Rainfall frequency and extreme forecasts

wet days and wet spells outlooks May to July 2017

Dr. Cedric VAN MEERBEECK¹, **Wazita Scott**¹, Dr. Simon MASON², Ángel MUÑOZ², Dr. Teddy ALLEN², Dale Destin³

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







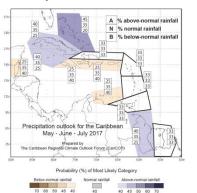








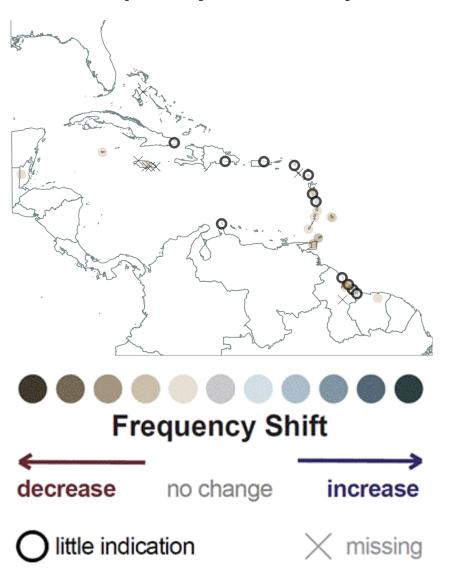
Precipitation outlook



Wet day frequency shifts

Forecast for: May to July 2017

MJJ 2017 Frequency of wet days



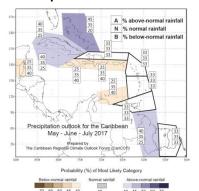
USUALLY: During May-June-July, about 25 to 40 days out of a total of 92 days are wet days in relatively flat areas in the islands, and 45 to 65 in mountainous areas and in coastal Guianas (ABC Islands: 5-15).

FORECAST: MJJ rainfall is likely to be above- to normal in Bahamas, Cayman, Cuba and Guianas, but below- to normal in ABC Islands, Belize, S Hispaniola and US C'bean Territories. We forecast slightly less or the usual amount of wet days across the region (low to medium confidence).

IMPLICATION:

- Disruptions of outdoor activities on several occasions.
- Increasing surface wetness improves environmental conditions for mosquitoes and moisture related pests.

Precipitation outlook



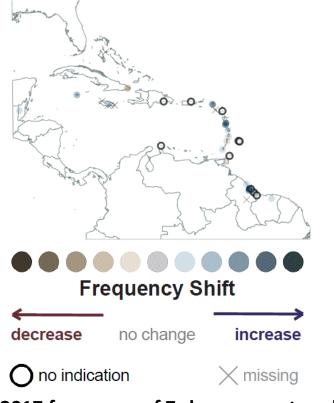
Wet days outlook



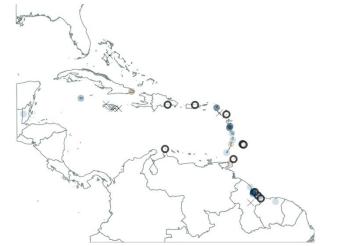
Wet spells frequency shifts

Forecast for: May to July 2017

MJJ 2017 frequency of 7-day wet spells



MJJ 2017 frequency of 7-day very wet spells



USUALLY: 1 to 5 wet spells (coastal Guianas: 4 to 7) occur from May to July, with 2 or 3 of them ending up very wet (ABC Islands: up to 1; coastal Guianas: 1 to 5).

FORECAST: MJJ rainfall is likely to be above-to normal in Bahamas, Cayman, Cuba and Guianas, but below- to normal in ABC Islands, Belize, S Hispaniola and US C'bean Territories. We forecast slightly less or the usual amount of wet days across the region (low to medium confidence), and either the usual or slightly more wet and very wet spells (low to medium confid.).

IMPLICATION:

Recharge of large water reservoirs associated with wet season.

Precipitation outlook Wet days outlook Wet spells outlook Very wet spells outlook

Extreme wet spells frequency shifts

Forecast for: May to July 2017

MJJ 2017 frequency of extreme (top 1%) 3-day wet spells **Frequency Shift** decrease no change increase little indication × missing

USUALLY: Up to 1 extreme wet spell occur between May to July (Guianas: up to 2).

FORECAST: MJJ rainfall is likely to be above- to normal in Bahamas, Cayman, Cuba and Guianas, but below- to normal in ABC Islands, Belize, S Hispaniola and US C'bean Territories. We forecast slightly less or the usual amount of wet days across the region (low to medium confidence), and either the usual or slightly more wet, very wet and extreme wet spells (low to medium confid.).

IMPLICATION: Flash flood potential is becoming a concern.

				No. of 7-day wet spells (20% wettest)		No. of 7-day very wet spells (10% wettest)		y extremely wet	
May to July 2017	No. of wet days		(20% v					1% wettest)	
	Climatology	Forecast	Climatology	Forecast	Climatology	Forecast	Climatology	Forecast	expected
Antigua (VC Bird)	20-38	21-37	1.3-4.7	1.6-4.8	0.4-3	0.6-2.9	0-1	0-0.8	xpe
Aruba (Beatrix)	6-13	5-13	0.4-2.6	0.5-2.9	0-1.3	0.2-1.5	0-1	0-0.6	
Barbados (CIMH)	24-42	24-40	1.3-5.1	1.6-5.2	0.4-2.2	0.8-2.5	0-1	0-0.1	are
Barbados (GAIA)	26-44	25-41	2.1-4.3	1.9-4.8	0.4-2.1	0.6-2.6	0-1	0-1.2	none
Belize (C. Farm)	28-40	27-40	2.1-5.1	2.2-5.6	1.3-3	1.1-3.1	0-1	0-1.6	
Cayman	24-36	22-36	3-5.4	2.9-6.7	1.3-3.4	1.2-3.5	0-1	0-1.4	grey
Cuba (Punta Maisi)	8-18	7-17	1.3-3.4	0.6-3.5	0.4-2.1	0.1-2	0-1	0-1.2	<u>p</u> 0
Dom. Republic (Las Americas)		20-33		1.9-5.5		0.6-4.3		0-0.6	_
Dominica (Canefield)	35-60	36-59	2.1-5.2	2.7-7.2	1.1-3.4	1.3-3.4	0-1.1	0-0.9	increase,
Dominica (Douglas Charles)	46-66	44-67	1.7-4.7	2.1-6	0.5-2.2	0.8-2.8	0-1	0-1.1	reg
Grenada (MBIA)	30-48	29-44	2.1-4.8	2-5.8	0.9-2.6	0.9-3.2	0-1	0-1.4	ino
Guyana_73	30-42	30-44	3.9-6.9	3.8-7.2	1.7-3.4	1.3-4.4	0-1	0-1.7	an
Guyana (Albion)	44-57	45-61	3.9-7.2	3.4-7.6	2.1-3.9	1.7-4.4	0-1	0-1.8	plue
Guyana (Blairmont)	50-67	49-67	3.4-7.3	4-8.3	1.3-4.7	1.7-5	0-2	0-2.1	
Guyana (Charity)	40-64	36-71	3.9-6.8	2.6-8.9	1.3-4	1.3-4.1	0-1	0-0.2	dark
Guyana (Enmore)	48-63	46-65	3.4-6.9	2.9-8	0.9-4.3	1-4.5	0-1.1	0-1.5	Ö
Guyana (Georgetown)	55-68	52-69	3.4-7.3	4-8.3	1.3-3.9	1.5-4.7	0-1	0-1.3	
Guyana (New Amsterdam)	50-65	48-65	3.9-7.3	4-8.3	1.7-4.7	1.8-4.5	0-1.5	0-1.6	ζ,
Guyana (Skeldon)	49-62	47-64	3.9-7.3	3.6-7.2	1.7-4.3	1.5-4.6	0-2	0-1.5	frequency,
Guyana (Timehri)	56-71	55-73	3.9-7.3	3.9-7.6	1.7-4.3	1.5-4.6	0-2	0-2.2	adı
Guyana (Wales)	56-68	54-70	3.9-7.3	4-9.1	0.9-4.3	1.3-5.2	0-2.1	0-2.3	
Jamaica (Worthy Park)	25-41	23-40	2.6-5.6	2.4-6.3	1.3-3	1.2-3.3	0-2	0-1.9	<u>.</u>
Martinique (FDF Desaix)	42-59	40-58	2.1-5.1	2.3-5.6	0.9-3	0.9-2.8	0-1	0-0.5	ecrease
Puerto Rico (San Juan)	29-47	28-47	2.1-5.6	2-5.9	0.9-3.9	1.2-3.5	0-1	0-1.4	cre
St. Lucia (Hewanorra)	30-51	32-49	1.7-5.1	2-5.5	0.4-2.6	0.7-2.7	0-1	0-0.1	qe
St. Maarten (TNCM)	24-38	22-39	1.3-3.9	1.6-4.9	0.4-3	0.5-2.7	0-1	0-1.1	g (
St. Vincent (ET Joshua)	44-65	42-62	2.1-5.1	1.5-5	0.9-2.6	0.7-2.8	0-1	0-1.2	n is
Suriname (Zanderij)	58-70	55-72	4.3-6.6	3.7-8.1	1.7-3.9	1.7-4.8	0-2	0-2	brown
Tobago (ANR Robinson)	41-56	38-55	3.4-6	2.8-5.8	1.3-3	1.5-3.2	0-1	0-1.2	bro
Trinidad (Piarco)	32-45	30-45	2.1-4.7	1.9-5.6	0.9-3	0.9-3.7	0-1	0-1.1	