Rainfall frequency and extreme forecasts

Wet days and Wet spells Outlooks September to November 2021

Dr. Cedric VAN MEERBEECK¹, **Dr. Teddy ALLEN**¹, Dr. Simon MASON², Dr. 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











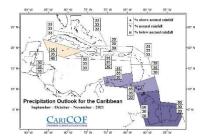




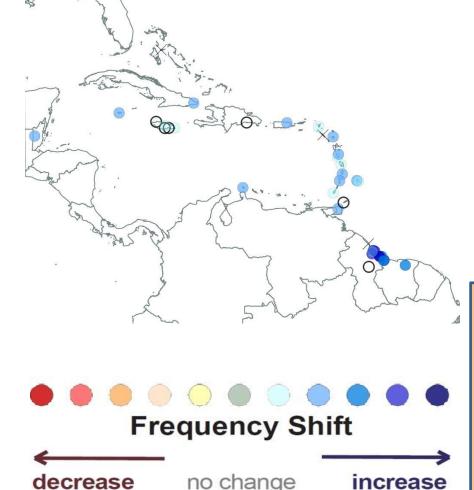
Wet day frequency shifts

Forecast for: September to November 2021

Precipitation outlook



SON 2021 Frequency of wet days



little indication

USUALLY: Out of 91 days in Sep-Oct-Nov, there are about 35 to 50 wet days (coastal Guianas: 20-35; ABC Islands: 10-20).

FORECAST: Potentially more rainfall than usual across the ABC islands, the Guianas and Trinidad and Tobago, but possibly drier than usual in the Cayman Is. This is accompanied by a likely increase in the number of wet days for most of the region (medium to high confidence).

IMPLICATIONS:

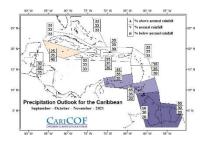
missing

- Outdoor activity disruptions and environmental conditions conducive to moisture related pests due to rainfall should be frequent due to the annual peak in the number of wet days in Belize and the islands.
- More frequent disruptions of outdoor activities than usual for the dry season in the Guianas.

Wet spells frequency shifts

Forecast for: September to November 2021

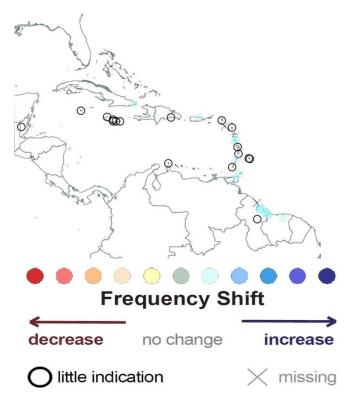
Precipitation outlook







SON 2021 frequency of 7-day wet spells



SON 2021 frequency of 7-day very wet spells



USUALLY: Between 3 and 6 wet spells (coastal Guianas: 1-3) occur from September to November, with 1 to 4 of them ending up very wet (coastal Guianas: up to 2).

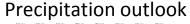
FORECAST: Potentially more rainfall than usual across the ABC islands, the Guianas and Trinidad and Tobago, but possibly drier than usual in the Cayman Is. This is accompanied by a likely increase in the number of wet days for most of the region (medium to high confidence) but little indication of major shifts in the number of wet and very wet spells (low confid.).

IMPLICATIONS:

- Effective recharge of large water reservoirs and increased soil moisture saturation in view of the many wet spells during the peak of the wet season in Belize and the Caribbean Islands.
- The chance of successive very wet spells translates to flood potential being high in Belize and most islands (from October in the ABC Islands), but moderate in the Guianas during the dry season until mid-November.

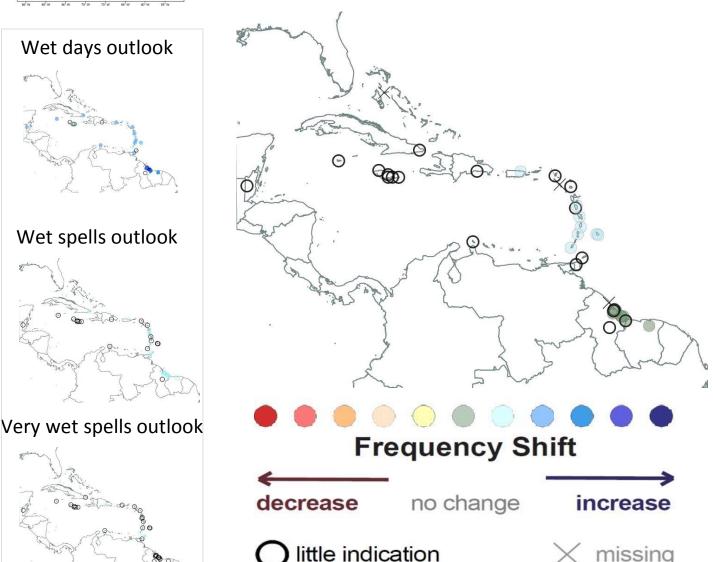
Extreme wet spells frequency shifts

Forecast for: September to November 2021





SON 2021 frequency of *extreme (top 1%)* **3-day wet spells**



USUALLY: Up to 2 extreme wet spells occur from September to November, except in the Guianas where it is the dry season.

FORECAST: Potentially more rainfall than usual across the ABC islands, the Guianas and Trinidad and Tobago, but possibly drier than usual in the Cayman Is. This is accompanied by a likely increase in the number of wet days for most of the region (medium to high confidence) but little indication of major shifts in the number of wet, very and extreme wet spells (low confid.), apart from a possibly higher than usual number of extremely wet spells along Barbados and the Windward Islands (low confid.).

IMPLICATIONS:

• In view of the high chance of extreme wet spells in Belize and the islands, the potential for flash floods and associated hazards is expected to be high or even extremely high. The potential is expected to be limited to moderate in the Guianas.

September to
November 2021

November 2021	No.	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)	31-44	33-46	3.2-6	3-6.2	1.5-3.9	1.3-4.5	0-1		
Aruba (Beatrix)	14-30	15-36	2.6-6.9	2.4-7.1	1.3-5.1	1.3-4.9	0-3	0-2.6	
Barbados (CIMH)	37-50	37-54	4.1-6.9	3.5-7.2	2.1-4.3	2.1-4.5	0-3	0-2.9	
Barbados (GAIA)	40-48	38-51	4.1-6.4	3.9-7	2.1-3.9	2.1-4.6	0-2		
Belize (C. Farm)	31-48	33-54	3.1-5.6	2.8-6.1	1.7-3.4	1.5-3.8	0-2	0-2	
Cayman	30-46	32-50	3.9-6.4	3.5-7	1.8-4.3	1.8-4.6	0-2.7	0-2.6	
Cuba (Punta Maisi)	19-31	19-35	3-6.2	3-7.2	1.3-4.7	1.4-4.2	0-2		
Dom. Republic (Las Americas)	28-38	26-42	3.4-6	3.2-6.7	1.3-4.3	1.6-4.3	0-2	0-2	
Dominica (Canefield)	41-55	42-58	2.9-6.3	2.9-6.9	1.7-3.7	1.5-4	0-1.7		
Dominica (Douglas Charles)	56-68	56-74	3.6-6.2	3.8-6.9	1.7-3.7	1.8-4.1	0-1.2		
Grenada (MBIA)	35-47	33-51	3.7-6	3.1-6.8	1.6-4.1	1.4-4.5	0-2.3	0-2.2	
Guyana_73	10-18	11-25	0.4-2.4	0.5-2.9	0-1.1	0-1.2	0-0		
Guyana (Albion)	11-26	14-42	0.4-2.4	0.6-3.2	0-0.9	0-1.2	0-0.4	0-0.3	
Guyana (Blairmont)	14-30	17-43	0.4-2.1	0.5-3	0-1.3	0-1.3	0-0		
Guyana (Charity)									
Guyana (Enmore)	12-32	18-47	0.4-2.6	0.6-3.3	0-1.3	0-1.4	0-0		
Guyana (Georgetown)	19-37	25-46	0.4-3	0.8-3.6	0.2-1.5	0.1-1.5	0-1	0-1.1	
Guyana (Greatfall)									
Guyana (New Amsterdam)	16-27	18-41	0.4-2.6	0.6-3	0-1.7	0-1.5	0-1	0-0.5	
Guyana (Skeldon)	16-32	19-40	0.5-2.6	0.8-3.3	0.4-1.3	0.3-1.4	0-0.6	0-0.4	
Guyana (Timehri)	31-42	34-51	1.3-3	1.5-3.4	0.4-1.7	0.5-1.8	0-0		
Guyana_Wales	25-40	25-41	1.3-3.2	1.3-3.8	0.4-1.7	0.3-2	0-0.7		
Jamaica (Worthy Park)	26-46	27-50	3-5.6	3.1-6.4	1.7-3.5	1.4-4	0-2	0-2	
Martinique (FDF Desaix)	52-62	46-67	3.9-6.4	3.4-7.2	2.1-3.9	2.1-3.8	0-2		
Puerto Rico (San Juan)	38-52	40-55	3.5-5.8	3.3-6.6	1.3-3.4	1.4-3.7	0-1		
St. Lucia (Hewanorra)	43-53	44-56	4-6	3.7-6.3	2.1-3.9	1.9-3.9	0-2	0-2	
St. Maarten (TNCM)	36-50	36-53	3-6	3-6.3	1.7-3.4	1.6-3.6	0-2	0-1.9	
St. Vincent (ET Joshua)	54-65	53-68	3.9-6.4	3.9-7.4	1.8-4.1	1.8-4.1	0-2.9	0-2.7	
Suriname (Zanderij)	22-36	26-41	0.9-2.1	1-2.4	0-1.3	0-2.1	0-0.3	0-0.2	
Tobago (ANR Robinson)	43-53	42-57	3.2-5.6	3.1-6.6	1.7-3.2	1.3-3.5	0-1		
Trinidad (Piarco)	41-51	38-52	3.7-6	3.6-6.6	2-3.4	1.6-3.4	0-2	0-2.1	



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