



# Caribbean climate outlook July to December 2015

**CariCOF** - The Caribbean Climate Outlook Forum

## WHAT HAPPENED?

## March - April - May (MAM) 2015

Very dry in Dominica & Leeward Islands; temperatures rising to hot (record high in Cuba in April)

### + impacts

little water-bourne diseases outbreaks in dry areas

### - impacts

water shortage in Antigua & Barbuda, St. Lucia & Trinidad, many bushfires & crop losses in Dominica

### Notable climate events - March to May 2015

Observed rainfall records: **Dry** - MAM: 1 station in St. Barth's, 1 in St. Maartenx & 3 in Dom. Rep. (betw. 13-33% of avg.); Apr.: 1 stn. in Aruba, 1 in Dom. Rep., 1 in Martinique, 1 in St. Kitts, 1 in St. Lucia & 1 in Trinidad.

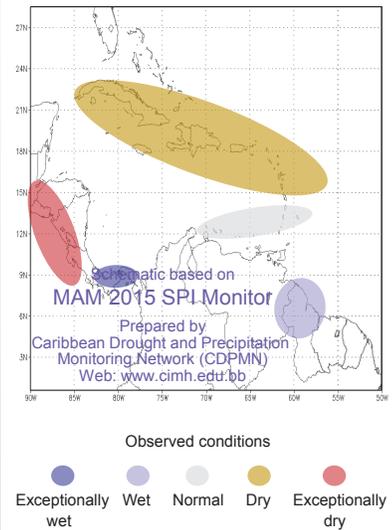
### Summary

March: very wet in Aruba, Barbados, N Guyana and E Jamaica; very dry in Antigua & St. Martin. April: very dry in S Belize, Dominica & E Jamaica. May: very wet in W & E Guiana; very dry in Dominica, St. Kitts & St. Lucia. Temperatures rose in April (to record high in Cuba) and May, and were above- to normal across the Caribbean.

### Headline Impacts

- Continued low rainfall over the past year in Antigua led to Potswork Dam water levels at around 20% in Apr., more bushfires than usually and 65% of farmers running out of business.
- Dry conditions in Dominica impacted vegetation, with more bushfires than usually, and crops (e.g. 35% of onion crop lost).
- St. Lucia declared a water emergency (until July) amidst continuing drought.
- Dry conditions in Trinidad since Jan. reduced water production to 53%.
- Generally dry conditions in April in some regions in Guyana led to shortages of domestic water supply

## MAM 2015 Precipitation



## WHAT NEXT?

## July - August - September (JAS) 2015

### Consensus Outlook

Early wet season drier than usual in E Caribbean, only Bahamas possibly wetter until September; heat becoming uncomfortable.

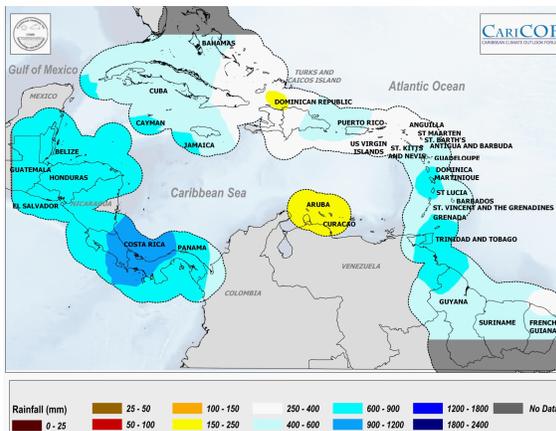
### + impacts

some short-term drought relief, limited water-related pests, epidemics and damage

### - impacts

long-term drought remaining in parts of E. Caribbean; heat stress

### Our typical JAS rainfall patterns



### Belize & Caribbean Islands north of 16°N:

Jul to Aug - wet season. Often incl. a mid-summer dry spell. Sep - wet season. Usually frequent heavy showers.

### Caribbean Islands south of 16°N (except ABC Islands):

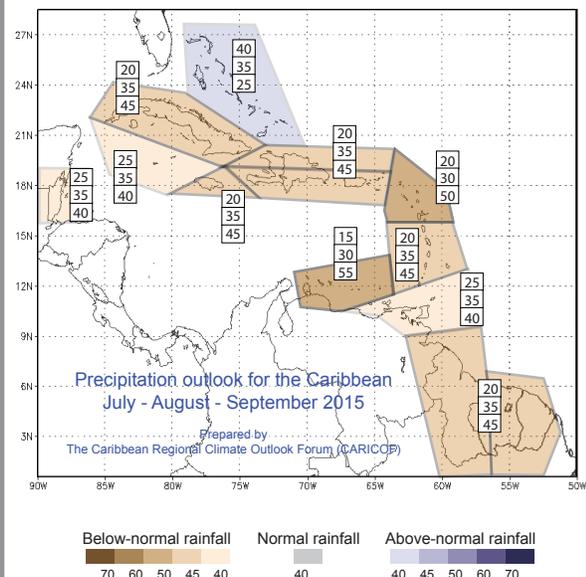
Jul to Sep - wet season. Increasingly frequent heavy showers.

*ABC Islands: mostly dry with occasional wet spells.*

### Guianas:

Jul to Aug - long wet season. Heavy showers are frequent. Sep - dry season. Heavy showers at times.

### JAS 2015 Precipitation Outlook



JAS rainfall in the Caribbean is likely to be below- to normal across the Caribbean, with fewer wet days and wet spells than usual (especially in the Leewards and Windwards). However, in the Bahamas we expect above- to normal.

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

## Climate outlook

### July - August - September

(JAS temperature, wet days and wet spells outlook maps available at [rcc.cimh.edu.bb](http://rcc.cimh.edu.bb))

**Rainfall** **ABC Islands:** below- to normal, confidence 85%, **Leewards:** below- to normal, confidence 80%. **Barbados, Cuba, Guianas, Hispaniola, Jamaica, US C'bean Terr., Windwards:** below- to normal; confidence 80%. **Belize, Cayman, Trinidad & Tobago:** below- to normal; confidence 75%. **Bahamas, Turks & Caicos:** above- to normal; confidence 75%.

**Temperature** **Bahamas, Cuba, S Hispaniola, Leewards, Turks & Caicos, US C'bean Terr.:** above- to normal; confidence 85%. **Jamaica:** above- to normal, confidence 85%. **Barbados, Cayman, Windwards:** above- to normal; confidence 80%. **ABC Islands:** below- to normal, 80% confidence. **Elsewhere:** above- or normal; confidence 70%.

### Drought conditions April to September

(Drought outlook available at [rcc.cimh.edu.bb](http://rcc.cimh.edu.bb))

**Drought situation:** South-eastern Jamaica, Haïti, many of the Windwards, Dominica, St. Lucia and Trinidad & Tobago are in long-term drought and have suffered water shortages. Barbados, the Leewards and parts of the Windwards are in short-term drought.

**Drought alert levels:** **Drought watch:** Barbados, Cayman, Jamaica, Leewards & Windwards, US C'bean Territories and Trinidad & Tobago.

**Long-term concern:** Water shortages may persist throughout the wet season, especially in St. Lucia and some of the Leeward Islands.

### October - November - December

(OND precip. and temp. outlook maps available at [rcc.cimh.edu.bb](http://rcc.cimh.edu.bb))

**Rainfall** **E Guianas:** below- to normal, confidence 80%. **Jamaica:** below- to normal, confidence 80%. **Barbados, Belize, Cayman, W Guianas, Trinidad & Tobago, Windwards:** below- to normal; confidence 75%. **Bahamas, Turks & Caicos:** above- to normal; confidence 75%. **ABC Islands, Leewards:** below- or normal, confidence 70%. **Elsewhere:** equal chances.

**Temperature** **Cayman, Jamaica:** above- to normal; confidence 95%. **Leewards:** above- to normal, confidence 85%. **ABC Islands, Barbados, Belize, S Hispaniola, Trinidad & Tobago, US C'bean Terr., Windwards:** above- to normal; confidence 80%. **Guianas:** above- to normal; confidence 75%.

## What influences the next season?

### El Niño Southern Oscillation (ENSO)

**Recent observations:** moderate El Niño; sea-surface temperatures (SSTs) 1-1.5°C above avg. & rising in equatorial eastern Pacific (NINO3.4).

**Model guidance:** 90-95% of the models indicate continued El Niño conditions for JAS & OND with many suggesting further warming into a strong El Niño event by JAS and OND, while only 0-5% has SSTs decreasing to 0-0.5°C below average beyond JAS.

**Forecast:** 95% confidence in El Niño conditions during JAS and 90% during OND.

**Expected impacts on rainfall and temperatures:** a large shift to higher probabilities for below-normal rainfall and higher temperatures for the region, as El Niño usually weakens the development of rain-, thunder- and tropical storms.

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

**Recent observations:** SSTs 0.5-1°C above-average north of the Caribbean, -1°C to average further east; trade wind speed near to above avg.

**Expected conditions:** SST anomalies expected to weaken; strength of trade winds hardly predictable in most areas, but expected to become stronger over the ABC Islands as a result of the El Niño.

**Expected impacts:** Initially cooler Atlantic temperatures slow down deep atmospheric convection, potentially decreasing precipitation.

## 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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