Rainfall frequency and extreme forecasts

wet days and wet spells outlooks June to August 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







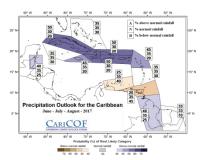








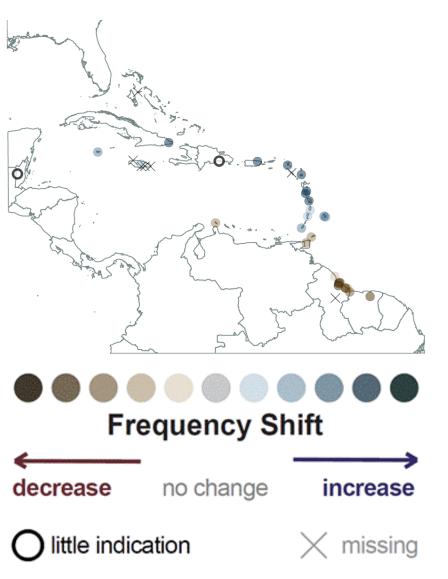
Precipitation outlook



Wet day frequency shifts

Forecast for: June to August 2017

JJA 2017 Frequency of wet days



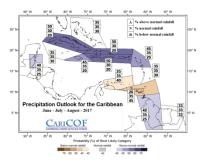
USUALLY: Out of 92 days in Jun-Jul-Aug, there are about 30 to 45 wet days in relatively flat areas of Belize and the islands, but 50 to 65 in mountainous areas and in coastal Guianas (ABC Islands: 5-15).

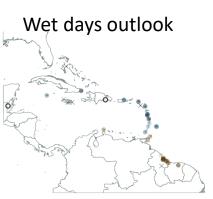
FORECAST: JJA is likely to be wetter than usual or usual in most places, except ABC Islands, Trinidad & Tobago, which may be drier than usual. We forecast slightly less wet days in the latter locations and coastal Guianas, but slightly more in most other places (medium to high confidence).

IMPLICATION:

- Frequent rainfall disruptions of outdoor activities.
- Surface wetness makes environmental conditions more conducive to mosquito breeding and moisture related pests.

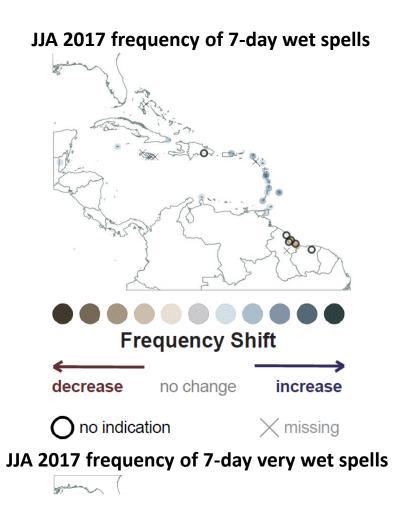
Precipitation outlook





Wet spells frequency shifts

Forecast for: June to August 2017



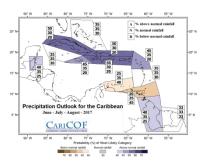
USUALLY: 3 to 6 wet spells (ABC Islands: up to 3) occur from June to August, with 1 to 3 of them ending up very wet (ABC Islands: up to 2).

FORECAST: JJA is likely to be wetter than usual or usual in most places, except ABC Islands, Trinidad & Tobago, which may be drier than usual. We forecast slightly less wet days, wet spells and very wet spells in the latter locations and coastal Guianas, but slightly more in most other places (medium to high confidence).

IMPLICATION:

 Recharge of large water reservoirs associated with wet season.

Precipitation outlook



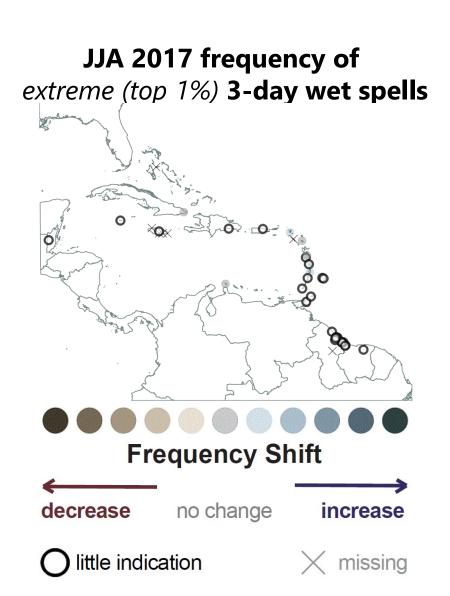


Very wet spells outlook



Extreme wet spells frequency shifts

Forecast for: June to August 2017



USUALLY: Up to 1 extreme wet spell occur between June to August (ABC Islands: up to 1).

FORECAST: JJA is likely to be wetter than usual or usual in most places, except ABC Islands, Trinidad & Tobago, which may be drier than usual. We forecast slightly less wet days, wet spells and very wet spells in the latter locations and coastal Guianas, but slightly more in most other places (medium to high confidence), as well as and either the usual or slightly more extreme wet spells (low confid.).

IMPLICATION: Flash flood potential is a concern throughout the region.

June to August 2017	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)		expected
2017	Climatology	Forecast	Climatology	Forecast	Climatology	Forecast	Climatology	Forecast	bec
Antigua (VC Bird)	26-42	29-45	1.7-4.7	2.1-5.2	0.9-3	0.7-2.9	0-1	0-0.2	
Aruba (Beatrix)	6-16	4-16	0.4-3.4	0.6-4.2	0-2.1	0.1-1.9	0-0		are
Barbados (CIMH)	34-51	35-51	2.6-6.4	3.3-7.2	0.9-3	1.2-3.6	0-1	0-0.9	
Barbados (GAIA)	36-47	37-50	3-5.6	3.3-6.2	0.9-2.6	1-3.3	0-1	0-1.2	none
Belize (C. Farm)	33-48	32-50	2.6-5.6	2.6-6.7	1.3-3.4	1-3.4	0-1.1	0-1.6	
Cayman	28-42	27-45	3-6.4	2.9-6.7	0.9-3.9	1.1-4	0-1	0-1	grey
Cuba (Punta Maisi)	7-15	8-18	0.9-3.4	1.1-3.8	0-1.3	0.2-1.8	0-1		,
Dom. Republic (Las Americas)		22-40		2.3-6.1		0.6-2.8		0-0.6	increase,
Dominica (Canefield)	50-67	53-75	4-7	4-7.6	1.7-4.6	1.3-4.9	0-1.3	0-1.5	re
Dominica (Douglas Charles)	53-69	57-76	2.2-5.6	2.4-6.2	0.9-3	0.8-3.4	0-0		
Grenada (MBIA)	42-51	40-55	3.9-6.4	3.8-7	1.7-3.4	1.2-4.1	0-1	0-1.6	an
Guyana_73	25-36	24-37	3.4-5.6	2.8-5.7	1.3-3.4	0.8-3.7	0-1	0-1.1	plue
Guyana (Albion)	37-52	35-52	3.4-6.7	3.2-6.3	1.7-3.6	1.2-3.2	0-1	0-1.5	Š
Guyana (Blairmont)	44-60	41-57	3.4-6.9	2.8-6.8	1.3-3.9	1-3.5	0-1	0-1.6	dark
Guyana (Enmore)	41-57	38-56	3-6	2.7-6.2	0.9-3.4	0.7-3.2	0-1	0-1.3	ď
Guyana (Georgetown)	51-63	45-61	3-5.6	2.6-6	1.3-3	1-3.2	0-1	0-1.1	>
Guyana (New Amsterdam)	46-59	41-56	3.8-6	2.9-6.2	1.3-3	1.1-3.1	0-1	0-1.2	enc
Guyana (Skeldon)	45-52	42-53	3.1-6	2.5-6.2	1.3-3.9	0.8-3.6	0-2		frequency,
Guyana (Timehri)	55-67	52-66	3.4-5.6	3-6	1.3-3.4	0.8-3.2	0-1	0-1.4	fre
Jamaica (Worthy Park)	24-38	25-43	2.1-4.7	2.2-5.5	0.9-3	0.8-3	0-1	0-1.5	<u>□</u> .
Martinique (FDF Desaix)	51-63	52-69	3-6	3.5-6.3	1.3-3	1.1-2.9	0-1	0-1.6	ecrease
Puerto Rico (San Juan)	32-52	34-59	2.6-5.6	2.7-6.2	1.3-3.4	1.1-3.8	0-1	0-0.9	cre
St. Lucia (Hewanorra)	40-57	41-59	3-5.6	3.4-6.5	0.9-2.6	1.1-3.7	0-1		de
St. Maarten (TNCM)	27-45	30-53	1.7-4.7	2-5.4	0.4-2.6	0.6-3.3	0-1		is a
St. Vincent (ET Joshua)	54-67	53-70	3-5.5	2.9-6.1	0.9-3	0.9-3.6	0-1.1	0-1.4	
Suriname (Zanderij)	51-63	47-62	3-5.1	2.9-5.4	1.3-3	1.1-3.6	0-1	0-1.5	brown
Tobago (ANR Robinson)	53-64	48-63	4.3-6.4	4.4-6.9	1.7-3.4	1.5-3.4	0-1	0-1.6	ğ
Trinidad (Piarco)	43-50	36-54	3.9-5.6	3.4-6.4	1.3-3.4	1.2-3.6	0-1	0-1.1	