

Heat Outlook for September to November 2022

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Frequent excessive heat in September and, locally, October but likely less than in recent hot years (e.g., 2016 & 2020)

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 mild heat symptoms due to excessive heat during this period

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

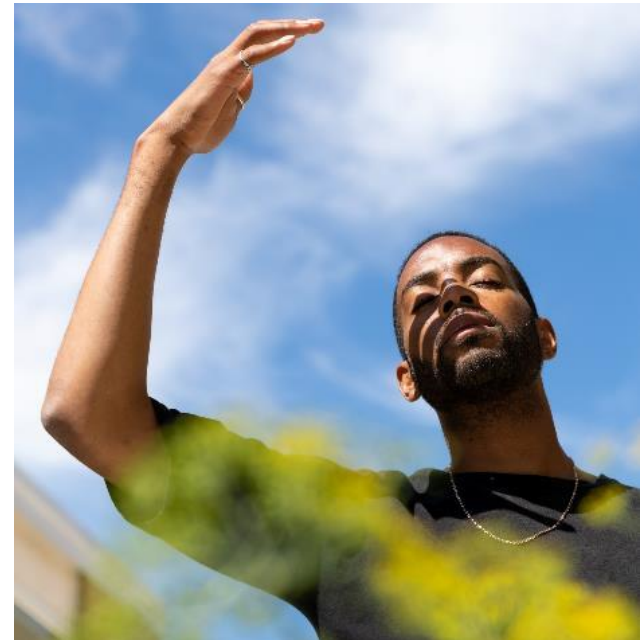


Occupational health:

- 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 during this period

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 some impacts from excessive heat during this period

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 some impacts from excessive heat during this period



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

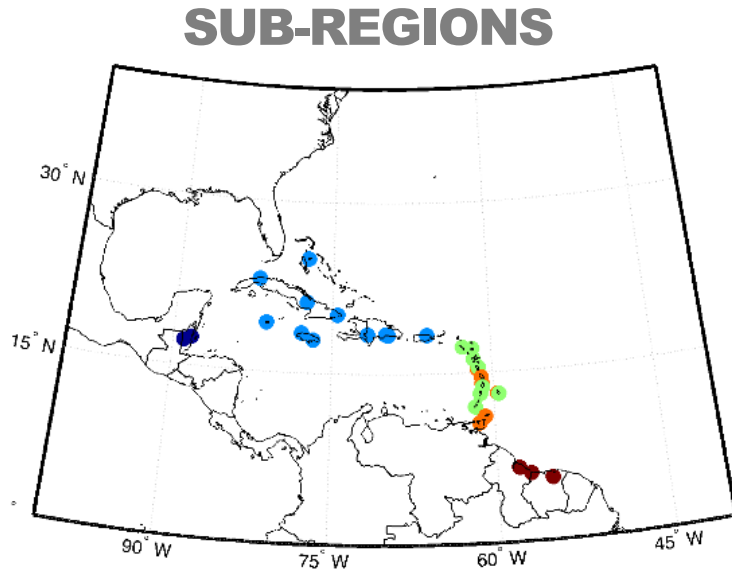
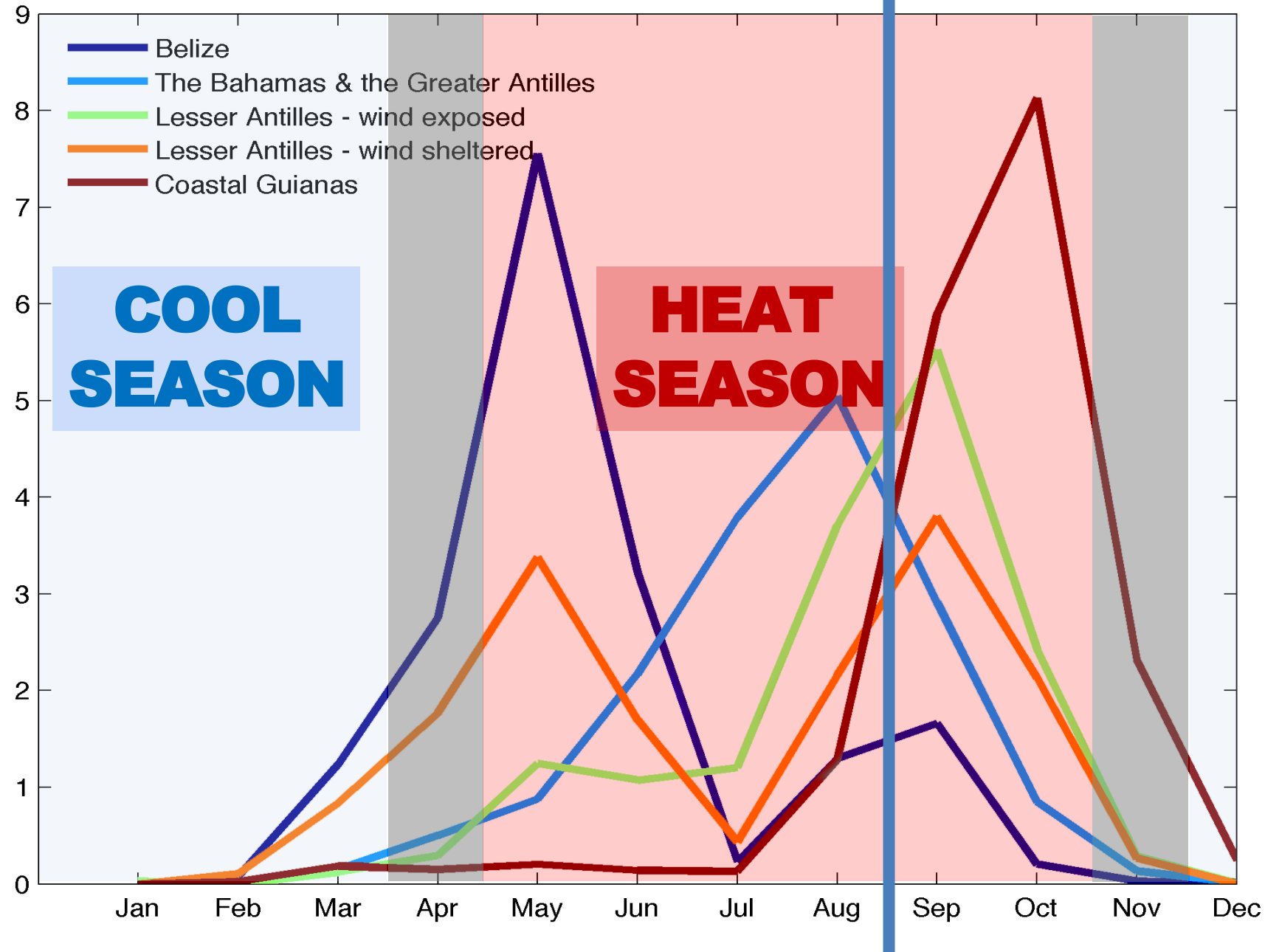


Child care and education:

- *Learning:* potentially reduced productivity and reduced learning ability of students
- *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?

Day time

Night time

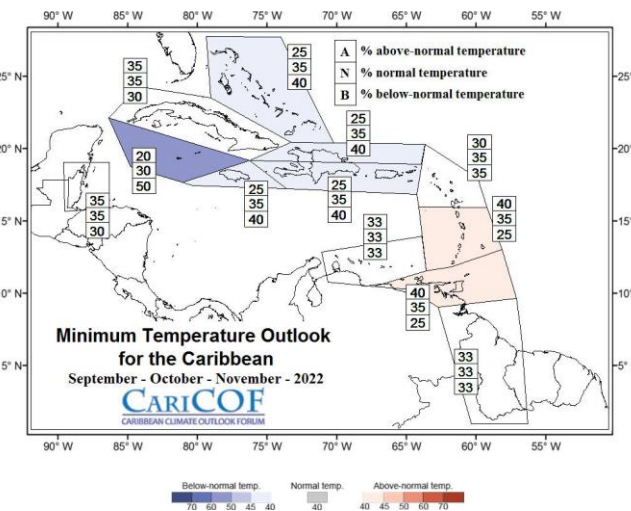
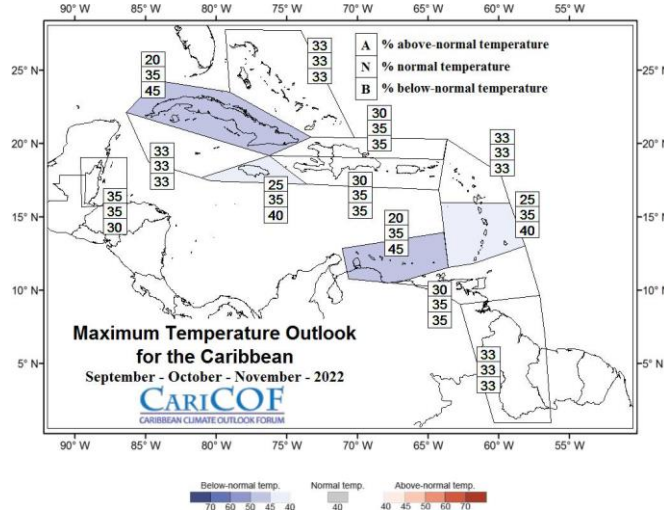
FORECAST

1. Overall, night- and daytime temperatures are not expected to deviate much from the usual for September to November 2022, still being warm until October as this period marks the peak and tail end of the annual Heat Season.
2. Temperatures should quickly remain cool from December onwards.

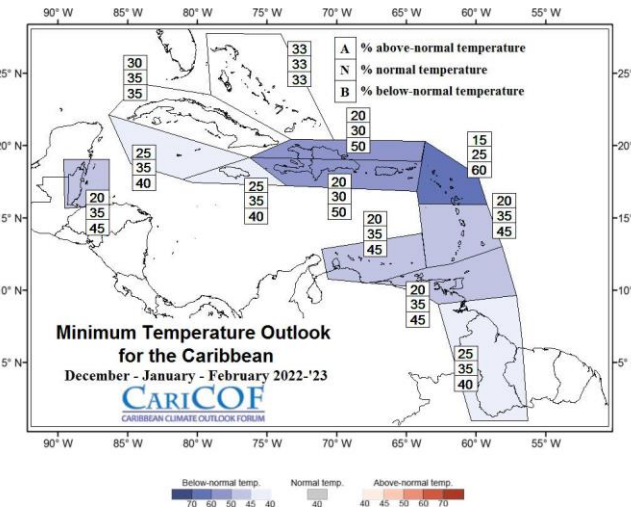
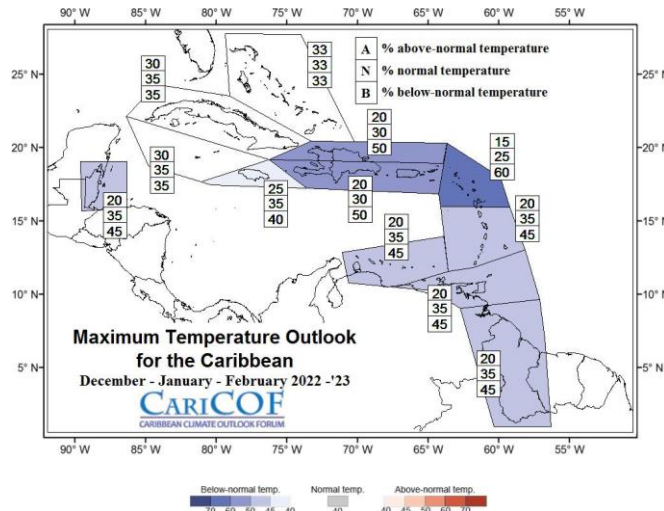
IMPLICATIONS

- **Annual peak in heat stress in the vulnerable population & small livestock in September – due to high temperatures combined with little wind and high humidity –, decreasing in October (ABC Is. and Lesser Antilles) or November (Guianas).**
- No heat stress expected anywhere from December onwards.

Sep-Oct-Nov 2022



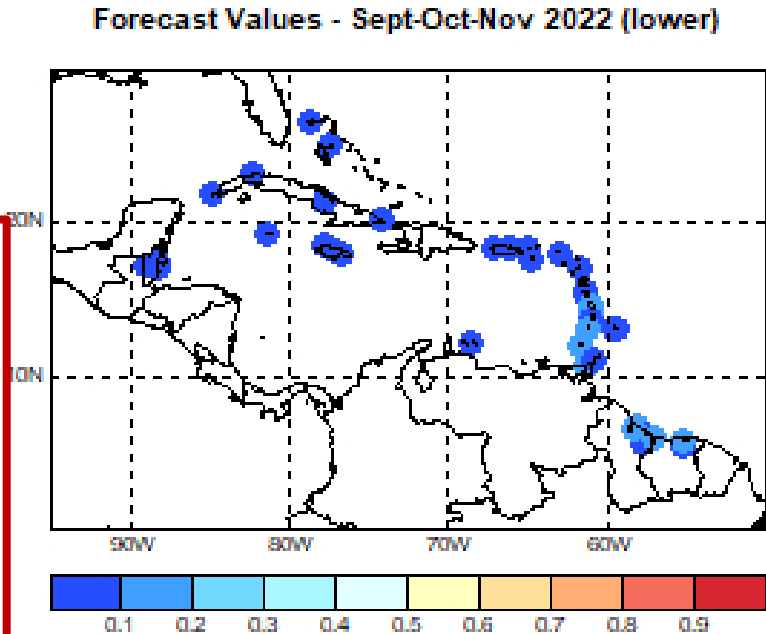
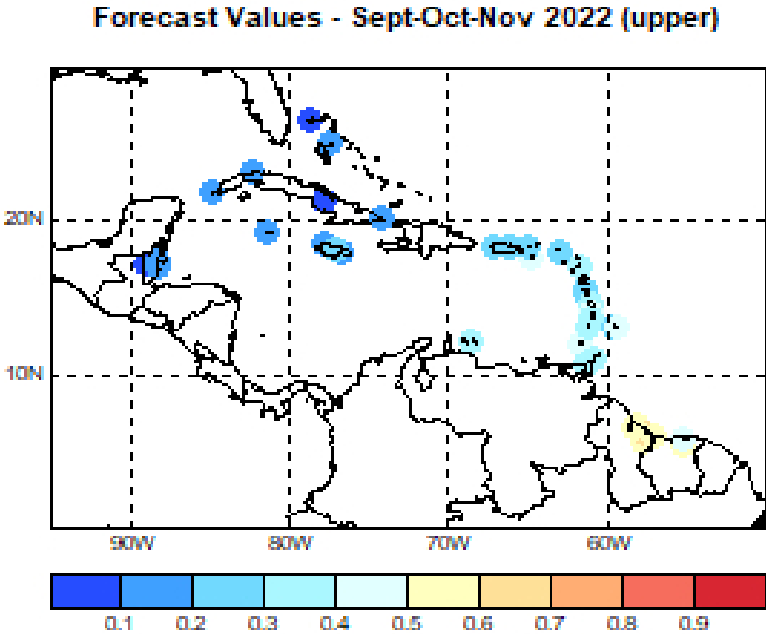
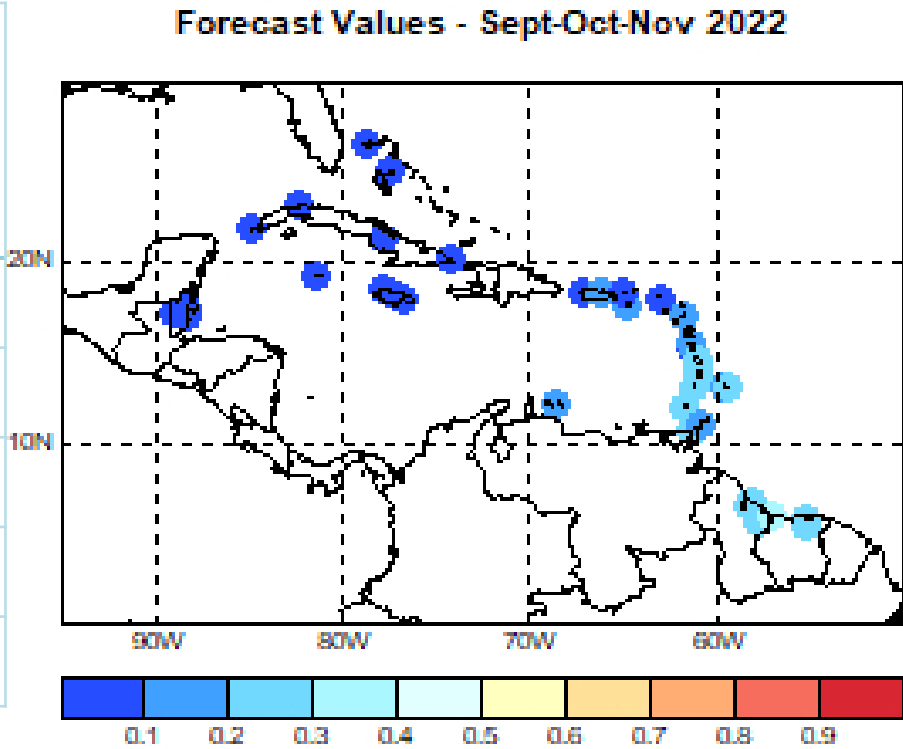
Dec-Jan-Feb 2022-23



← Milder Usual Hotter →

Impact potential associated with heatwave frequency during Sep.-Oct.-Nov. 2022?






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

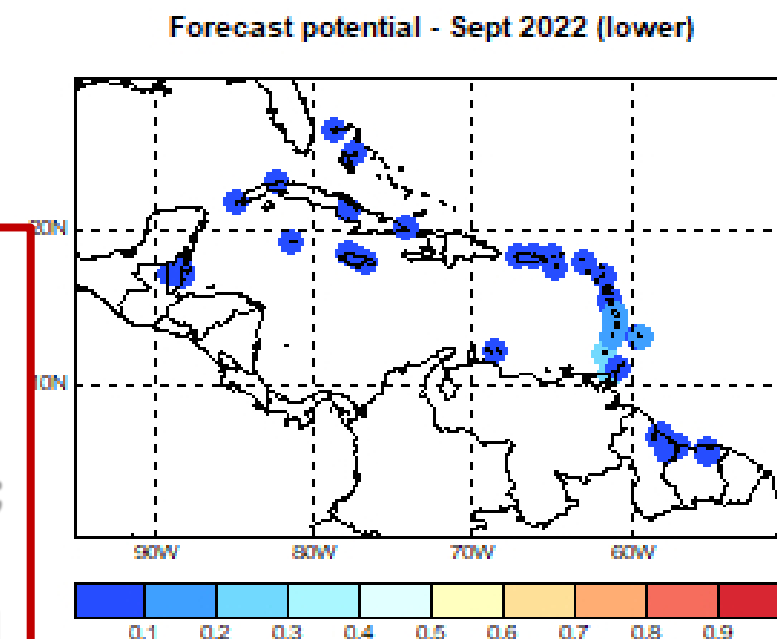
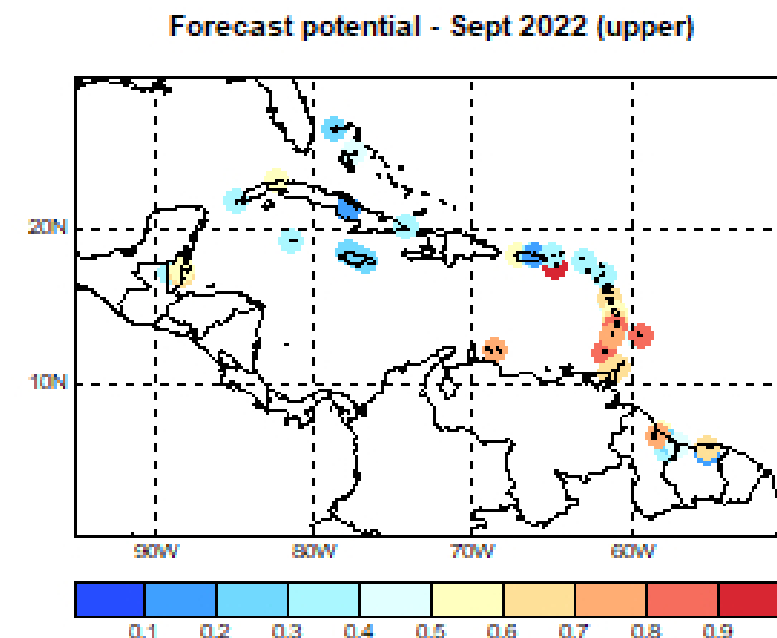
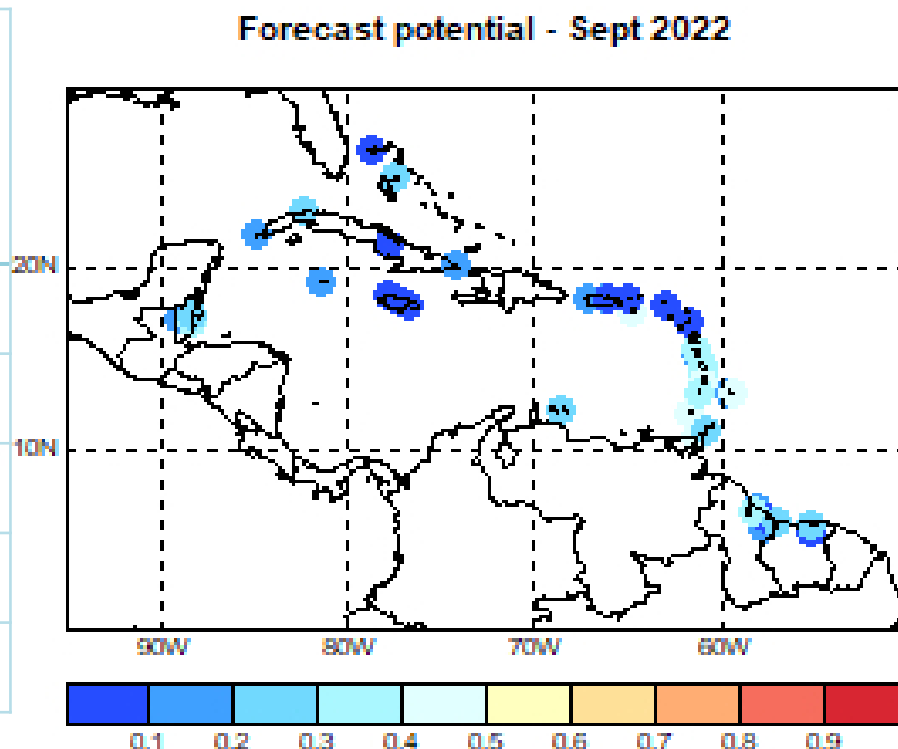


USUALLY: Moderate potential in the coastal Guianas; slight to moderate in the islands east & south of Hispaniola; marginal to slight elsewhere.

FORECAST: Moderate potential in Barbados, coastal Guianas & Windward Is.; marginal potential westward of Hispaniola; marginal to slight in most other areas; **high potential possible in the coastal Guianas.**

Impact potential associated with heatwave frequency – zooming in on **Sept. 2022**











Relative risk	Colour codes	Percentage of time spent in heatwaves
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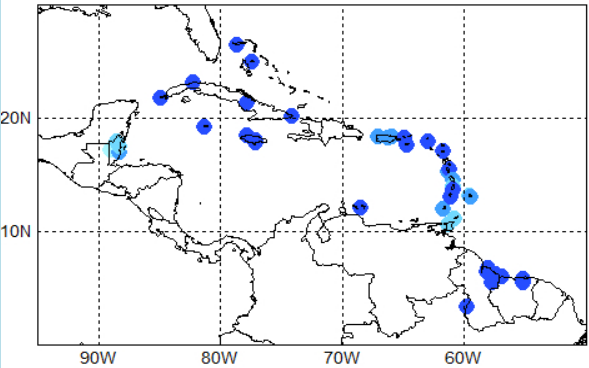
USUALLY: Moderate potential in Curaçao, coastal Guianas & Lesser Antilles; slight to moderate in Cayman Is., Jamaica & Puerto Rico; marginal to slight in The Bahamas, Belize & Cuba.

FORECAST: Moderate potential in areas south of Guadeloupe & St. Croix; slight to moderate in Belize, Western Cuba & NW Bahamas; marginal to slight elsewhere; **high to extremely high potential possible in Belize, areas south of Guadeloupe & St. Croix**

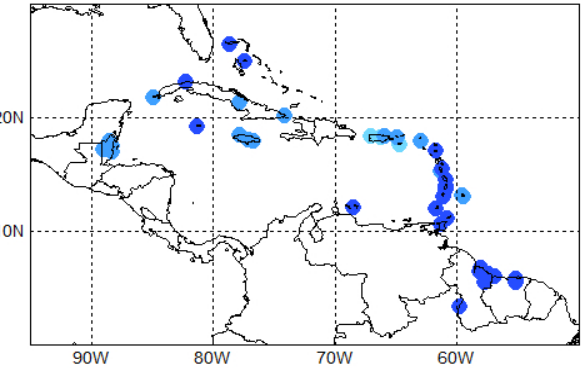
Historical monthly heat impact potential due to heatwaves during the heat season

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

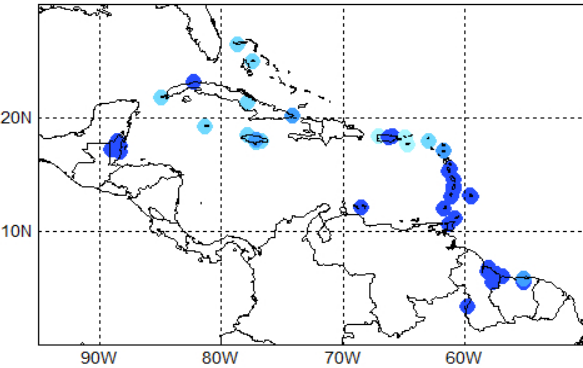
May



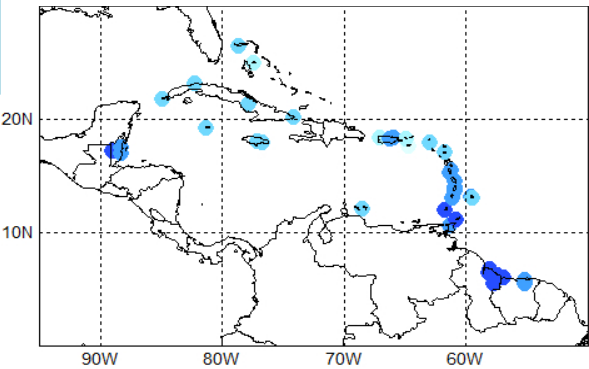
June



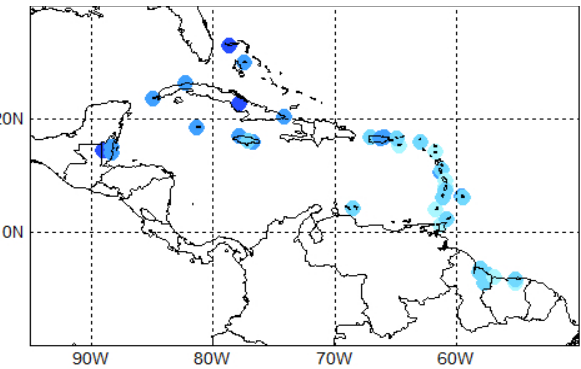
July



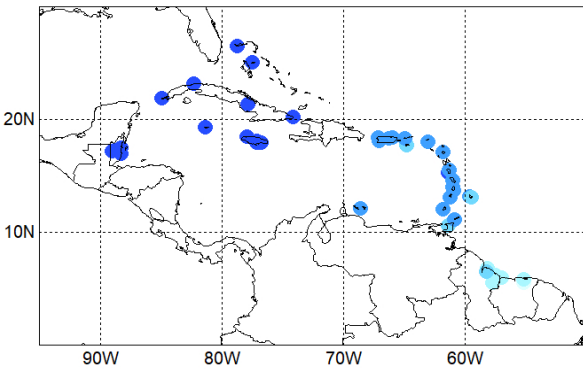
Aug



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
Contact: caricof@cimh.edu.bb
Authors: Dr. Cédric J. Van Meerbeeck – *Climatologist* (cmeerbeeck@cimh.edu.bb)
and Mrs. Janice Reid – *CREWS Project intern*

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Development Team: Dr. Cedric J. VAN MEERBEECK¹ (cmeerbeeck@cimh.edu.bb), Dr. Simon MASON²,
Dr. Hannah Nissan², Dr. Teddy ALLEN², Ms. Wazita Scott¹

¹Caribbean Institute for Meteorology and Hydrology (CIMH), Barbados

²International Research Institute for Climate and Society (IRI), USA

