



# Caribbean climate outlook newsletter

January to June 2016

**CariCOF** - The Caribbean Climate Outlook Forum

## LOOKING BACK

## September - October - November (SON) 2015

Very wet in parts of Belize; somewhat less wet than usual in many places; uncomfortably hot until October.

### + impacts

Drought relief in Belize; raised public awareness on drought

### - impacts

Water shortages; reduced crop production and livestock

### Observations

- **Rainfall:** *November:* very dry in S Dom. Rep.; very wet in S Belize, N Dom. Rep., NW Guyana, W Puerto Rico. *October:* very dry in Aruba and Dominica. *September:* very dry in Anguilla, Dominica, St. Croix, St. Maarten, Trinidad.
- **Temperatures:** *November:* above-normal across the Caribbean and record high in some places (esp. Bahamas).

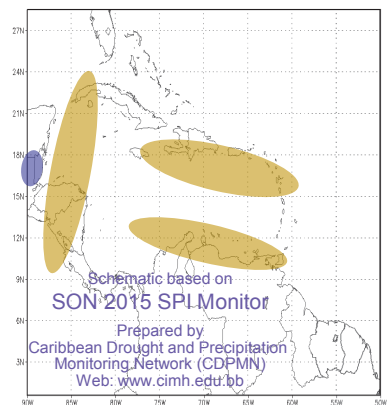
### Notable climate records

- **Dry** - 2 territories had locations that experienced record low rainfall (5-40% of average in parts of Dom. Rep. and 1 location in French Guiana).
- **Wet** - Parts of Belize experienced record high rainfall (with close to twice the avg.).
- **Hot** - 4, 6 and 5 territories had locations that experienced record high min., mean and max. temperatures, resp.

### Notable Impacts

- Prevailing drought across the Caribbean in Anguilla, Antigua, Barbados, Cayman, Cuba, Dom. Rep., Haiti, Jamaica, US C'bean Terr., St. Kitts & Nevis, St. Maarten and St. Lucia, with widespread agricultural losses and/or very low water production, faltering water systems and rationed distribution.

## SON 2015 Precipitation



Observed conditions

Exceptionally wet Wet Normal Dry Exceptionally dry

## What next?

## January - February - March (JFM) 2016

### Consensus Outlook:

Drier than usual peak of the dry season from Leewards southward, less dry in north-west; drier wet season in Guianas; mild.

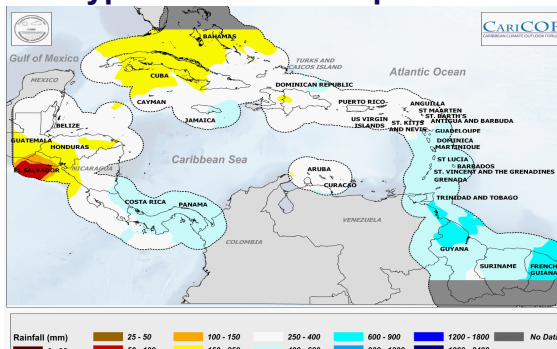
### + impacts

limited water-related pests, epidemics, disruptions of outdoor activities and flood potential

### - impacts

long-term drought remaining in the islands (except Bahamas)

### Our typical JFM rainfall patterns



### Belize:

Jan - start of dry season; occasionally still wet.  
Feb to Mar - dry season. Mostly without heavy rainfall.

### Caribbean Islands north of 16°N:

Jan to Mar - sunny days and some days with showers.

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

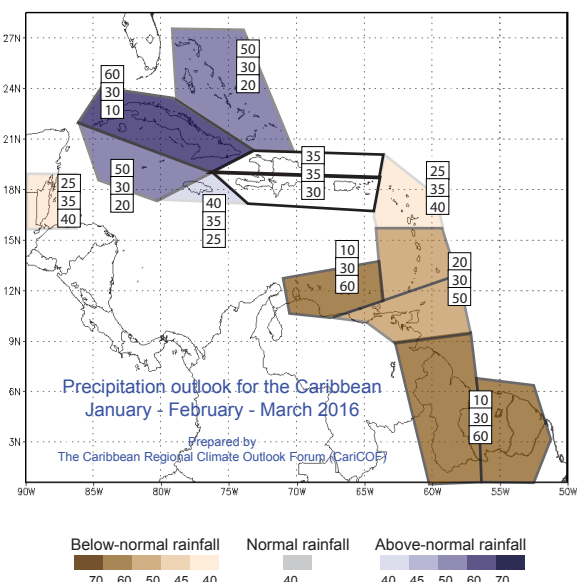
Jan to Mar - sunny days and some days with showers.

*ABC Islands: wet season ending in Jan. Feb to Mar generally dry.*

### Guianas:

Jan - wet season. Frequent, heavy showers.  
Feb to Mar - dry season; occasional heavy showers and thunderstorms.

### JFM 2016 Precipitation Outlook



JFM rainfall in the Caribbean is likely to be below- to normal from the Leeward Islands southward, *with fewer wet days and wet spells than usual*; as well as in Belize, and above- to normal for the Bahamas, Cayman, Cuba, Jamaica and Turks & Caicos.

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

## Climate outlook

### January - February - March

(JFM min., mean & max. temp., wet days & wet spells outlook maps available at [rcc.cimh.edu.bb](http://rcc.cimh.edu.bb))

**Rainfall** **ABC Islands, Guianas:** below- to normal, confidence 90%. **Cuba:** above- to normal, confid. 90%. **Barbados, Trinidad & Tobago, Windwards:** below- to normal, confid. 80%. **Bahamas, Cayman, Turks & Caicos:** above- to normal; confid. 80%. **Belize, Leewards:** below -to normal; confid. 75%. **Jamaica:** above- to normal; confid. 75%. Elsewhere: above- or normal; confid. 70%.

**Max. Temp.** **ABC Islands, Barbados, Guyana, Trinidad & Tobago, Windwards:** above- to normal; confid. 90%. **Leewards, S Hispaniola, Jamaica, US C'bean Terr.:** above- to normal; confid. 90%. **Belize, Cayman:** above- or normal; confid. 80%. **Bahamas, Turks & Caicos:** below- to normal; confid. 80%. **Cuba:** below- to normal; confid. 75%.

### Drought conditions up to March

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

**Drought situation:** Most islands are in long-term drought after record dry wet season. These places have suffered water shortages.

**(as of December 1)** In some islands, short-term drought has been alleviated by wet conditions in October and November.

**Drought alert levels:** **Drought warning:** ABC Islands, Antigua, Barbados, Dominica, N Dom. Rep., Guadeloupe, Guianas, St. Lucia and St. Vincent.

**Long-term concern:** Water shortages will most probably worsen until the next wet season, i.e. until May.

### April - May - June

(AMJ precip., min., mean & max. temp. outlook maps available at [rcc.cimh.edu.bb](http://rcc.cimh.edu.bb))

**Rainfall** **Barbados, Leewards, Trinidad & Tobago, Windwards:** above - to normal, confidence 80%. **Cayman, W Guianas, Hispaniola, Jamaica, US C'bean Terr.:** above- to normal, confidence 80%. **Bahamas, Cuba, E Guianas, Turks & Caicos:** above- to normal, confidence 75%. **Belize:** above- to normal, confidence 70%. **Elsewhere:** equal chances.

**Min. Temp.** **ABC Islands, Trinidad & Tobago:** above- to normal; confidence 90%. **Barbados, Cayman, Jamaica, Windwards:** above- to normal; confid. 90%. **Elsewhere:** above- to normal; confid. 80%.

## What influences the next season?

### El Niño Southern Oscillation (ENSO)

**Recent observations:** very strong El Niño reached peak strength at the end of 2015; sea-surface temperatures (SSTs) 3°C above avg. in equatorial eastern Pacific (NINO3.4).

**Model forecast and guidance:** models indicate continued, but weakening El Niño conditions for JFM (99% confid.) and AMJ (60% confid.).

**Expected impacts on rainfall and temperatures:** shift towards higher probabilities for below-normal rainfall for the east and south, as El Niño usually weakens the development of storms. By contrast, a shift towards above-normal rainfall is noted for the NW C'bean due to reduced winds in the upper atmosphere, which allows for stronger showers. Large shift to higher temperatures for the region, except extreme NW.

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

**Recent observations:** SSTs 0-1°C above-average north & east of C'bean; trade wind speed stronger than avg; upper level winds stronger than usual in the south, weaker in the north.

**Expected conditions:** SST anomalies expected to warm up towards the east; strength of trade winds hardly predictable.

**Expected impacts:** Warm Atlantic temperatures increase evaporation and local deep atmospheric convection, potentially increasing 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

The information contained herein is provided with the understanding that The Caribbean Climate Outlook Forum makes no warranties, either expressed or implied, concerning the accuracy, completeness, reliability, or suitability of the Outlook. The information may be used freely by the public with appropriate acknowledgement of its source, but shall not be modified in content and then presented as original material.