

Rainfall frequency and extreme forecasts

—

wet days and wet spells outlooks

April to June 2016

Dr. Cedric VAN MEERBEECK¹ , Wazita Scott¹, 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



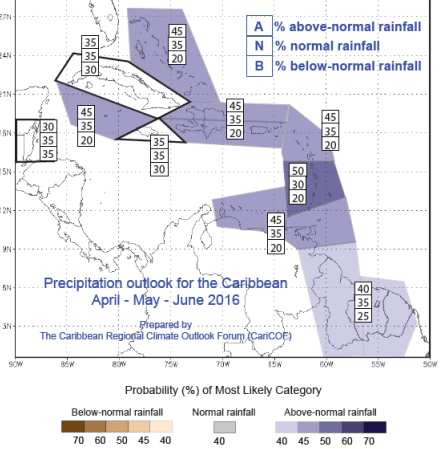
Wet day frequency shifts

Forecast for: April to June 2016

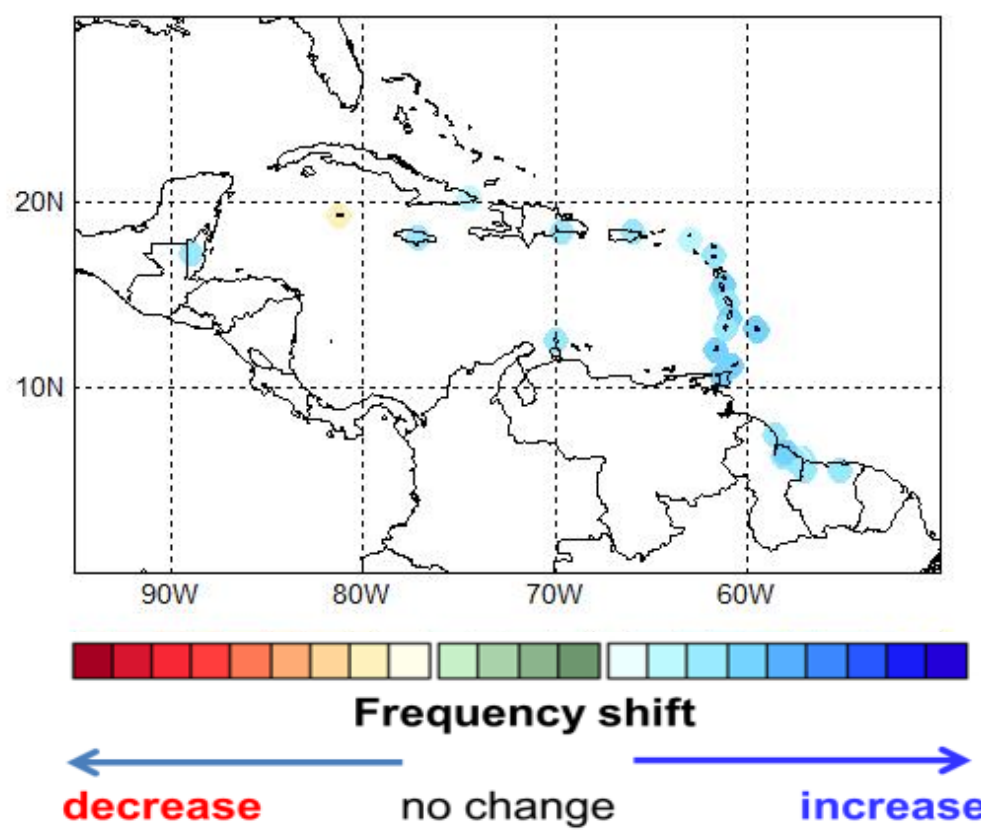
USUALLY: Number of wet days is low in April, and usually increases in May and June.

FORECAST: AMJ rainfall in the Caribbean is likely to be above- to normal across the Caribbean, with **more wet days** (*medium confidence*) in the **Eastern Caribbean, especially in May and June.**

IMPLICATION: Decreasing surface dryness; increasing number of days with disrupted outdoor activities; limited to no recharge of water reservoirs until April.



AMJ 2016 Wet Days Frequency Shift



Wet spells frequency shifts

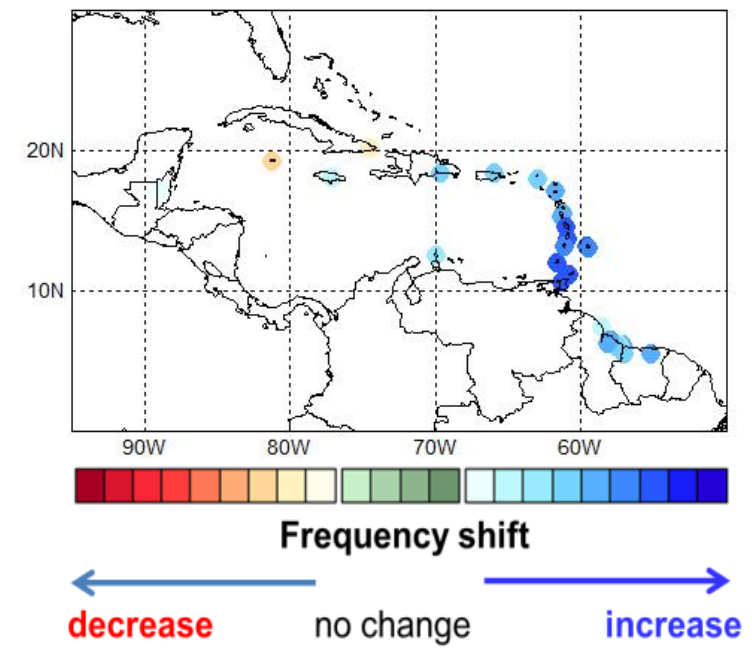
Forecast for: April to June 2016

USUALLY: Number of wet spells is very low in April in eastern Caribbean, and increases in most places in May and June.

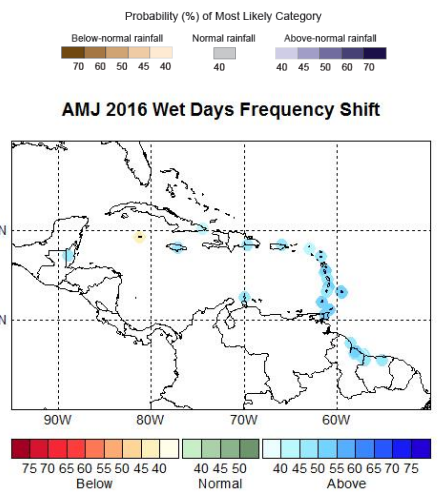
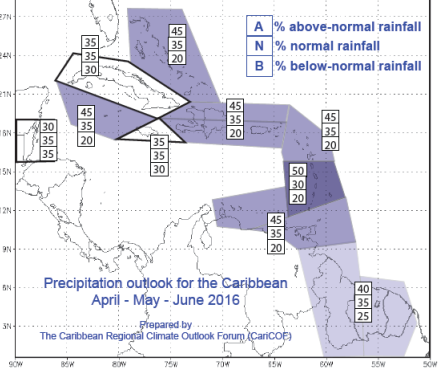
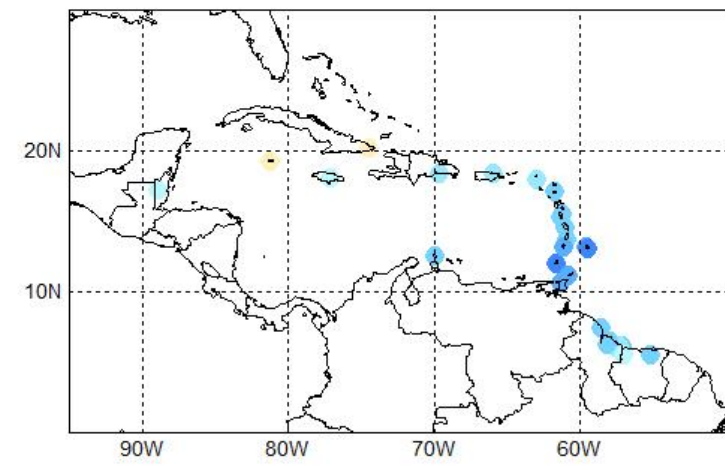
FORECAST: AMJ rainfall in the Caribbean is likely to be above- to normal across the Caribbean, with more wet days (*medium confidence*), **more wet & very wet spells** (*medium to high confidence*) in the Eastern Caribbean, especially in May and June.

IMPLICATION: Increasing surface and soil wetness; good recharge of water reservoirs from May to June.

AMJ 2016 frequency of 7-day wet spells



AMJ 2015 frequency of 7-day very wet spells



Extreme wet spells frequency shifts

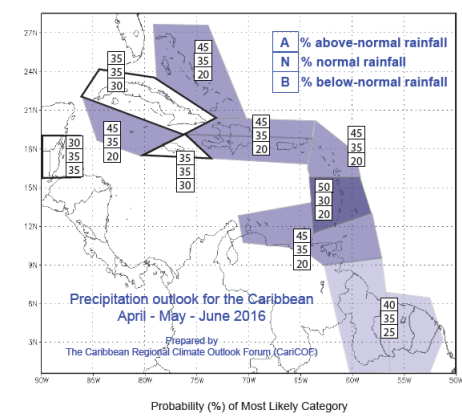
Forecast for: April to June 2016

**MAM 2016 frequency of *extreme* (top 1%)
3-day wet spells**

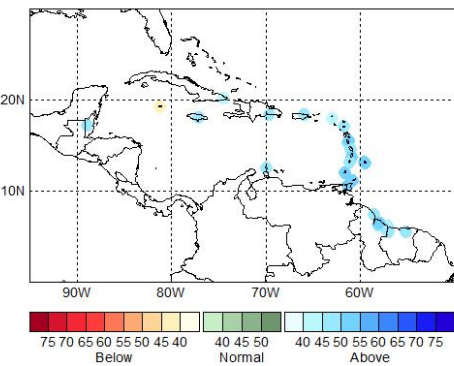
USUALLY: Very few extreme wet spells occur in April, with a chance of generally up to 1-2 extreme wet spell in May & June.

FORECAST: AMJ rainfall in the Caribbean is likely to be above- to normal across the Caribbean, with more wet days (*medium confidence*), more wet & very wet spells (*medium to high confidence*), **more extreme wet spells** (*medium confidence*) in the Eastern Caribbean, especially in May and June.

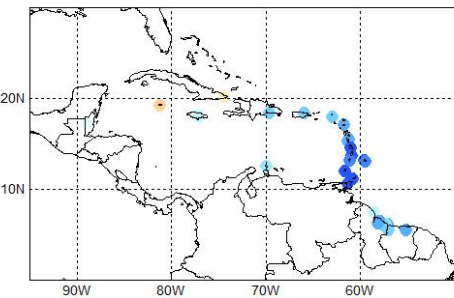
IMPLICATION: Limited flash flood potential up until April, but a marked increase from May.



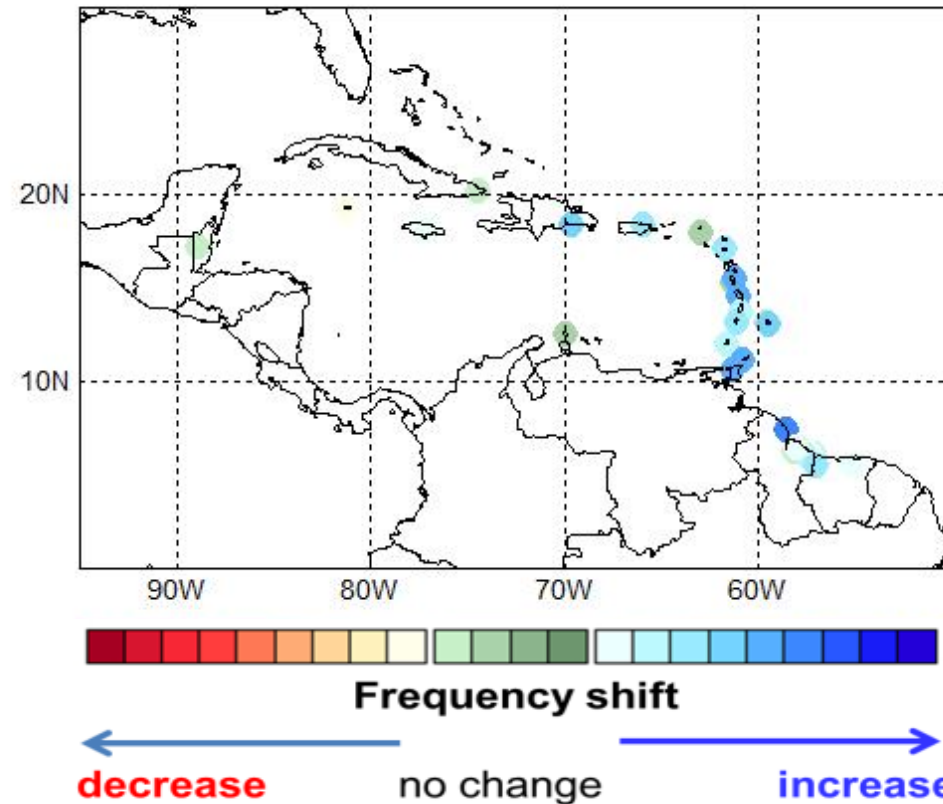
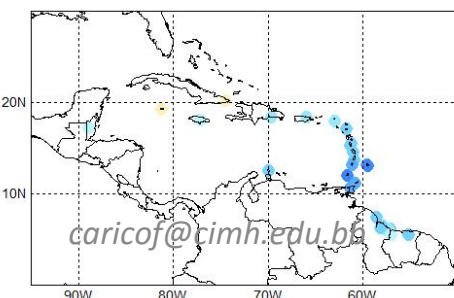
AMJ 2016 Wet Days Frequency Shift



AMJ 2016 7 day wet spell freq shift



AMJ 2016 7 day Very Wet Spell Freq. Shift



April to June 2016

	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)	18-32	20-43	1.1-4.2	1.6-6.6	0.4-2.6	0.9-3.9	0-1.5	0-1.6
Aruba (Beatrix)	4-9	4-14	0.4-1.7	0.2-2.5	0-1.3	0-1.6	0-1	0-0
Barbados (CIMH)	18-36	23-47	0.9-4	1.6-6.6	0.4-1.9	0.8-3.3	0-1	0-0.4
Barbados (GAIA)	19-37	25-47	0.9-4	1.6-6.8	0.3-2.6	1.2-3.9	0-1	0-1.3
Belize (C. Farm)	17-28	19-33	1.2-3	1.1-3.8	0.4-2.1	0.6-2.6	0-1	0-1
Cayman	18-29	15-29	2.1-3.9	1.3-4.2	0.9-2.6	0.6-3.4	0-1	0-1.3
Cuba (Punta Maisi)	7-18	7-22	1.1-3.6	0.7-3.8	0.3-2.1	0-1.8	0-1	0-1.1
Dom. Republic (Las Americas)	17-32	18-38	1.7-4.9	1.8-7	0.6-3.4	0.9-5.1	0-1.2	0-2
Dominica (Canefield)	27-45	29-59	0.8-3.5	1.5-6.9	0-2.6	0.1-3.2	0-0.5	0-0
Dominica (Douglas Charles)	41-63	45-79	0.9-5	1.7-7.1	0.3-2.9	0.6-4.3	0-2	0-2.5
Grenada (MBIA)	19-35	24-47	1.3-3.6	2-6.4	0.3-2.2	1-3.5	0-1	0-0.6
Guyana_73	26-41	29-46	2.8-6.3	4-9.4	1.3-3.6	1.7-5.7	0-1	0-2.2
Guyana (Albion)	37-52	41-58	2.6-5.7	4-8.7	1.3-3	2.2-4.8	0-2	0-2
Guyana (Blairmont)	43-58	45-63	2.9-6.2	4.4-8.3	1.3-3.4	1.9-5.9	0-1.6	0-1.6
Guyana (Charity)	34-53	36-67	2.4-5.7	3-8.5	0.9-3	1.6-4.3	0-1	0-1.7
Guyana (Enmore)	41-54	46-61	2.6-5.6	4.3-9.4	1.3-3	1.3-4.1	0-1.4	0-1.3
Guyana (Georgetown)	45-60	49-65	2.8-6.4	4.7-9.1	1.3-3.6	1.5-5.3	0-1	0-1.3
Guyana (New Amsterdam)	42-61	46-67	3-6.1	4.5-8.3	1.5-3.9	2-5.6	0-2	0-1.9
Guyana (Skeldon)	41-57	45-62	3.2-6.4	4.3-9.2	1.1-3.9	1.9-6.4	0-1	0-1.5
Guyana (Timehri)	48-61	51-68	3-6.4	4.8-9.7	0.9-3.6	2-6	0-2	0-1.8
Guyana_Wales	45-60	51-66	2.9-6.2	4.7-9.7	1.1-4.3	1.4-6.1	0-2	0-1.9
Jamaica (Worthy Park)	20-37	22-47	2.1-5.1	2-6.1	0.9-3	0.8-4	0-2	0-1.8
Martinique (FDF Desaix)	34-51	37-63	1.3-3.6	2.1-6.3	0.4-2.1	0.8-3.4	0-1	0-1.5
Puerto Rico (San Juan)	25-42	27-51	1.7-4.9	1.9-6.7	0.9-3.9	1-5.1	0-2	0-2.1
St. Lucia (Hewanorra)	24-43	28-55	1.1-4.3	1.9-6.8	0.3-2.1	0.7-3.2	0-1	0-1
St. Maarten (TNM)	22-34	23-37	1.3-3.6	1.7-5	0.4-2.1	0.7-3.1	0-1	0-0.7
St. Vincent (ET Joshua)	33-58	38-68	1.1-4	1.6-6.3	0.4-2.1	0.9-3.6	0-1	0-1
Suriname (Zanderij)	56-69	58-73	3.4-7	4.6-10	1.7-4.3	2-5.7	0-2	0-2.1
Tobago (ANR Robinson)	27-44	32-55	1.3-4	2.7-7.3	0.4-1.9	1-3.3	0-1	0-1.5
Trinidad (Piarco)	22-36	26-45	1.3-3.6	2.4-7	0.4-2.3	1-3.6	0-1	0-1.7