









### Heat Outlook for June to November 2019

### Frequent excessive heat from August to October

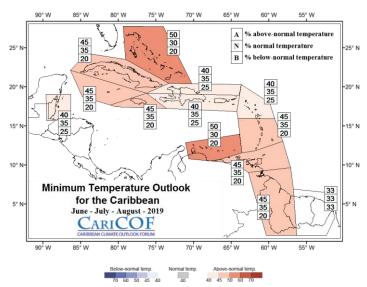
Dr. Cedric J. VAN MEERBEECK<sup>1</sup> (<u>cmeerbeeck@cimh.edu.bb</u>), Dr. Simon MASON<sup>2</sup>, Dr. Hannah Nissan<sup>2</sup>, Dr. Teddy ALLEN<sup>2</sup>, Wazita Scott<sup>1</sup>

<sup>1</sup>Caribbean Institute for Meteorology and Hydrology (CIMH), Barbados <sup>2</sup>International Research Institute for Climate and Society (IRI), USA

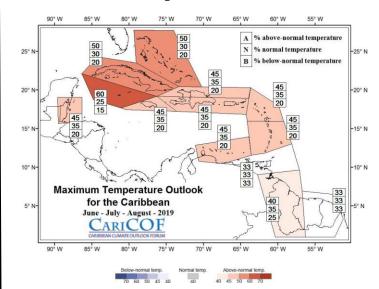


#### How hot will the next three to six months be?

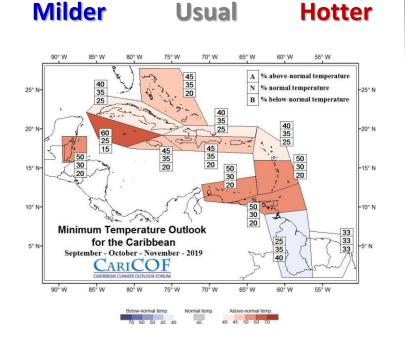
#### Night time

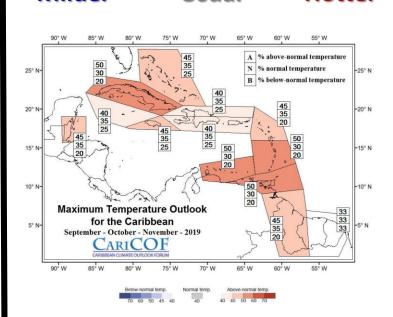


#### Day time



### Milder Usual Hotter





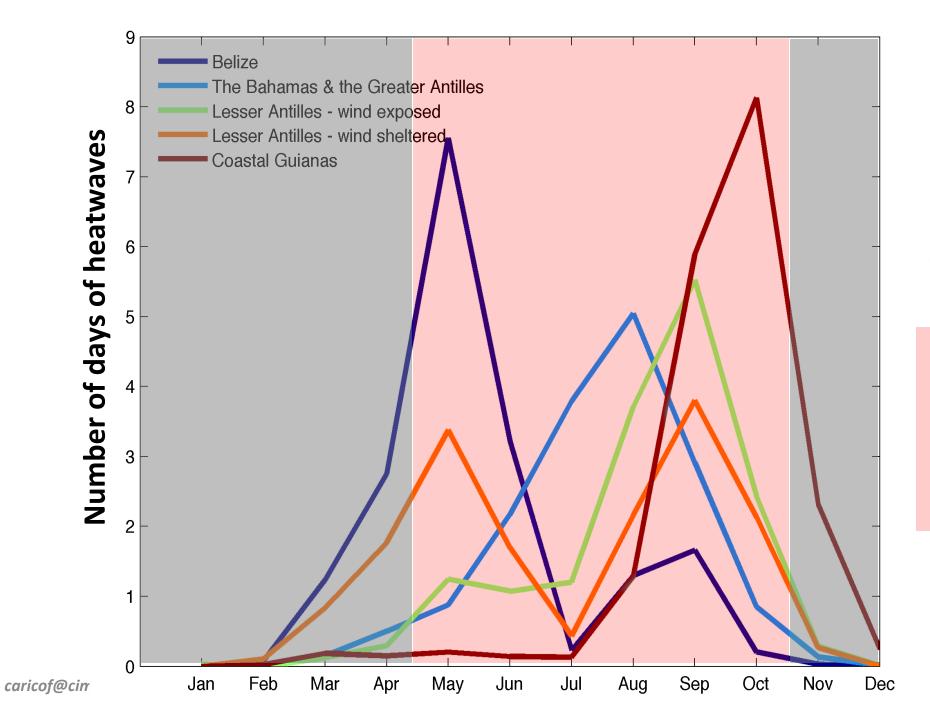
#### **FORECAST:**

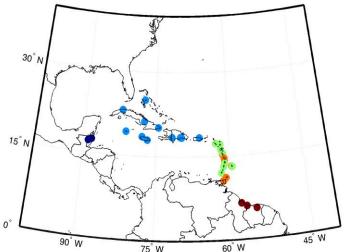
- Warmer than usual conditions are forecast for most areas between June and November.
- Night-time temperatures between September and November may turn out slightly cooler than usual in Guyana.

#### **IMPLICATIONS:**

- Heat stress in the vulnerable population & small livestock from
  - July to September in the Bahamas and Greater Antilles;
  - August to October in the Lesser Antilles;
  - September to November in the Guianas.
- Cooling need until October will potentially be higher than the previous two years.

### HEATWAVES: SEASONALITY



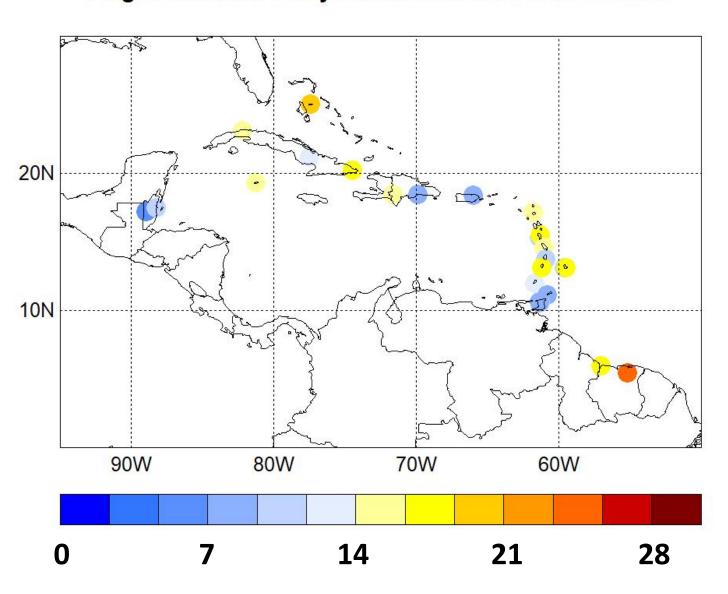


A CARIBBEAN
HEAT SEASON:
May to Oct.

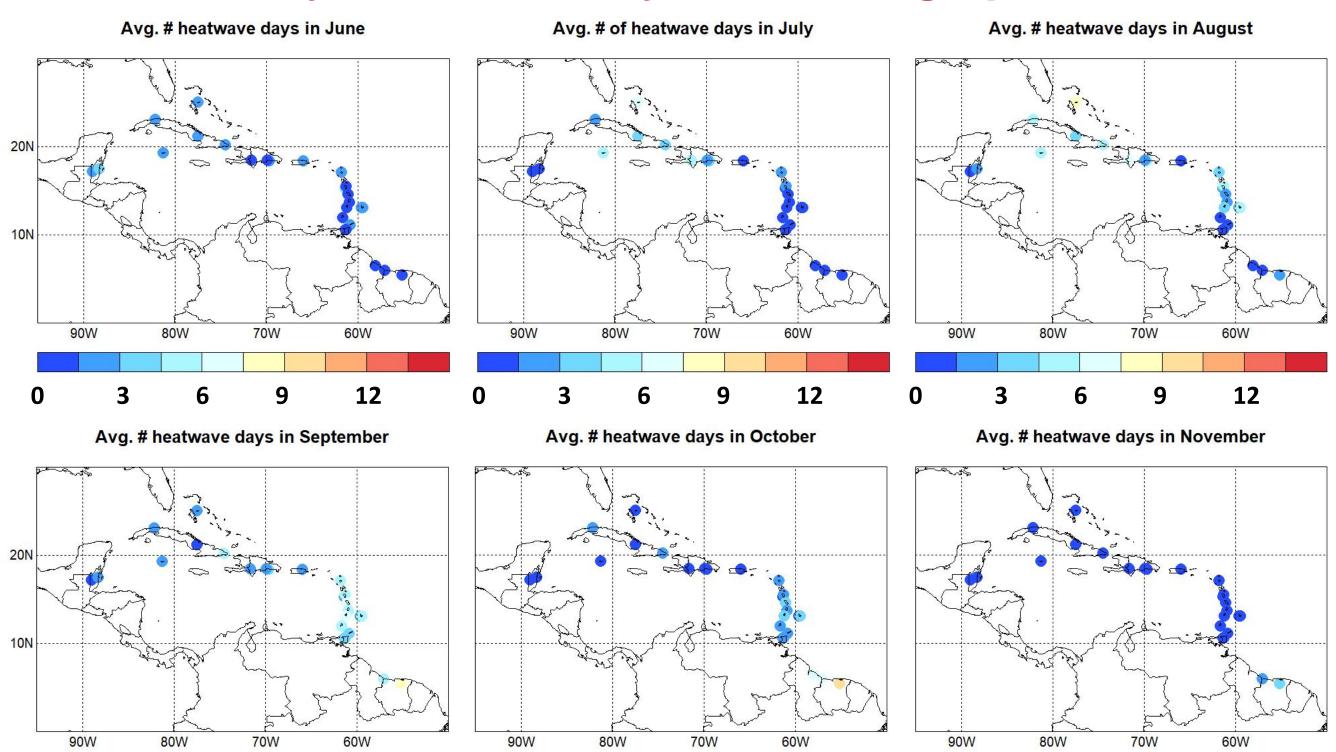


### How many heatwave days do we historically get on average from June to November?

Avg. # heatwave days between June & November



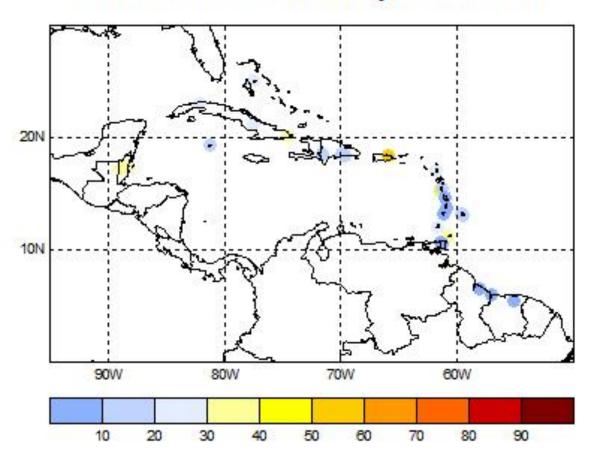
### How many heatwave days on average per month?



## How many heatwave days to expect in June 2019?

Avg. # heatwave days in June 20N 10N 90W 80W 70W 60W

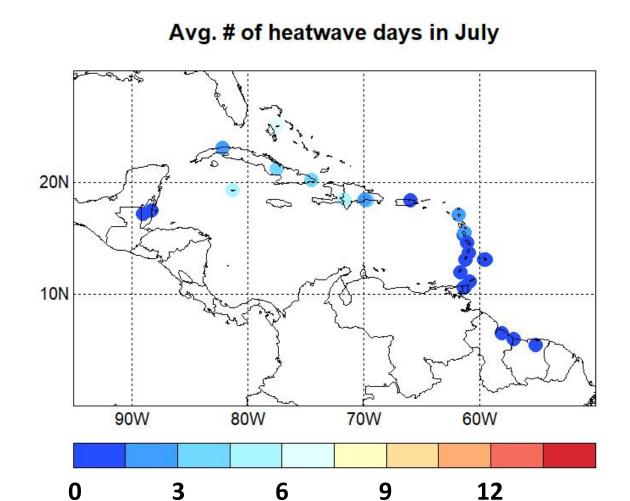
Prob. at least 3 heatwave days in June 2019



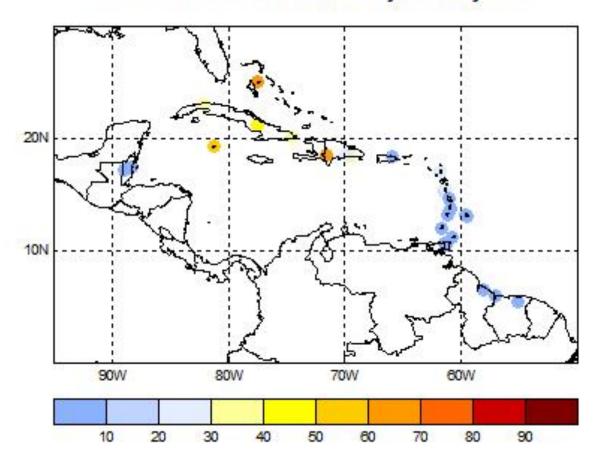
USUALLY: up to 3 heatwave days westward of Haiti. FORECAST: very few places can expect 3 or more heatwave days in June this year.

**12** 

# How many heatwave days to expect in July 2019?



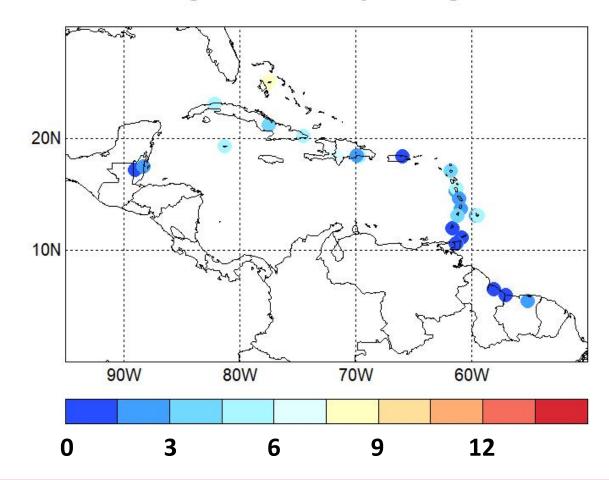
Prob. at least 3 heatwave days in July 2019



USUALLY: up to 6 heatwave days in the Bahamas & Greater Antilles. FORECAST: 40-70% chance of 3 or more heatwave days in July this year in this area.

# How many heatwave days to expect in August 2019?

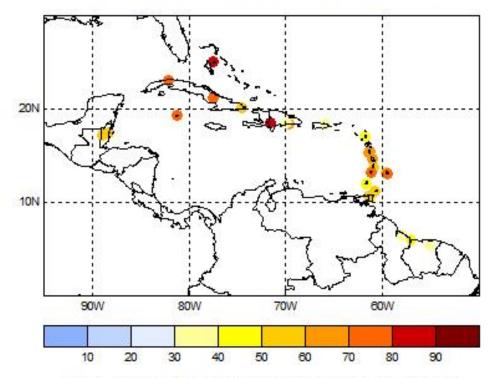
Avg. # heatwave days in August



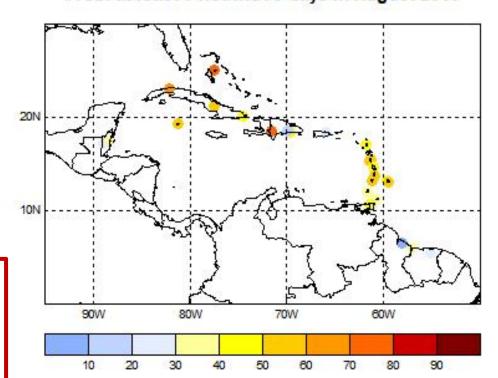
USUALLY: Generally 3 to 6 heatwave days in the islands.

**FORECAST: 40-80% chance of 7 or more heatwave days** 

Prob. at least 3 heatwave days in August 2019

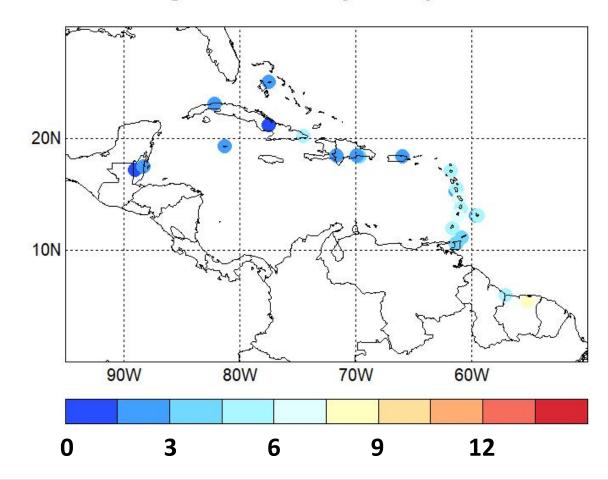


Prob. at least 7 heatwave days in August 2019



# How many heatwave days to expect in September 2019?

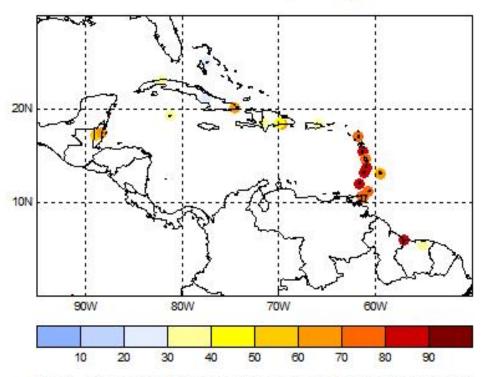
Avg. # heatwave days in September



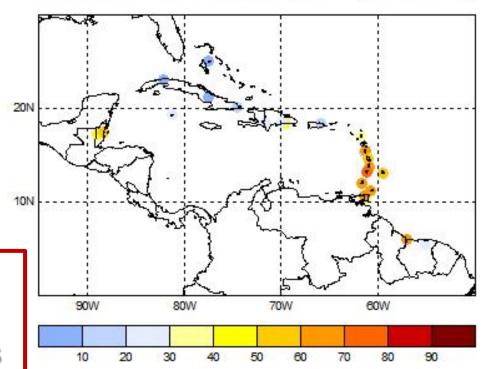
USUALLY: Generally 5 to 9 heatwave days eastward of PR.

FORECAST: 60-80% chance of 14 or more heatwave days

Prob. at least 7 heatwave days in September 2019

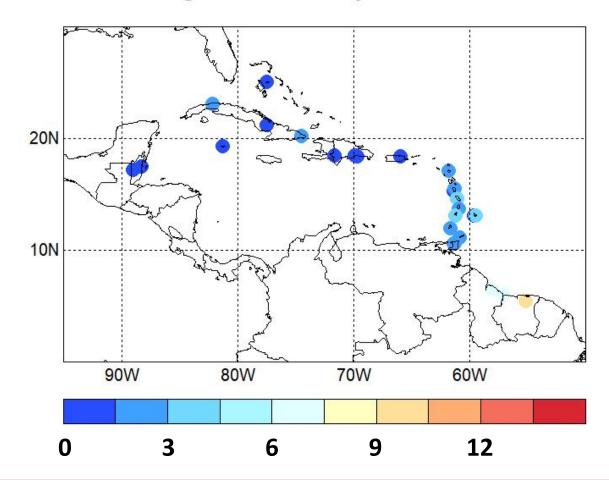


Prob. at least 14 heatwave days in September 2019



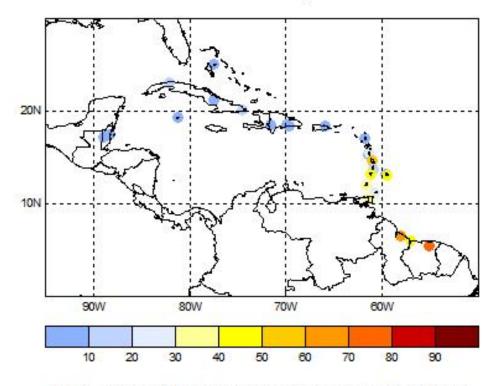
# How many heatwave days to expect in October 2019?

Avg. # heatwave days in October

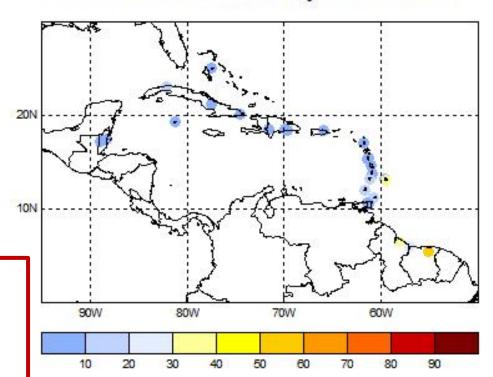


USUALLY: 6 to 10 heatwave days in the Guianas. FORECAST: 50-80% chance of 7 or more heatwave days in September this year eastward of Puerto Rico and

Prob. at least 7 heatwave days in October 2019

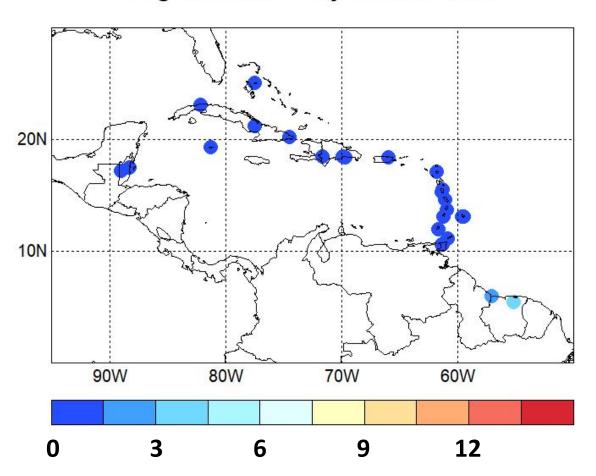


Prob. at least 14 heatwave days in October 2019

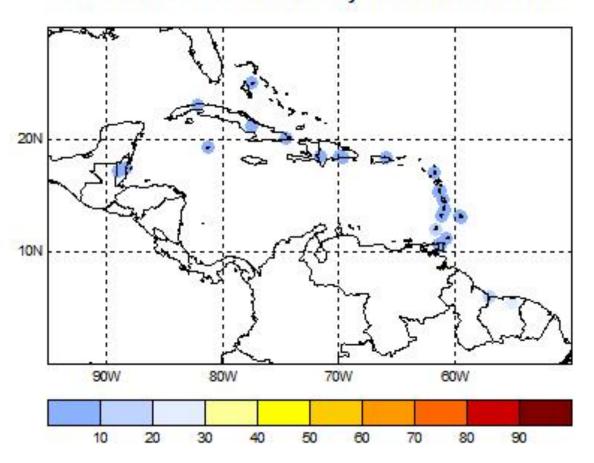


# How many heatwave days to expect in November 2019?

Avg. # heatwave days in November

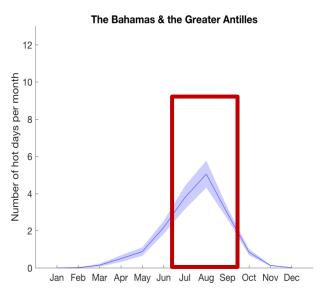


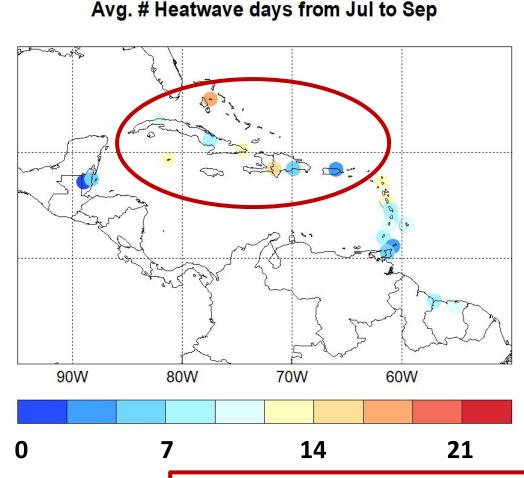
Prob. at least 3 heatwave days in November 2019

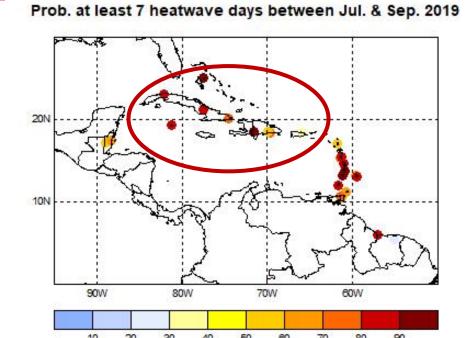


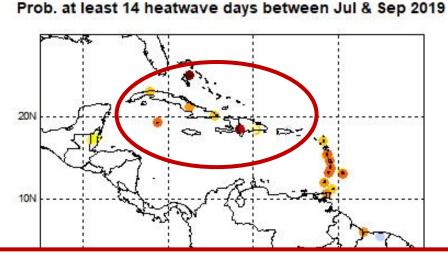
USUALLY: up to 5 heatwave days in the Guianas. FORECAST: low chance of 3 or more heatwave days in the Guianas in November this year.

What about the peak of the hot season The Bahamas and Greater Antilles, i.e. July to September?



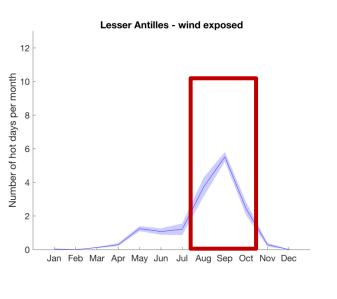


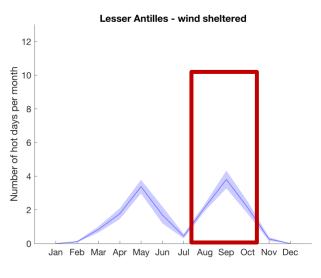




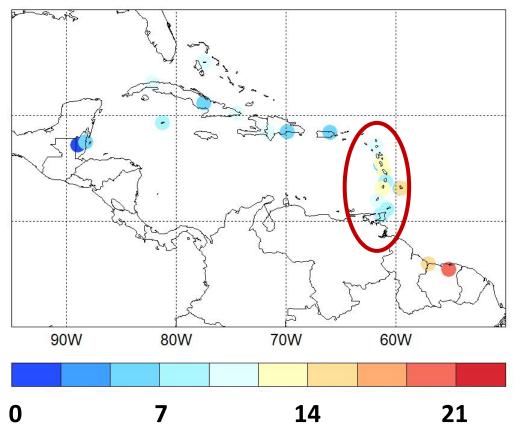
USUALLY: around 10-15 heatwave days over 3 months FORECAST: generally over 60-80% chance for at least 7 heatwave days, and 40-60% chance for at least 14.

# What does the peak of the hot season look like in the Lesser Antilles, i.e. August to October?

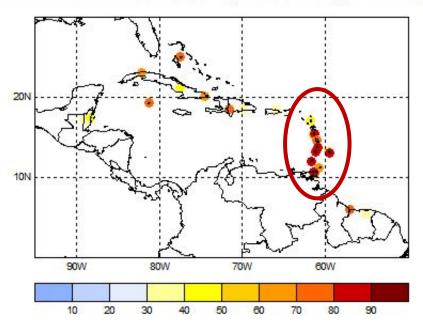




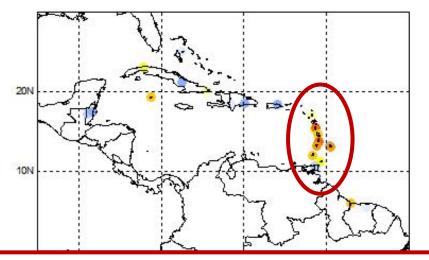
Avg. # heatwave days from Aug to Oct



Prob. at least 14 heatwave days between Aug & Oct 2019

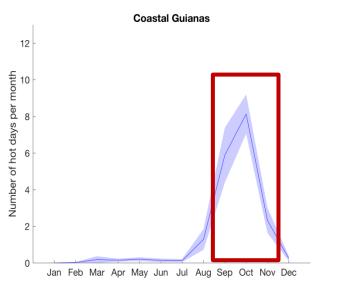


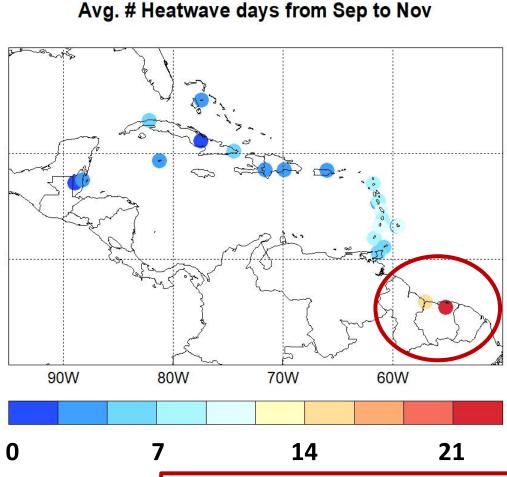
Prob. at least 30 heatwave days between Aug & Oct 2019

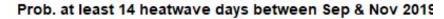


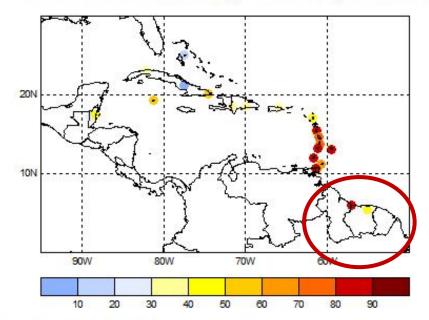
USUALY: around 7-14 heatwave days over 3 months FORECAST: generally 80-90% chance for at least 14 heatwave days, and 40-80% chance for at least 14.

# What does the peak of the hot season look like in the Guianas, i.e. September to November?

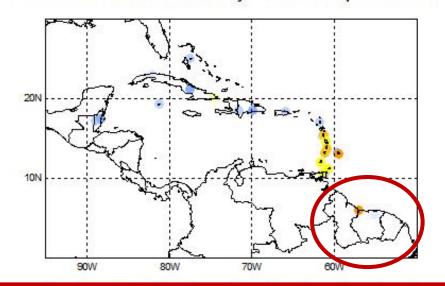








Prob. at least 30 heatwave days between Sep & Nov 2015



USUALY: around 14-21 heatwave days over 3 months FORECAST: 40-90% chance for at least 14 heatwave days, and 20-60% chance for at least 30.

### How many heatwave days from June till November 2019?

#### **USUALLY:**

- 1) In most years, relatively few heatwaves in Belize, Puerto Rico and Trinidad and Tobago. In much of the rest of the region, around 14 and up to 21 heatwave days are the norm.
- 2) The peak season for heatwaves is from July to September in The Bahamas and the Greater Antilles, August to October in the Lesser Antilles and September to November in the Guianas.

#### **FORECAST:**

The forecast number of heatwave days is higher to what we usually get, and likely higher than in the two previous years during this Caribbean heat season (May-Oct).

#### **IMPLICATIONS:**

- In the event of heatwaves, of which more than 1 can occur at any location, heat stress in human populations or livestock will sharply increase.
- The heat stress should be more acute than in 2017 and 2018.



caricof@cimh.edu.bb rcc.cimh.edu.bb Caribbean Institute for Meteorology and Hydrology TEL: (246) 425-1362/3 | FAX: (246) 424-4733