



# Caribbean climate outlook June to November 2014

**CariCOF** - The Caribbean Climate Outlook Forum

## WHAT HAPPENED?

## February to April 2014 (FMA)

Wet in Cuba, Cayman, Grenada, and Guianas; dry in ABC Islands, Belize and Leeward Islands

### + impacts

little heat stress on humans, plants & animals, drought relief in Grenada

### - impacts

little sun for Bahamas tourists, local water shortages

### Notable climate events

- 8mm of rainfall recorded in April at one station in Barbados, while 12mm of rainfall was recorded in Tobago.

### Summary

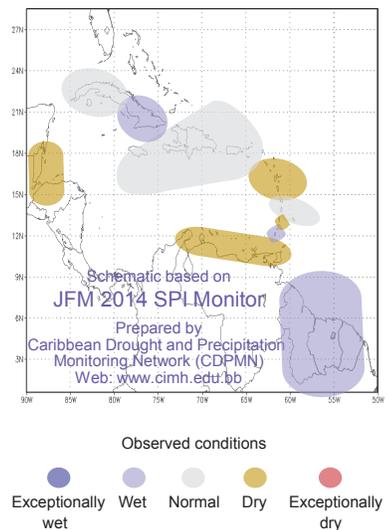
- February wet in Cuba and Grenada, dry in Antigua, Guadeloupe and St. Kitts; March wet in Grand Cayman and Jamaica, dry in Leeward Islands. April wet in Grand Cayman, Eastern Cuba and St. Croix, Dry in Anguilla, Barbados and St. Vincent.

- Mild throughout, above-average temperature in north-west.

### Headline Impacts

- Dry conditions in Antigua contributed to very low water levels in the country's largest freshwater reservoir.
- Dry conditions in St. Lucia resulted in the John Compton Dam running at half its capacity.
- Utility companies in Trinidad and Tobago and Jamaica have introduced stringent measures as a means of dealing with the low volume of water in reservoirs

## FMA 2014 Precipitation



## WHAT NEXT?

## June - July-August (JJA) 2014

### Consensus Outlook

Possible delayed start of wet season in E Caribbean, dry in ABC Islands; hot across the region

### + impacts

long-term flooding risk not high in E Caribbean and Belize

### - impacts

increasing heat stress, risk of flooding, pests and diseases in NW; potential water shortages in ABC Islands

### Our typical JJA rainfall patterns

#### 1. Belize:

JUN+ wet season, frequent heavy rainfall;  
JUL  
AUG usually a short dry spell ("Mauga") within wet season.

#### 2. Islands north of 16°N:

JUN wet season, frequent heavy rainfall;  
JUL wet, but usually drier than June;  
AUG usually a drier month within wet season ("mid-summer drought"); increasing frequency and intensity of tropical storms and hurricanes.

#### 3. Islands south of 16°N:

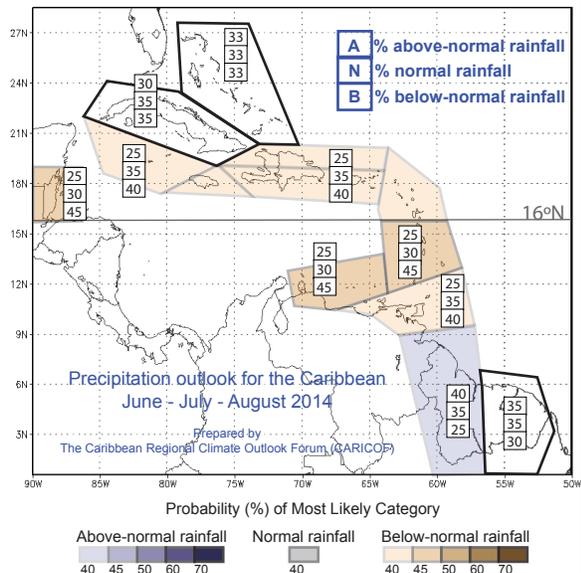
JUN+ wet season, some heavy rainfall in most years;  
JUL  
AUG frequent heavy rainfall; frequent and intense tropical storms and hurricanes.

*Note ABC Islands mostly dry.*

#### 4. Guianas:

JUN+ Wet season in North; frequent heavy rainfall;  
JUL  
AUG No direct hits by tropical storms or hurricanes; occasional heavy rainfall.

### JJA 2014 Precipitation Outlook



JJA rainfall in the Caribbean islands is likely to be below-normal from Belize east- and southward over the Antilles, but above- to normal in western parts of the Guianas; but hardly predictable elsewhere.

<<< see outlook discussion on page 2 >>>

## Climate outlook

### June - July - August

(JJA temperature outlook map available at [www.cimh.edu.bb/?p=precipoutlook](http://www.cimh.edu.bb/?p=precipoutlook))

**Rainfall** **ABC Islands, Barbados, Belize, Leeward Islands:** below- to normal; confidence 75%. **Cayman, Hispaniola, Jamaica, Leeward Islands, Puerto Rico, Trinidad and Tobago, US Virgin Islands:** below- to normal; confidence 75%. **W Guianas:** above- to normal; confidence 75%. **Cuba, E Guianas:** above- or normal; confidence 70%. **Bahamas, Turks and Caicos:** equal chances (climatology).

**Temperature** **Belize, Greater Antilles, Leeward Islands:** above- to normal; confidence 75%. **ABC Islands:** below- to normal; confidence 75%. **Barbados, Guianas, Trinidad and Tobago, Windward Islands:** above- or normal; confidence 70%.

### September - October - November

(SON precip. and temp. outlook maps available at [www.cimh.edu.bb/?p=precipoutlook](http://www.cimh.edu.bb/?p=precipoutlook))

**Rainfall** **Barbados, Leeward Islands, Windward Islands:** below- to normal; confidence 75%. **ABC Islands, Greater Antilles, Trinidad and Tobago:** below- to normal; confidence 75%. **Guianas:** below- or normal; confidence 70%. **Bahamas, Belize, Turks and Caicos:** equal chances.

**Temperature** **Hispaniola, Puerto Rico, US Virgin Islands:** above- to normal; confidence 75%. **Cayman, Cuba, Jamaica, Leeward Islands:** above- to normal; confidence 75%. **ABC Islands:** below- to normal; confidence 75%. **Barbados, Belize, Trinidad and Tobago, Windward Islands:** below- or normal; confidence 70%. **Guianas:** above- or normal; confidence 70%.

## What influences the next season?

### El Niño Southern Oscillation (ENSO)

**Recent observations:** ENSO neutral; sea-surface temperatures (SSTs) warmed to 0.5°C above average in equatorial eastern Pacific (NINO3.4).

**Model guidance:** a majority indicate upward trend to 0.5-1.5°C above average by SON, initiating an El Niño event potentially as early as MJJ.

**Forecast:** 67% confidence in El Niño conditions by JJA, 75% confidence in El Niño during SON.

**Expected impacts on rainfall and temperatures:** real chance for a shift to below-normal rainfall south of 20°N for JJA (including a delay of onset of wet season), increasing substantially into SON.

### Climate conditions in the Tropical North Atlantic and Caribbean

**Recent observations:** SSTs 0.5-1.5°C above average (that is near-record warm) around the northern islands, below-average to the east of the Antilles, but warming noted in April; trade winds slightly above average strength until March, below in April.

**Expected conditions:** above average SSTs forecasted to remain in the north; SST predictions, however, differ in their evolution eastwards from the ABC islands and into the shores of Africa, with some suggesting increasing anomalies by SON; trade winds expected to possibly return to stronger than average, especially over the ABC Islands in SON.

**Expected impacts:** warm SSTs from around the Cayman Islands to far north-east of the Bahamas expected to shift rainfall somewhat to above-normal there. The cool Atlantic temperatures slow down strong atmospheric convection, thus potentially reducing the severity of storm-related property damage. The signal is for decreased precipitation especially in the E Caribbean.

## Precipitation outlook - background

The Caribbean Climate Outlooks are prepared by the Caribbean Regional Climate Outlook Forum (CariCOF). The Caribbean Institute for Meteorology and Hydrology, in its role as WMO Regional Climate Centre in demonstration phase, coordinates the CariCOF process.

Contributors to the outlooks are the Meteorological Services from the region.

This consensus outlook is produced by combining global, regional and national forecasts and expert interpretation. National and region-wide forecasts produced using the Climate Prediction Tool (CPT) are considered together with global dynamical climate models. Global forecasts that are examined include those from the IRI, the U.K. Met Office, ECMWF, Météo-France, the WMO LRF-MME and the APCC.

Probabilities for three-month rainfall totals are estimated for sub-regions based on the model outputs, the level of agreement between the different models and expert knowledge of the regional setting.

The Precipitation Outlook is issued in the form of a map, which shows regions where the forecast rainfall has the same probabilities to be:

- Above-normal (A) - within the wettest third of the historical record
- Near-normal (N) - within the middle third of the historical record
- Below-normal (B) - within the driest third of the historical record

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