving operations* – Potential 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* – increased cooling need in households, hotels, restaurants

Water:

- *Quantity and quality* – water reservoir levels potentially decreasing due to increased evapotranspiration; potential increase in algal blooms
- *Consumption* – potential increase in households, hotels and power utilities



DRM – Child Care & Education

Expect impacts from excessive heat, particularly in August & September



DRM:

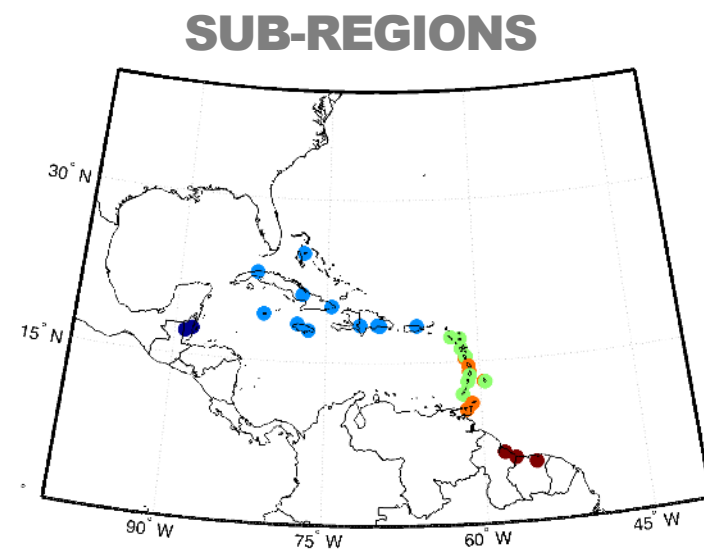
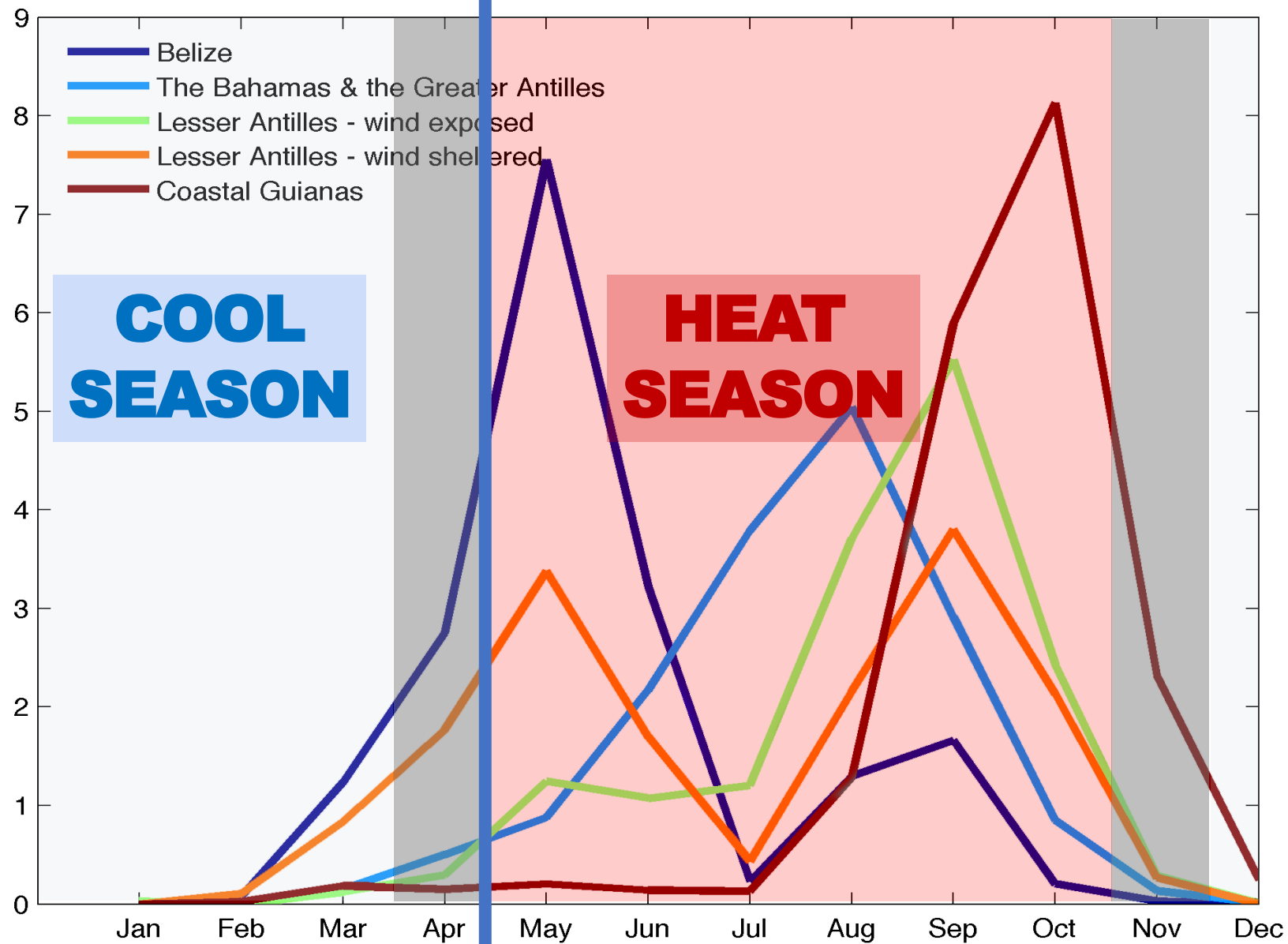
- *Risk*: potentially increased mortality and increased need for cooling strategies immediately post disaster (e.g. intense heat after passage of tropical cyclone); increased wildfire potential (if fuel stock is dry)
- *Operations*: reduced productivity of warehouse staff



Child care and education:

- *Learning*: potentially reduced productivity and reduced learning ability of students at the start of the 2023-2024 school year
- *Child Protection*: potential increase in aggression during prolonged heatwaves

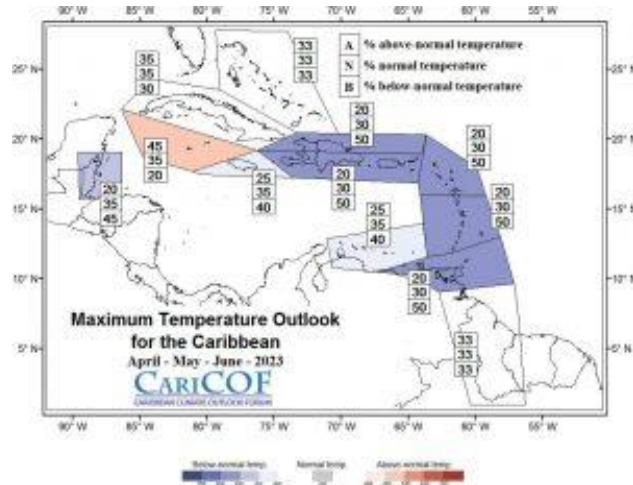
Number of days per month
spent in heatwaves



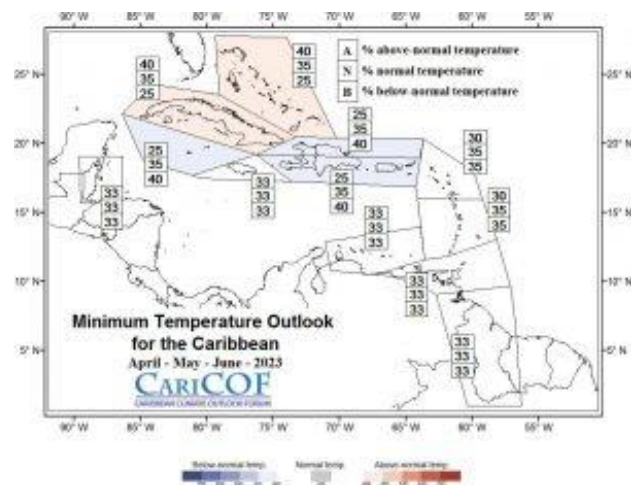
Overall, how hot will the next three to six months be?

Apr-May-Jun 2023

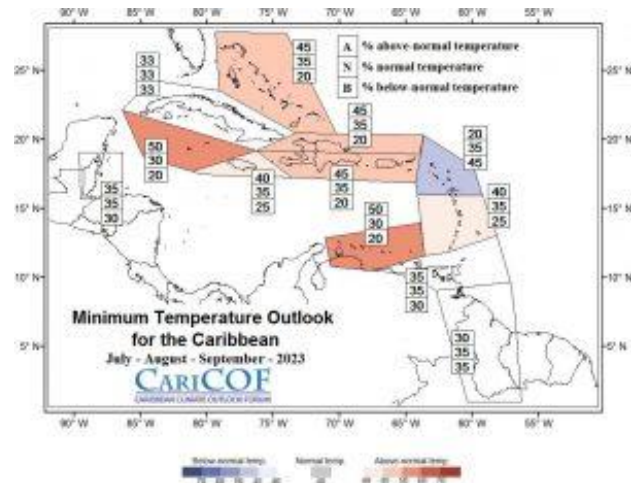
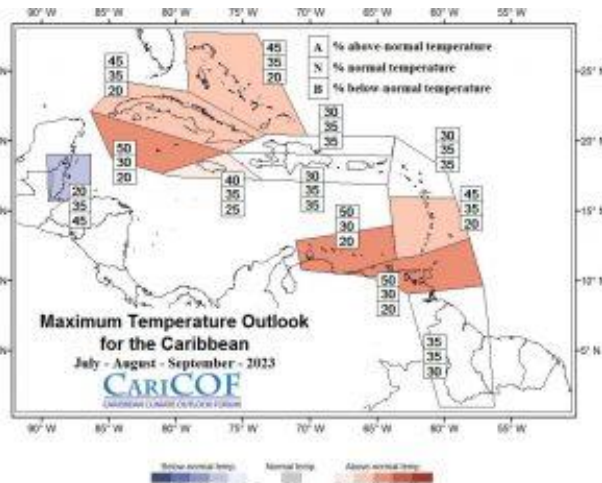
Day time



Night time



Jul-Aug-Sep 2023



← Milder Usual Hotter →

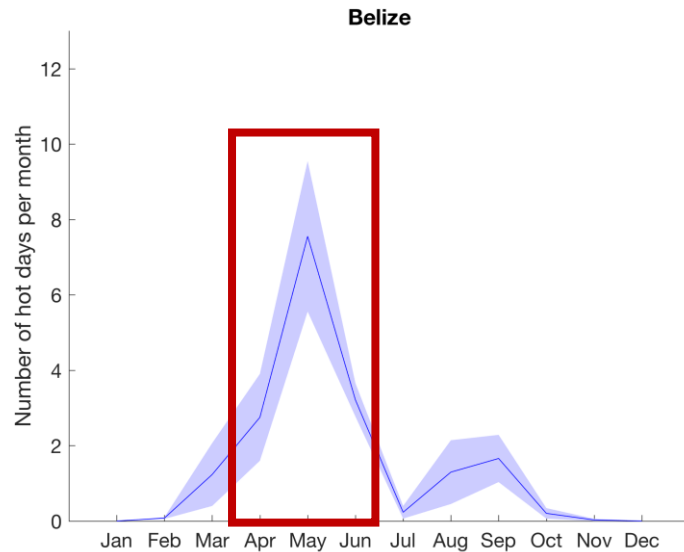
FORECAST

1. April to June, marking the first part of the Caribbean Heat Season (April/May to October), should not be hotter than usual.
2. Intense night-time and daytime heat is expected in much of the Caribbean from July to September, marking the peak of the Heat Season.

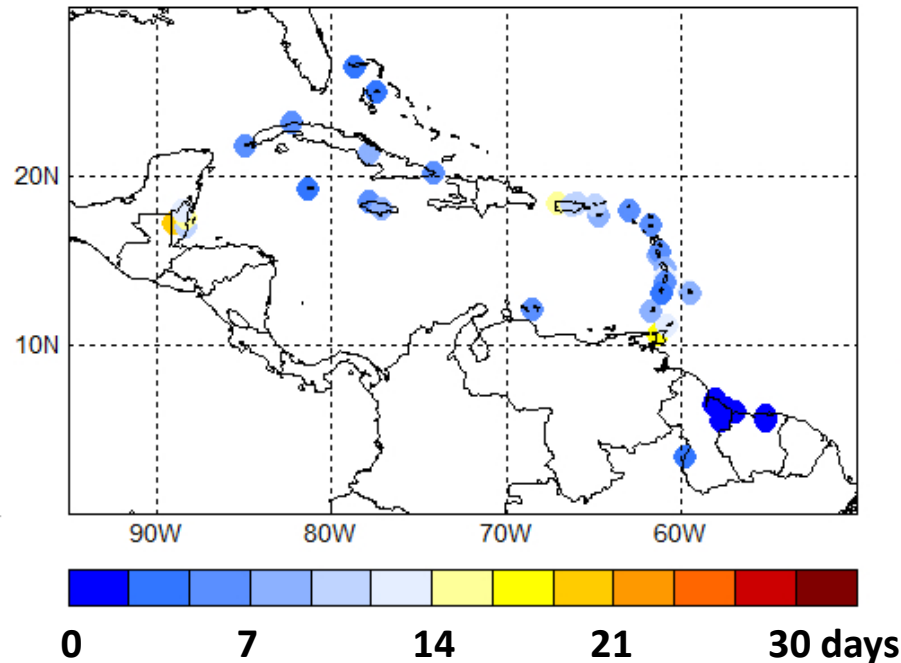
IMPLICATIONS

- Increasing heat stress in the vulnerable population & small livestock because of high temperature and increasing humidity from May through September.
- Cooling need rising sharply towards August and September.

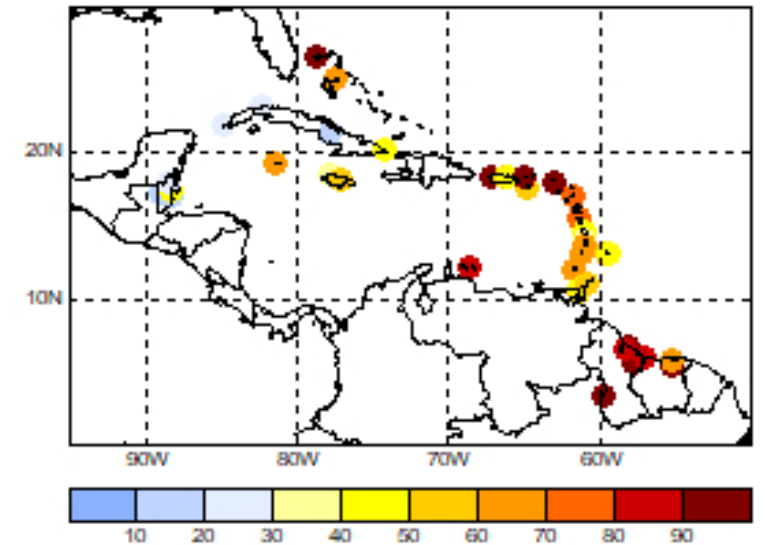
How many heatwave days to expect for **April to June 2023**, i.e. the peak of the heat season in Belize?



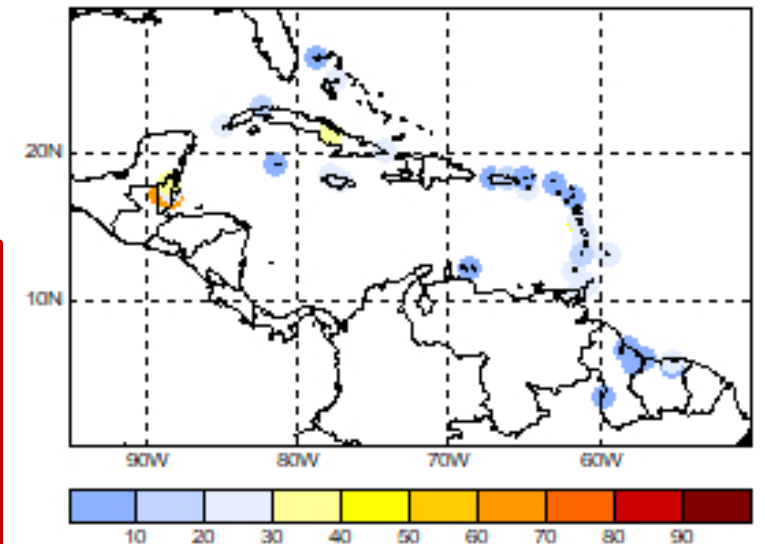
Heatwave days between Apr. & Jun. (1985-2016 avg.)



Prob. no more than 5 heatwave days in AMJ 2023



Prob. at least 15 heatwave days in AMJ 2023



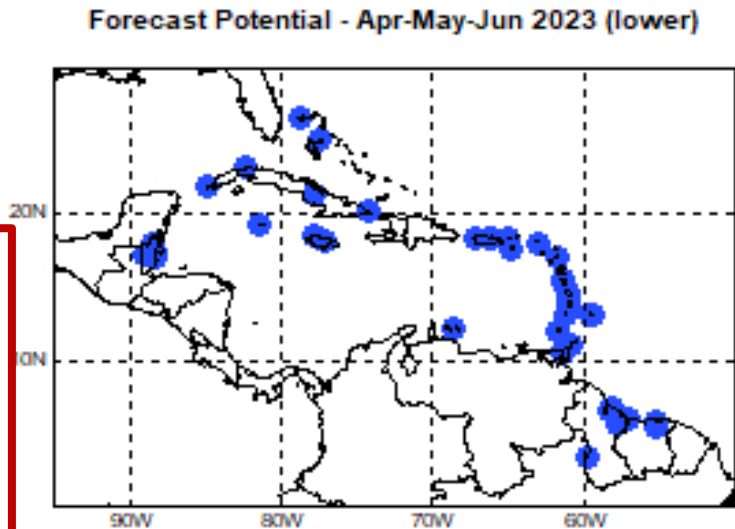
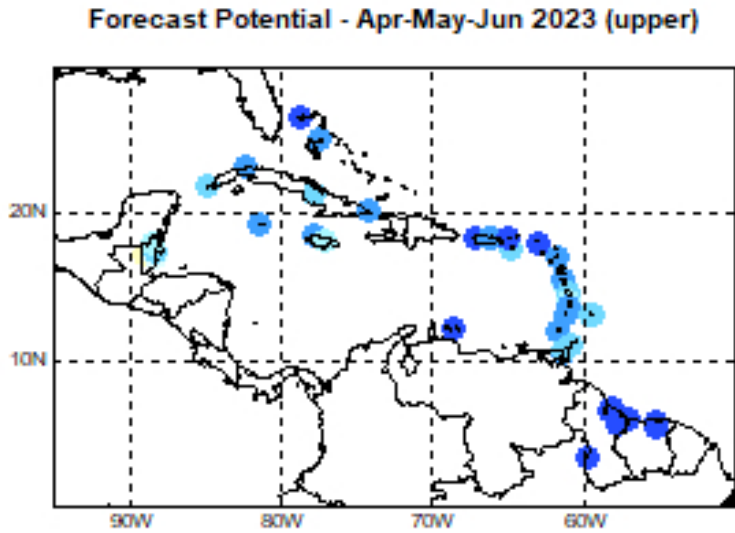
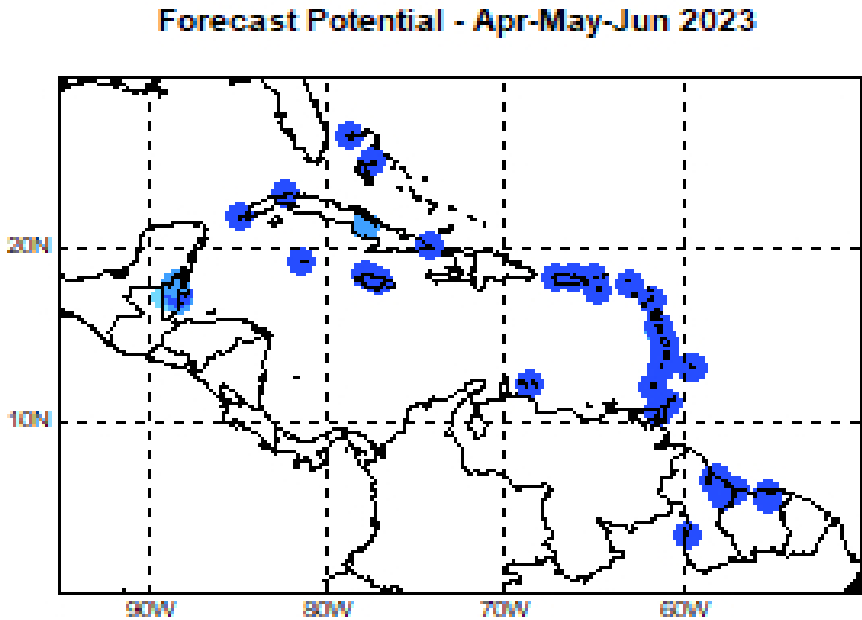
USUALLY: 10-15 heatwave days in Belize, parts of Cuba, Puerto Rico, Trinidad and USVI; 5-10 in wind-sheltered areas of the Lesser Antilles; no more than 5 elsewhere.

FORECAST: The usual number of heatwave days or less, except in Belize and Central Cuba, where at least 15 heatwave days may occur.

Heat impact potential during Apr-May-Jun 2023?

(i.e., percentage of time spent in heatwaves during AMJ 2023)















Relative risk	Colour codes	Percentage of time spent in heatwaves
EXTREMELY HIGH	<div><div></div><div></div></div>	>80%
HIGH	<div><div></div><div></div><div></div></div>	50-80%
MODERATE	<div><div></div><div></div><div></div></div>	20-50%
SLIGHT	<div><div></div><div></div></div>	10-20%
MARGINAL	<div><div></div></div>	0-10%



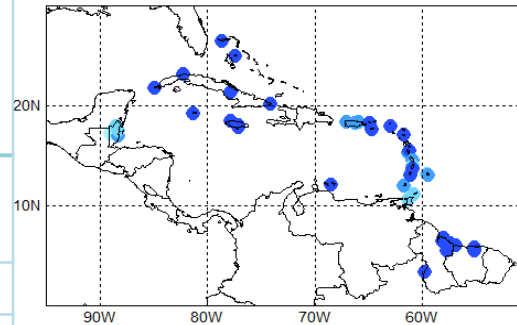
USUALLY: Slight potential in Belize, Puerto Rico, St. Croix and Trinidad & Tobago; marginal potential elsewhere.

FORECAST: Slight potential in Belize and Central Cuba; marginal potential for the rest of the region (*left centre map*); **possibly slight to moderate potential in Barbados, the Greater Antilles and locally in the Leeward & Windward Is. (*top right map*)**

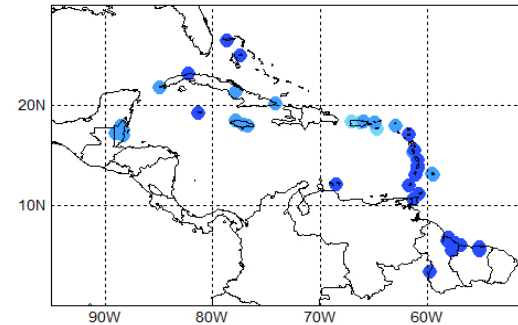
Historical monthly heat impact potential due to heatwaves during the heat season

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

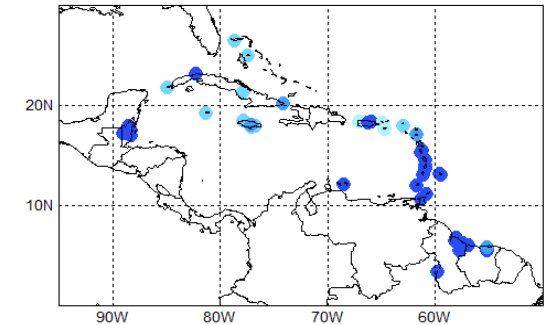
May



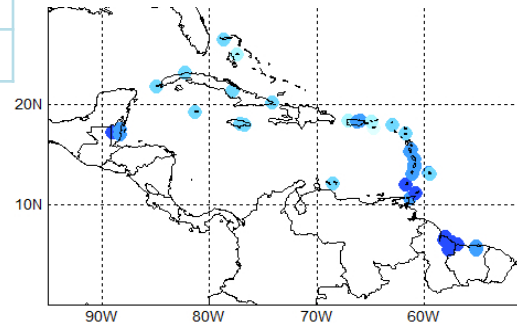
June



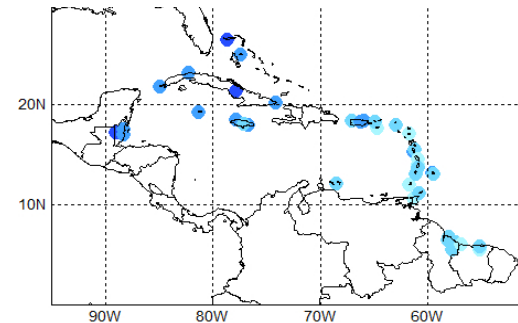
July



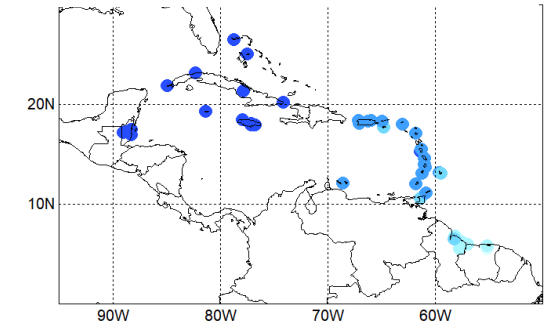
Aug



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.



**Regional climate data, information, tools,
experimental and operational products
are available at
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