

Rainfall frequency and extreme forecasts

—

Wet days and Wet spells Outlooks January to March 2020

**Dr. Cedric VAN MEERBEECK¹, Dr. Teddy ALLEN¹, Dr. Simon MASON²,
Ángel MUÑOZ², Wazita Scott¹, Dale Destin³**

¹Caribbean Institute for Meteorology and Hydrology (CIMH), Barbados

²International Research Institute for Climate and Society (IRI), USA

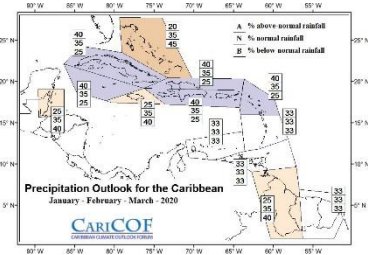
³Antigua and Barbuda Meteorological Services



Wet day frequency shifts

Forecast for: January to March 2020

Precipitation outlook



JFM 2020
Frequency of wet days



USUALLY: Out of 90 days in Jan-Feb-Mar, there are about 15 to 50 wet days (ABC Islands: 10-25; coastal Guianas: 20 to 50).

FORECAST: JFM rainfall may be drier than usual in the Bahamas, and W Guianas, but wetter than usual in Cayman and Cuba. **A decrease in the number of wet days is forecast for most locations in the region** (*medium confidence*).

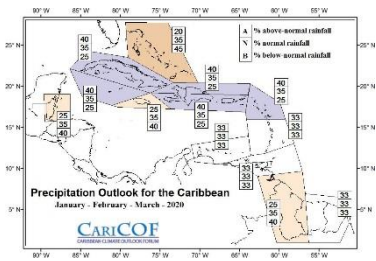
IMPLICATIONS:

- Favourable conditions for outdoor tourism based activities in view of the low number of wet days in Belize and the islands
- Increasing surface dryness, with a possible increase of local airborne dust, towards March across the region.

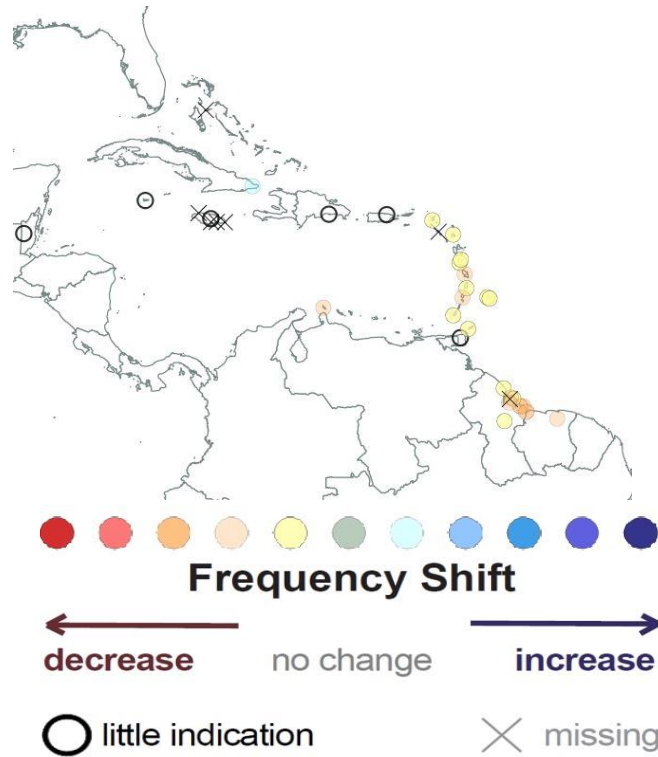
Wet spells frequency shifts

Forecast for: January to March 2020

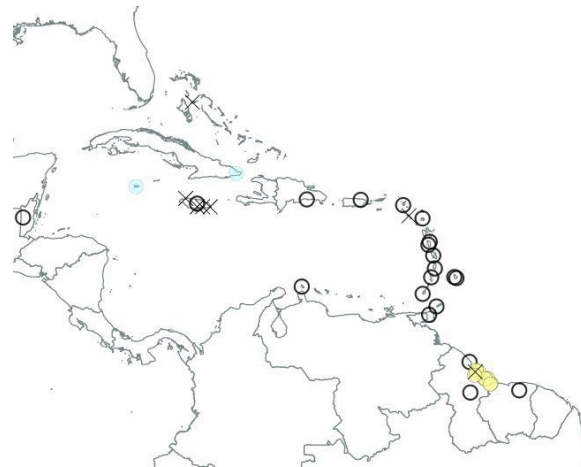
Precipitation outlook



JFM 2020 frequency of 7-day wet spells



JFM 2020 frequency of 7-day very wet spells



Wet days outlook



USUALLY: Between 1 and 4 wet spells occur from January to March (ABC Islands: 1 to 4; coastal Guianas: 1 to 4), with up to 1 or 2 of them ending up very wet (ABC Islands & coastal Guianas: up to 3).

FORECAST: JFM rainfall may be drier than usual in the Bahamas, and W Guianas, but wetter than usual in Cayman and Cuba. A decrease in the number of wet days is forecast for most locations in the region (*medium confidence*). There is a slight decreasing shift in the forecast number of wet spells along the Lesser Antilles, with a more pronounced decrease forecasted for Guyana and Suriname (*low to medium confid.*). There is little forecast indication in shifts in very wet spells.

IMPLICATIONS:

- Very low flooding potential in Belize and the islands at this time of the year, but high in the coastal Guianas until early February.
- Water depletion rates in smaller and larger surface reservoirs and rivers may be accelerated in Belize and the islands.

Extreme wet spells frequency shifts

Forecast for: January to March 2020

USUALLY: Up to 2 extreme wet spells occur from January to March in the coastal Guianas, but with virtually none elsewhere.

FORECAST: JFM rainfall may be drier than usual in the Bahamas, and W Guianas, but wetter than usual in Cayman and Cuba. A decrease in the number of wet days is forecast for most locations in the region (*medium confidence*). There is slight decreasing shift in the forecast number of wet spells along the Lesser Antilles, with a more pronounced decrease forecasted for Guyana and Suriname (*low to medium confid.*). There is little forecast indication in shifts in very wet spells or extreme wet spells (*low to medium confid.*) across most of the region.

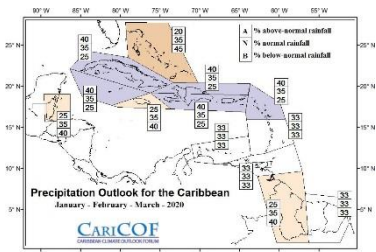
JFM 2020 frequency of extreme (top 1%) 3-day wet spells



IMPLICATION:

- No to marginal flash flood potential in Belize and the islands through March.
- Concern for flash floods in the coastal Guianas in January and early February.

Precipitation outlook



Wet days outlook



Wet spells outlook



Very wet spells outlook



January to March 2020

	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)	16-35	15-35	0.9-2.3	0.6-2.5	0-0.9	0-1	0-0
Aruba (Beatrix)	7-25	4-24	1-4.3	0.6-3.6	0-1.9	0-1.7	0-0	0-0
Barbados (CIMH)	16-38	15-36	0.3-1.7	0.1-1.8	0-0.9	0-0.8	0-0	0-0
Barbados (GAIA)	21-33	15-36	0.6-2.1	0.4-2	0-0.9	0-0.8	0-0	0-0
Belize (C. Farm)	14-26	13-29	0.9-2.6	0.7-2.8	0.4-1.3	0.2-1.3	0-0.3	0-0
Cayman	8-19	8-19	0-1.6	0.1-1.6	0-0.7	0-0.9	0-0	0-0
Cuba (Punta Maisi)	11-19	9-23	1.8-3.4	1.7-4.4	0.4-1.7	0.5-2.1	0-0.4	0-0.1
Dom. Republic (Las Americas)	12-19	11-21	0.8-2	0.5-2.3	0-0.9	0-1.1	0-0	0-0
Dominica (Canefield)	28-46	21-47	0-2.9	0-2.3	0-1.1	0-1.2	0-0	0-0
Dominica (Douglas Charles)	43-59	33-59	0.5-2.1	0.3-2	0-1.3	0-1	0-0	0-0
Grenada (MBIA)	15-30	12-29	0-2.3	0-1.9	0-1	0-0.8	0-0	0-0
Guyana_73	12-27	11-26	0.7-4.4	0.6-3.3	0.4-2.9	0.1-2.1	0-1	0-0.1
Guyana (Albion)	18-44	16-44	0.2-4.7	0.1-3.2	0-2.9	0.1-2.1	0-1	0-0.5
Guyana (Blairmont)	20-51	18-49	0.4-4.2	0.2-3.3	0-2.8	0.1-1.9	0-1.8	0-0.5
Guyana (Enmore)	21-45	20-41	0.4-4.2	0.3-3.7	0.4-3.1	0.1-2.6	0-1.5	0-1.1
Guyana (Georgetown)	23-49	21-47	0.3-4.2	0.1-3.3	0-2.6	0-2.3	0-1.1	0-1.1
Guyana (New Amsterdam)	21-46	20-47	0.4-3.9	0.2-3	0-3	0.1-2	0-1.1	0-0.5
Guyana (Skeldon)	20-46	19-45	0.9-4.2	0.5-3.2	0.3-2.6	0.1-1.9	0-0.4	0-0
Guyana (Timehri)	23-52	23-51	0.4-3.9	0.4-3.2	0-2.6	0-2.1	0-1.1	0-1.1
Jamaica (Worthy Park)	14-26	12-26	0.4-3	0.4-3.3	0-1.5	0-1.5	0-0	0-0
Martinique (FDF Desaix)	40-54	27-57	0.4-2.1	0.2-2.2	0-0.9	0-1.2		
Puerto Rico (San Juan)	26-41	21-39	0.9-2.6	0.8-3.1	0-0.9	0-1.9	0-0.8	0-0.1
St. Lucia (Hewanorra)	24-42	22-40	0.4-2.1	0.5-2	0-0.9	0-1.2	0-0	0-0
St. Maarten (TNM)	28-43	23-43	1.3-3.7	0.8-3.6	0.3-1.4	0.1-1.7	0-0	0-0
St. Vincent (ET Joshua)	38-54	30-55	0.4-2.5	0.1-2	0-1	0-1.3	0-0	0-0
Suriname (Zanderij)	32-53	31-53	1.4-4.3	1-3.7	0.4-2.6	0.5-2.9	0-1	0-0.6
Tobago (ANR Robinson)	17-33	12-32	0-1.4	0-1	0-0.5	0-1	0-0	0-0
Trinidad (Piarco)	15-33	12-32	0-2.5	0-2	0-1.3	0-1.5	0-0	0-0

brown is a decrease in frequency, light blue an increase, grey none are expected



CARICOF
CARIBBEAN CLIMATE OUTLOOK FORUM

caricof@cimh.edu.bb

rcc.cimh.edu.bb

Caribbean Institute for Meteorology and Hydrology

TEL: (246) 425-1362/3 | FAX: (246) 424-4733