



# Caribbean climate outlook April to June 2014

**CariCOF** - The Caribbean Climate Outlook Forum

## WHAT HAPPENED?

## December - January - February (DJF) 13/14

Wet in Windward Islands, Bahamas, Belize, Cuba and Guianas; dry in ABC Islands

### + impacts

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

### - impacts

deaths and substantial losses from local floodings, little sun for Bahamas tourists

### Notable climate events

- Windward Islands: near-record rainfall in December in Dominica, St. Lucia and St. Vincent, up to 400 mm in 48h.

### Summary

- December very wet in Anguilla, Dominica, Grenada, St. Lucia, St. Vincent; January wet in Bahamas, Barbados, Belize, Grenada, St. Lucia, Trinidad and parts of Guianas, dry in ABC Islands & SW Leewards. February wet in Cuba and Grenada, dry in Antigua, Guadeloupe and St. Kitts.

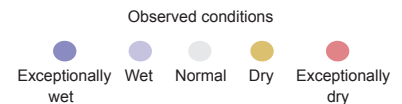
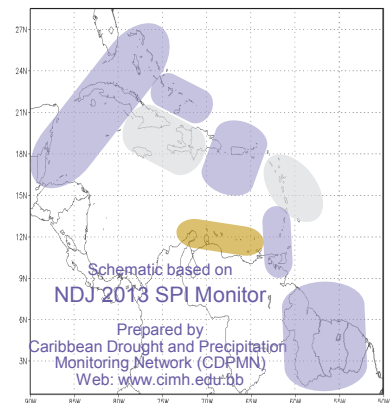
- Mild throughout, above-average temperature in north-west.

### Headline Impacts

- December rains in Dominica, St Vincent, St. Lucia, leading to damaged homes and infrastructure, eight casualties; in NE Puerto Rico leading to widespread flooding.

- Dry conditions in Antigua prevented very low water levels in the country's largest freshwater reservoir from going up.

## DJF 13/14 Precipitation



## WHAT NEXT?

## April - May - June (AMJ) 2014

### Consensus Outlook

mild & dry for most areas in April, becoming wetter (except the ABC Islands) and hotter by May

### + impacts

initially little heat stress and reduced risk of pests and diseases

### - impacts

potential water shortages in ABC Islands and Haïti

### Our typical AMJ rainfall patterns

#### 1. Belize:

APR dry season; mostly without heavy rainfall; high elevations wetter;  
MAY transition to wet season, heavy rainfall in some years;  
JUN wet season, frequent heavy rainfall.

#### 2. Islands north of 16°N:

APR dry season; alternation of sunny days with short spells of showers, mostly without heavy rainfall; high elevations wetter;  
MAY start of wet season, some heavy rainfall in most years;  
JUN wet season, frequent heavy rainfall.

#### 3. Islands south of 16°N:

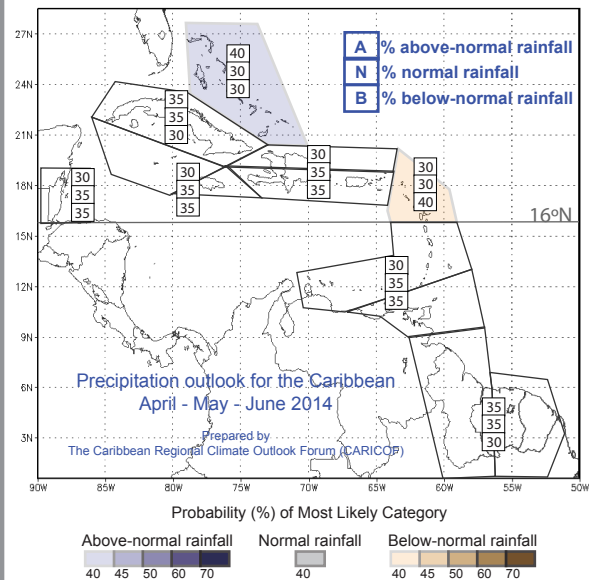
APR+ dry season; alternation of sunny and showery days, heavy rainfall in some years; high elevations wetter;  
MAY start of wet season, some heavy rainfall in most years;  
JUN start of wet season, some heavy rainfall in most years.

Note ABC Islands mostly dry.

#### 4. Guianas:

APR dry season; occasional heavy rainfall and thunderstorms;  
MAY+ Wet season in North; frequent heavy  
JUN rainfall.

### AMJ 2014 Precipitation Outlook



AMJ rainfall over the Caribbean islands is likely to be above- to normal in Bahamas and Turks and Caicos, below- to normal in the Leeward Islands and hardly predictable elsewhere.

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

## Climate outlook

### April - May - June

**Rainfall** **Bahamas, Turks and Caicos:** above- to normal; confidence 70%. **Leeward Islands:** below- to normal; confidence 70%. **Cuba, Guianas:** above- or normal; confidence 70%. **Other areas:** below- or normal; confidence 70%.

**Temperature** **Islands north of 16°N and west of 65°W:** above-normal; confidence 70%. **Other areas:** above- to normal; confidence 80%.

### July - August - September

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

**Rainfall** **ABC Islands, Belize:** below- to normal; confidence 75%. **Antilles (except ABC Islands and Cuba), Guianas:** below- to normal; confidence 75%. **Bahamas, Turks and Caicos:** above- or normal; confidence 70%. **Cuba, eastern half of Guianas:** below- or normal; confidence 70%.

**Temperature** **Islands north of 16°N and west of 65°W, Guianas:** above-normal; confidence 70%. **Other areas:** above- to normal; confidence 80%.

## What influences the next season?

### El Niño Southern Oscillation (ENSO)

**Recent observations:** ENSO neutral; sea-surface temperatures (SSTs) close to average in the equatorial eastern Pacific (NINO3.4).

**Model guidance:** a majority indicate upward trend to 0.5-2°C above average in JAS, initiating an El Niño event; others indicating warm-neutral.

**Forecast:** neutral ENSO conditions for AMJ with 68% confidence, roughly 50% confidence in El Niño onset by JAS.

**Expected impacts on rainfall and temperatures:** no noted influence for AMJ, real chance for a shift to below-normal rainfall south of 20°N for JAS, including a delay of onset of wet season, and a small shift to above-normal rainfall further north.

### 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, average to the east of the Antilles; trade winds slightly above average strength; atmospheric moisture slightly below average.

**Expected conditions:** above average SSTs forecasted to remain in the north; rise in SST to slightly above average expected to the east of the islands by July; atmosphere expected to contain little moisture during dry season, increasing into May-June, which marks the usual onset of the wet season (except in the ABC Islands); trade winds expected to possibly remain stronger than average, especially over the ABC Islands in JAS.

**Expected impacts:** warm SSTs around the Bahamas expected to shift rainfall somewhat to above-normal. Strength of the trade winds over the islands shows little predictability at present; if any, the signal is for decreased precipitation.

## What caused recent climate events?

**Near-record rainfall in December in Windward Islands:** Up to three times the normal rainfall sum for the month of December fell between December 24th and 26th from St. Vincent to the south to Dominica to the north, as a perturbation in the lower atmosphere (a trough system) dumped very heavy rain mostly at night at a weatherwise usually uneventful time of the year.

## 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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