



# Caribbean climate outlook April to September 2015

CariCOF - The Caribbean Climate Outlook Forum

## WHAT HAPPENED?

## December - January - February (DJF) 2014-5

Very wet in Dom. Republic & US Virgin Islands, comfortable temperatures

+ impacts

little water-borne diseases outbreaks in dry areas

- impacts

water shortage in Antigua & Barbuda, S Haïti and E Jamaica; flood-related casualty, evacuations & infrastructural damage

### Notable climate events - December 2014 to February 2015

- Observed rainfall records: **Wet** - DJF: 3 stations in Dom. Republic (between 180% & 340% of average), DEC: 2 stations in Trinidad, 2 stations in W Jamaica, JAN: 1 station in Dom. Republic, FEB: 4 stations in Dom. Republic. **Dry** - DJF: 2 stations in Guadeloupe (45-50% of avg.), DEC: St. Lucia, St. Vincent, 1 station in Belize and 1 in Guadeloupe.
- Note: yr 2014 record dry: Kingston, Jamaica's airport (38% of avg.), Navet, Trinidad & Enmore, Guyana (64% of avg.), 1 station in Dom. Republic.

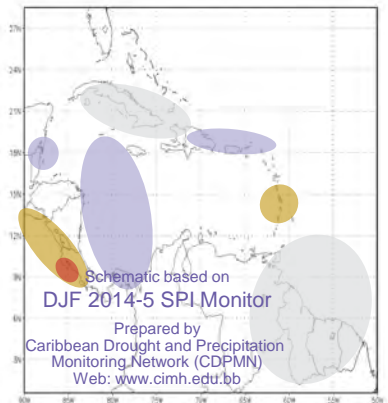
### Summary

- December very dry in Barbados, St. Vincent, St. Lucia and St. Martin; very wet in NW Guyana; N Belize and W Jamaica. January very wet in Dom. Republic, Grenada; very dry in Anguilla and Antigua and Barbuda. February very dry in N Belize.
- Cool and comfortable temperatures (above-normal across the Caribbean).

### Headline Impacts

- Heavy rains during DJF affected N Dom. Republic resulting in floods, with 1 casualty. 15 475 people displaced, 3 979 houses damaged, and 30 communities isolated as of Feb 23rd; heavy rains in Dec. led to flooding in 11 communities and 8 residential landslides in Tobago.
- Low rainfall in Jan. in Antigua led to Potswort Dam water levels below 33%.

## DJF 2014-5 Precipitation



Observed conditions

Exceptionally wet Wet Normal Dry Exceptionally dry

## WHAT NEXT?

## April - May - June (AMJ) 2015

### Consensus Outlook

Possibly wetter than usual as we approach end of dry season; sensation of heat increasing from May.

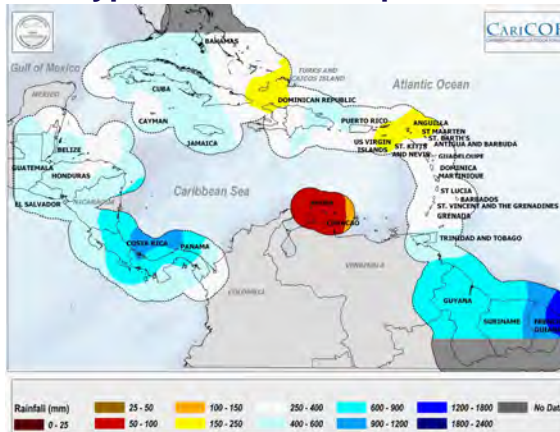
+ impacts

areas with reduced recharge of large/deep water reservoirs during 2014 may see drought subsiding

- impacts

drought potentially remaining in parts of E. Caribbean; heat stress rising into wet season

### Our typical AMJ rainfall patterns



## Climate outlook

### April - May - June

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

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

**Temperature** **Cuba, S Hispaniola, US C'bean Terr.:** above- to normal; confidence 80%. **Barbados, Belize, Cayman, Leewards and Windwards:** above- to normal; confidence 75%. **ABC Islands:** below- or normal; 70% confidence. **Elsewhere:** above- or normal; confidence 70%.

### Drought conditions January to June

(JFMAMJ drought outlook available at [www.cimh.edu.bb/?p=precipoutlook](http://www.cimh.edu.bb/?p=precipoutlook))

**Drought situation:** Cayman, eastern Jamaica, Haïti and part of the Windward Islands are in drought and have suffered water shortages.

**Drought alert levels:** **Drought warning:** drought evolving in S French Guiana. **Drought watch:** many islands east & south of Puerto Rico.

**Long-term concern:** Water shortages may persist in the islands in the dry season, especially in Cayman, Haïti, Jamaica and Windwards.

### July - August - September

(JAS precip. and temp. outlook maps available at [www.cimh.edu.bb/?p=precipoutlook](http://www.cimh.edu.bb/?p=precipoutlook))

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

**Temperature** **Cuba:** above- to normal; confidence 85%. **Jamaica, S Hispaniola, US C'bean Terr.:** above- to normal; confidence 75%. **ABC Islands:** below- to normal; confidence 75%. **Barbados, Cayman, Leewards and Windwards, Trinidad & Tobago:** above- to normal; confidence 75%. **Elsewhere:** below- or normal; confidence 70%.

## What influences the next season?

### El Niño Southern Oscillation (ENSO)

**Recent observations:** weak El Niño; sea-surface temperatures (SSTs) 0.5-1°C above average in equatorial eastern Pacific (NINO3.4).

**Model guidance:** 70% of the models indicate continued above average SSTs for AMJ & JAS with some suggesting further warming into a moderate or strong El Niño event by JAS, while only 5% has SSTs decreasing to 0-0.5°C below average.

**Forecast:** ~55-70% confidence in El Niño conditions during AMJ and JAS.

**Expected impacts on rainfall and temperatures:** a small shift to higher probabilities for below-normal rainfall and higher temperatures south of 20°N, especially for JAS, when El Niño may weaken the development of rain-, thunder- and tropical storms. (NOTE: ENSO is considered a minor factor in explaining our rainfall outlooks made in March, April and May. At this time of year, we know we cannot put much trust in models wrt. ENSO forecasts. Hence, we know ENSO could in principle impact rainfall across the region, but cannot say it with confidence.)

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

**Recent observations:** SSTs 1°C above-average around the Caribbean; trade wind speed above-average.

**Expected conditions:** Some cooling expected; strength of trade winds hardly predictable, but might become stronger over the ABC Islands.

**Expected impacts:** Warmer Atlantic temperatures promote deeper 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

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