



# Caribbean climate outlook July to December 2014

**CariCOF** - The Caribbean Climate Outlook Forum

## WHAT HAPPENED?

## March - April - May (MAM) 2014

Very dry in Barbados & Guianas, dry in ABC Islands and Windward Islands; increasingly hot into May

### + impacts

initially little heat stress on humans, plants & animals

### - impacts

growing water shortage in Eastern Caribbean and rising heat stress

### Notable climate events

- April and May combined record dry in Barbados with 16.1 and 22.6mm at the two main weather stations.

### Summary

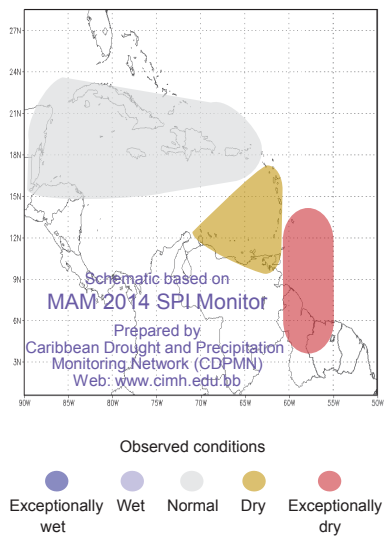
- March wet in Grand Cayman and Jamaica, dry in Leeward Islands. April wet in Grand Cayman, Eastern Cuba and St. Croix; dry in Anguilla, Barbados and St. Vincent. May dry in Grenada, St. Lucia and St. Vincent and very dry in Barbados and eastern Guyana; wet in US territories.

- 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.

## MAM 2014 Precipitation



## WHAT NEXT?

## July - August - September (JAS) 2014

### Consensus Outlook

First part of wet season in most islands possibly drier than usual, ABC Islands dry; hot across the region

### + impacts

long-term flooding risk relatively low in most of the region

### - impacts

elevated heat stress, especially in drier areas; potential reduced recharge of water reservoirs

### Our typical JAS rainfall patterns

#### 1. Belize:

JUL wet season, frequent heavy rainfall;  
 AUG usually a short dry spell ("Mauga") within wet season;  
 SEP wetter, most frequent tropical storms, hurricanes and extreme rainfall events

#### 2. Islands north of 16°N:

JUL+ wet season, usually with a drier month or so ("mid-summer drought"); increasing frequency and intensity of tropical storms and hurricanes  
 AUG  
 SEP wetter; most frequent tropical storms and hurricanes

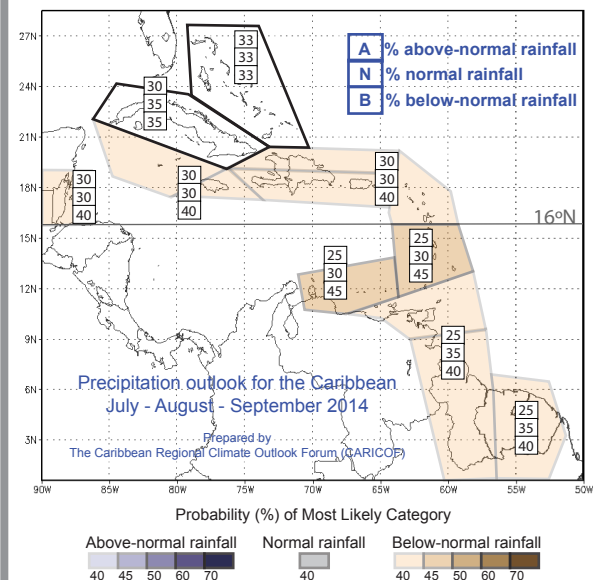
#### 3. Islands south of 16°N:

JUL wet season, usually some heavy rainfall;  
 AUG frequent heavy rainfall; frequent and intense tropical storms and hurricanes  
 SEP wetter, frequent heavy rainfall; most frequent tropical storms and hurricanes  
 Note ABC Islands mostly dry.

#### 4. Guianas:

JUL Wet season in North; frequent heavy rains;  
 AUG No direct hits by tropical storms or hurricanes; occasional heavy rainfall  
 SEP dry season, frequent dry spells, occasional heavy rainfall

## JJA 2014 Precipitation Outlook



JAS rainfall in the Caribbean is likely to be below- to normal with the highest confidence in the ABC Islands, Barbados and the Windward Islands, but hardly predictable in the Bahamas, Cuba and Turks and Caicos.

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

## Climate outlook

### July - August - September

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

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

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

### Drought conditions April to September 2014

(AMJJAS drought alert map available at [www.cimh.edu.bb/?p=precipoutlook](http://www.cimh.edu.bb/?p=precipoutlook))

**Expected impactful drought:** coastal French Guiana; confidence 50-80%, Guyana and Martinique; confidence 30-60%.

**Imminent drought risk:** Southern Caribbean under **drought warning** (Barbados, Curaçao, French Guiana, St. Vincent) or **drought watch** (elsewhere south of 16°N).

**Long-term drought concern:** reduced water availability beyond the wet season, especially in Eastern and Southern Caribbean.

### September - October - November

(OND 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 80%. **ABC Islands, Greater Antilles (except Cuba), Trinidad and Tobago, W Guianas:** below- to normal; confidence 75%. **Cuba, E Guianas:** below- to normal; confidence 75%. **Bahamas, Belize, Turks and Caicos:** equal chances.

**Temperature** **Belize, Cayman, Cuba, Hispaniola:** above- to normal; confidence 75%. **Other islands:** above- to 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 OND, initiating an El Niño event potentially as early as MJJ.

**Forecast:** 70-75% confidence in El Niño conditions by JAS, 80% confidence in El Niño during OND.

**Expected impacts on rainfall and temperatures:** real chance for a shift to below-normal rainfall south of 20°N for JAS, increasing into OND.

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

**Recent observations:** SSTs 0.5-1.0°C above average around Hispaniola and the Bahamas, below-average to the east of the Antilles, near-average elsewhere; trade winds slightly below average since April.

**Expected conditions:** above average SSTs forecasted to return closer to average in the north, while not much change is expected elsewhere; trade winds expected to possibly return to stronger than average, especially over the ABC Islands in OND.

**Expected impacts:** Cooler Atlantic temperatures this Caribbean wet season (compared to previous years) slow down deep atmospheric convection, potentially reducing the severity of storm-related property damage. The signal is for decreased precipitation especially in the E Caribbean.

## Precipitation and temperature 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 and average temperatures 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/hottest third of the historical record
- Near-normal (N) - within the middle third of the historical record
- Below-normal (B) - within the driest/coldest third of the historical record

### DISCLAIMER

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