## Rainfall frequency and extreme forecasts

# Wet days and Wet spells Outlooks November to January 2023-24

**Dr. Cedric VAN MEERBEECK**<sup>1</sup>, **Dr. Teddy ALLEN**<sup>1</sup>, Dr. Simon MASON<sup>2</sup>, Dr. Ángel MUÑOZ<sup>2</sup>, Wazita Scott<sup>1</sup>, Dale Destin<sup>3</sup>

<sup>1</sup>Caribbean Institute for Meteorology and Hydrology (CIMH), Barbados <sup>2</sup>International Research Institute for Climate and Society (IRI), USA <sup>3</sup>Antigua and Barbuda Meteorological Services









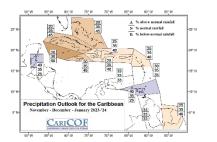






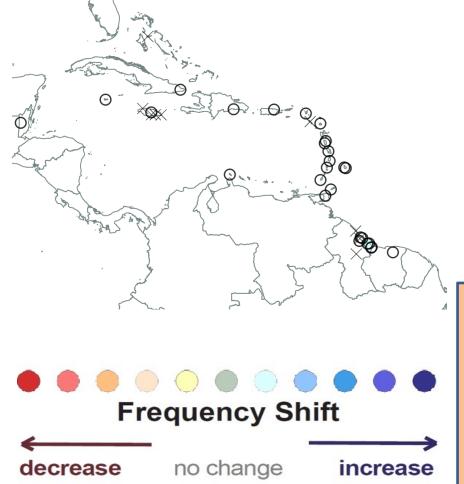
## Wet day frequency shifts

#### Precipitation outlook



## Forecast for: November to January 2023-24

NDJ 2023-24 Frequency of wet days



little indication

USUALLY: Out of 92 days in Nov-Dec-Jan, there are usually about 35 to 50 wet days (coastal Guianas: 30-55; ABC Islands: 20-45).

FORECAST: NDJ may be wetter than usual in Belize and Trinidad and Tobago, but the usual or drier elsewhere.

• The forecast skill for wet days is low and thus little indication of change in the seasonal number of wet spells is found in the forecast (low confidence).

#### **IMPLICATIONS:**

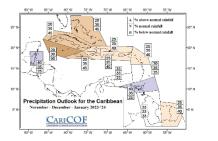
missing

 Outdoor activity disruptions and environmental conditions conducive to moisture related pests as rainfall should be frequent due to the annual peak in the number of wet days in the islands and in Belize at least through November, as well as in the Guianas from late-November onwards.

## Wet spells frequency shifts

## Forecast for: November to January 2023-24

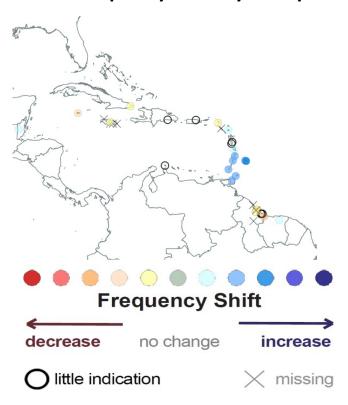
#### Precipitation outlook



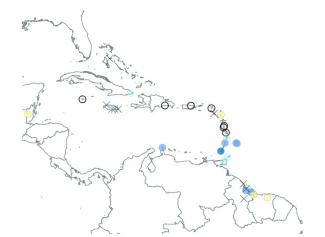
### Wet days outlook



NDJ 2023-24 frequency of 7-day wet spells



NDJ 2023-24 frequency of 7-day very wet spells



USUALLY: Between 2 and 5 wet spells occur from November to January, with 1 to 3 of them ending up very wet (coastal Guianas: up to 3).

FORECAST: NDJ may be wetter than usual in Belize and Trinidad and Tobago, but the usual or drier elsewhere.

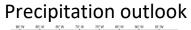
- An increase in the number of 7-day wet spells is expected across most of the Lesser Antilles, Belize and Suriname (low to medium confidence), with fewer elsewhere across the region.
- An increase from the usual numbers of very wet spells is expected across most of the Windward Islands, the ABC Islands, Guyana and Jamaica.

#### **IMPLICATIONS:**

- Recharge rates of large water reservoirs and soil moisture by wet spells may be even faster than usual in the Lesser Antilles and coastal Guianas through the end of the year.
- The chance of recurrent very wet spells translates to flood potential (1) being high through December in Belize and the islands, particularly in the Windward Is.; (2) increasing from moderate to high in the coastal Guianas after November.

## **Extreme wet spells frequency shifts**

Forecast for: November to January 2023-24





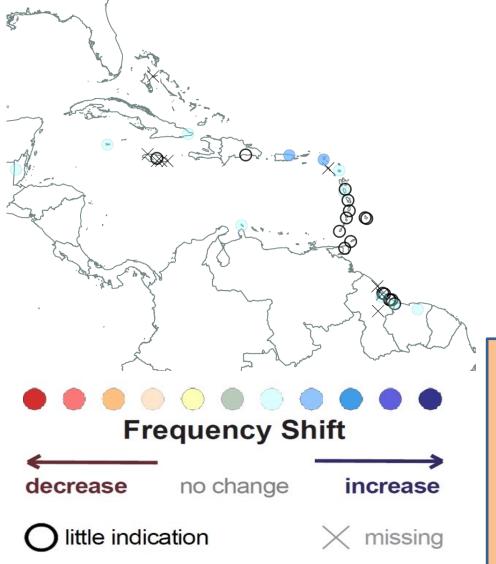
NDJ 2023-24 frequency of extreme (top 1%) 3-day wet spells

USUALLY: Up to 2 extreme wet spells occur from November to January (Belize and the Greater Antilles up to 1).

FORECAST: NDJ may be wetter than usual in Belize and Trinidad and Tobago, but the usual or drier elsewhere.

 A slight increase in the chance of extreme wet spells is expected across the region (low confidence) except along the area southward of Guadeloupe where little indication of change from the usual is found in the forecast.





#### **IMPLICATIONS:**

- In view of the high chance of extreme wet spells in Belize and the islands through December, the potential for flash floods and associated hazards is expected to be high.
- In the Guianas, moderate potential through November is set to increase to high thereafter.

<b>November to January</b>							
2023-24							

2023-24		No. of wet days		No. of 7-day wet spells (20% wettest		No. of 7-day very wet spells (10%) wettest)		No. of 3-day extremely wet spells (1% wettest)	
	Climatology	Forecast	Climatology	Forecast	Climatology	Forecast	Climatology	Forecast	
Antigua (VC Bird)	29-44	28-45	2.1-4.7	2-5.3	0.9-2.6	0.6-3.1	0-1		
Aruba (Beatrix)	19-45	17-47	2.7-8.1	2.9-10.5	0.9-5.4	1.4-8.6	0-2		
Barbados (CIMH)	30-47	29-49	1.8-4.7	2-6.1	0.9-2.7	0.8-4.5	0-1		
Barbados (GAIA)	32-45	29-46	2-4.7	2.1-6.3	0.9-3	0.9-4.5	0-1.5		
Belize (C. Farm)	30-46	27-49	1.8-5.2	1.9-5.7	0.9-2.8	0.5-2.8	0-1	0-1	
ayman	18-26	16-31	0.9-3	0.6-3.5	0.4-2.1	0.1-2.3	0-1		
uba (Punta Maisi)	17-27	15-30	2.6-4.7	2.3-5.1	0.9-2.6	0.7-3.7	0-1		
om. Republic (Las Americas)	20-28	18-32	1.7-3.4	1.5-4.8	0.4-1.7	0.2-2.8	0-0.9	0-0.8	
ominica (Canefield)	41-53	39-56	2-3.4	1.6-4.6	0.6-2.2	0.5-2.5	0-1		
ominica (Douglas Charles)	55-66	52-69	1.8-4.7	1.5-5.5	0.5-2.6	0.5-3.3	0-1		
Grenada (MBIA)	30-43	28-47	2.2-4.6	2.2-5.6	0.9-2.6	1.2-4.2	0-1.2		
uyana_73	15-32	15-30	1.3-4.7	0.9-3.9	0.4-3	0.2-2.3	0-2	0-1.6	
uyana (Albion)	27-49	26-53	1.4-5.1	1.3-6.6	0.4-3	0.7-4.6	0-1		
uyana (Blairmont)	30-56	29-57	1.8-4.8	1.5-5.7	0.5-2.6	0.8-5	0-2	0-1.9	
uyana (Charity)									
uyana (Enmore)	27-52	27-52	1.7-4.9	0.6-4.1	0.9-3.4	0.7-3	0-1.4		
uyana (Georgetown)	37-60	36-61	1.3-5.6	1.3-6.8	0.9-4.3	0.7-6.3	0-3	0-2.9	
uyana (Greatfall)									
uyana (New Amsterdam)	30-52	30-54	1.7-4.3	1.4-5.8	0.7-3	1-4.9	0-2		
uyana (Skeldon)	32-45	29-47	1.7-4.3	1.1-3.8	0.4-2.5	0.2-2.1	0-1.7	0-1.8	
iuyana (Timehri)	40-64	41-66	1.7-5.3	1.6-6.3	0.9-3.2	0.8-5.3	0-1		
Guyana_Wales									
amaica (Worthy Park)	22-28	19-31	1.7-3	1.2-3	0.3-2.1	0.2-2.6	0-1	0-0.3	
/lartinique (FDF Desaix)	51-62	49-65	2.6-4.7	1.8-6.1	0.9-2.6	0.7-2.9	0-1		
uerto Rico (San Juan)	38-51	36-55	2.6-5.3	2.5-5.7	0.9-2.6	0.8-3.2	0-1	0-1.1	
t. Lucia (Hewanorra)	39-50	35-54	1.8-3.6	2-5.3	0.9-2.6	0.6-3.5	0-1		
t. Maarten (TNCM)	34-52	33-54	2.2-5.3	2.1-6.2	1.3-3.2	0.9-4	0-1		
t. Vincent (ET Joshua)	50-66	48-66	2.2-4.7	2-6.2	1-2.6	0.9-4.1	0-1		
uriname (Zanderij)	39-52	38-55	1.7-3.4	1.6-3.8	0.4-1.7	0.4-3.4	0-1		
obago (ANR RobinNDJ)	36-51	35-50	2.1-4.1	1.5-5.6	0.9-2.4	0.8-2.9	0-1		
Trinidad (Piarco)	36-46	32-48	2.6-4.5	2.4-5.6	1.3-3	0.9-3.7	0-1		



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