

# Caribbean climate outlook March to May 2014

**CariCOF** - The Caribbean Climate Outlook Forum

## WHAT HAPPENED?

## November - December 2013 and January 2014 (NDJ)

Wet in Bahamas, Belize, Guianas & Trinidad; very dry in ABC Islands & Haïti; mild throughout

### + impacts

little heat stress on humans, plants & animals

### - impacts

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

### Notable climate events

- Cuba: Largest rainfall sum for November in Havana in over 30 years, with up to 200 mm of rain on Nov 29<sup>th</sup>.
- Windward Islands: near-record rainfall in December in Dominica, St. Lucia and St. Vincent, up to 400 mm in 48h.

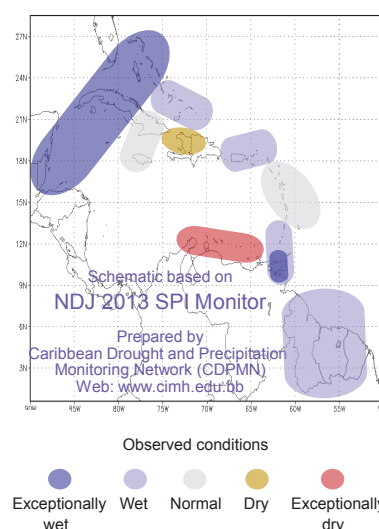
### Summary

- November wet to very wet in Belize, W Cuba, Guianas, Trinidad & Tobago and US Territories, dry in ABC Islands, Haïti, Windward Islands; 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.
- Mild throughout, above-average temperature in north-west.

### Headline Impacts

- November rains in Havana, Cuba leading to flooding, collapsed buildings, two casualties; in central / southern communities in Trinidad leading to damaged homes.
- December rains in Dominica, St Vincent, St. Lucia, leading to damaged homes and infrastructure, eight casualties; in NE Puerto Rico leading to widespread flooding.

## NDJ 13/14 Precipitation



## WHAT NEXT?

## March - April - May (MAM) 2014

### Consensus Outlook

mild & dry for most areas, becoming wetter by May

### + impacts

little heat stress, reduced risk of pests and diseases, drying of drenched soils in some areas

### - impacts

potential water shortages in ABC Islands and Haïti

### Our typical MAM rainfall patterns

#### 1. Belize:

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

#### 2. Islands north of 16°N:

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

#### 3. Islands south of 16°N:

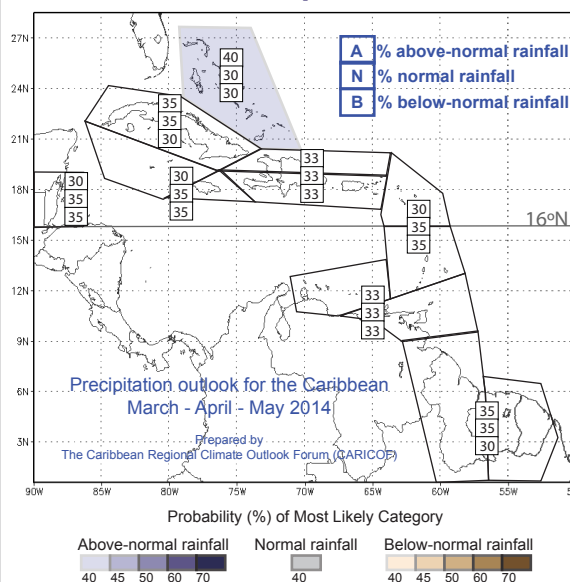
- MAR+ dry season; alternation of sunny and showery days, mostly without heavy rainfall; high elevations wetter.  
APR+  
MAY

Note ABC Islands mostly dry.

#### 4. Guianas:

- MAR+ dry season; occasional heavy rainfall and thunderstorms;  
APR  
MAY Onset of wet season in North; heavy rainfall becomes more frequent

### MAM 2014 Precipitation Outlook



MAM rainfall over the Caribbean islands is likely to be above-normal to normal in Bahamas and Turks and Caicos and hardly predictable elsewhere.

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

## Climate outlook

### March - April - May

**Rainfall** **Bahamas, Turks and Caicos:** above- to normal; confidence 70%. **Cuba, Guianas:** above- or normal; confidence 70%. Barbados, Belize, **Cayman, Jamaica, Leeward and Windward Islands:** below- or normal, confidence 70%. **Other areas:** equal chances (of above-, below- or normal rainfall).

**Temperature** **NW Caribbean:** above-normal; confidence >60%. **SE Caribbean:** normal to above-normal; confidence 80%.

### June - July - August

(JJA 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), western half of Guianas:** below- to normal; confidence 70%. **Bahamas, Turks and Caicos:** above- or normal; confidence 70%. **Cuba, eastern half of Guianas:** below- or normal; confidence 70%.

**Temperature** **NW Caribbean, Guianas:** above-normal; confidence >60%. **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:* most indicate upward trend to 0.5-2°C above average in JJA, initiating an El Niño event.

*Forecast:* neutral ENSO conditions for MAM with 80% confidence, roughly 50% confidence in El Niño onset by JJA.

*Expected impacts on rainfall and temperatures:* no noted influence for MAM, real chance for a shift to below-normal rainfall in the SE for JJA, including a delay of onset of wet season, and a small shift to above-normal rainfall in the north-western most portions of the Caribbean.

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

*Recent observations:* SSTs 0.5-1.5°C above average 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 and to possibly manifest by June to the east; atmosphere expected to contain little moisture during dry season, increasing into May and JJA; trade winds expected to possibly remain stronger than average.

*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?

*Exceptionally wet in November in western Cuba:* Dangerous amounts of rainfall fell on November 29th as a series of powerful thunderstorms released about three times the monthly rainfall sum in Havana, 40% of which falling in 3 hours time in the afternoon.

*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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