



Caribbean climate outlook February to July 2015

CariCOF - The Caribbean Climate Outlook Forum

WHAT HAPPENED?

October - November - December (OND) 2014

Very dry in E Jamaica, Haïti, very wet from Barbados southwards to N Guyana; temperatures at comfortable levels

+ impacts

little water-bourne diseases outbreaks in dry areas

- impacts

water shortage in Haïti and E Jamaica; flood-related infrastructural damage

Notable climate events - October to December 2014

- Observed monthly rainfall records: on the dry end in St. Lucia and St. Vincent (<30% of average) as well as in Middlesex, Belize; on the wet end at 2 stations in Trinidad (Nov.) and 2 stations in W Jamaica (Dec.)
- Note: Driest year on record at Kingston, Jamaica's airport (38% of average) and a station in Dominican Republic.

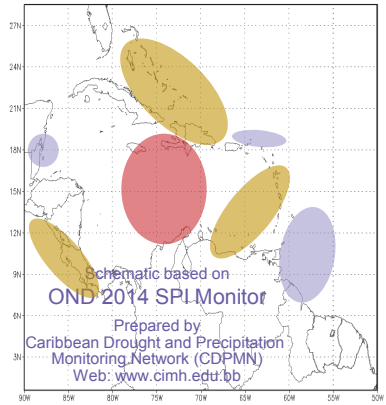
Summary

- October very wet in St. Kitts, Anguilla and W Guyana; very dry in Dominica, St. Vincent, E Jamaica and portions of Puerto Rico. November very wet in Guyana, and Puerto Rico. December very dry in Barbados, St. Vincent, St. Lucia and St. Martin; very wet in NW Guyana; N Belize and W Jamaica.
- Hot in early-October, then cooling to comfortable levels towards December. Above-normal temperatures during Oct-Dec across much of the Caribbean.

Headline Impacts

- Repeated torrential rains affected communities in St. Vincent in September, resulting in landslides and severe flooding; also in Barbados and Trinidad in November, leading to widespread flooding and extensive road damage; finally also in Georgetown, Guyana in November, leading to severe flooding with flood water levels 30-50 centimetres in some areas.

OND 2014 Precipitation



Schematic based on
OND 2014 SPI Monitor
Prepared by
Caribbean Drought and Precipitation
Monitoring Network (CDPMN)
Web: www.cimh.edu.bb

Observed conditions

- Exceptionally wet
- Wet
- Normal
- Dry
- Exceptionally dry

WHAT NEXT?

February - March - April (FMA) 2015

Consensus Outlook

Dry season in some islands possibly wetter than usual; cool across the region

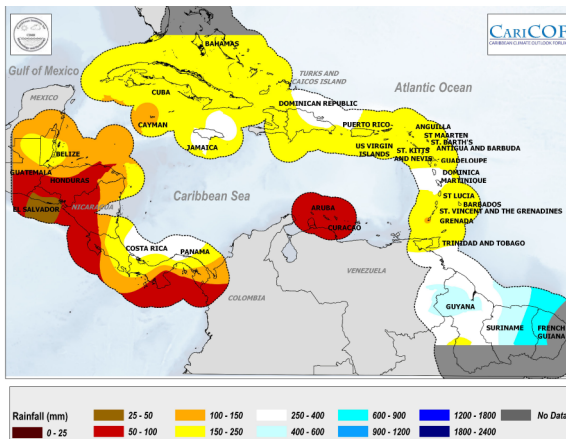
+ impacts

limited heat stress

- impacts

areas with reduced recharge of large/deep water reservoirs during 2014 may see drought evolving or aggravating in early 2015, in particular in Cayman & Jamaica

Our typical FMA rainfall patterns



Belize:

February to April represents the core of the dry season. Heavy showers are mostly limited in area and duration.

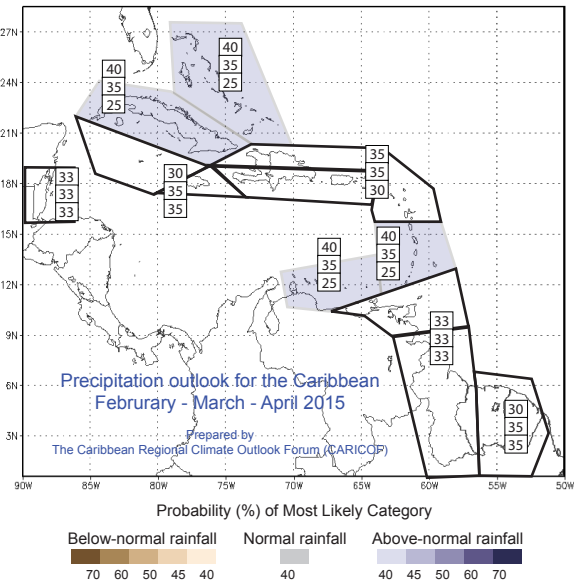
Caribbean Islands:

February to April represents the core of the dry season. Heavy showers are mostly limited in area and duration.

Guianas:

The western Guianas move out of a short rainy season and into a short dry season. In French Guiana, no short dry season is observed.

FMA 2015 Precipitation Outlook



FMA rainfall in the Caribbean is likely to be above- to normal in the ABC Islands, Bahamas, Barbados, Turks & Caicos and the Windward Islands. Note that rainfall is hardly predictable at present in other areas.

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

Climate outlook

February - March - April

(FMA temperature outlook map available at www.cimh.edu.bb/?p=precipoutlook)

Rainfall **ABC Islands, Bahamas, Barbados, Cuba, Turks & Caicos, Windward Islands:** above- to normal; confidence 75%. **Hispaniola, Leeward Islands, Puerto Rico & US Virgin Islands:** above- or normal; confidence 70%. **Cayman, eastern Guianas, Jamaica:** below- or normal; confidence 70%. **Elsewhere:** equal chances for below-, above- or normal.

Temperature **southern Hispaniola, Jamaica, Puerto Rico & US Virgin Islands, Trinidad & Tobago:** above- to normal; confidence 80%. **ABC Islands, Barbados, Leeward Islands:** above- to normal; confidence 75%. **Belize, Guianas, Leeward Islands:** above- to normal; confidence 75%. **Cayman:** above- or normal; confidence 70%. **Cuba:** equal chances.

Drought conditions November to April

(NDJFMA drought outlook available at www.cimh.edu.bb/?p=precipoutlook)

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

Drought alert levels: **Drought warning:** drought is evolving in SE Belize. Protect resources. **Drought watch:** most islands south of 16°N.

Long-term concern: Water shortages may occur in portions of the islands during the dry season, especially in Cayman, Haïti and Jamaica.

May - June - July

(MJJ precip. and temp. outlook maps available at www.cimh.edu.bb/?p=precipoutlook)

Rainfall **Barbados, Hispaniola, Leeward & Windward Islands, Puerto Rico & US Virgin Islands:** above- to normal; confidence 75%. **Bahamas, Cuba, eastern Guianas, Trinidad & Tobago, Turks & Caicos:** above- to normal; confidence 75%. **ABC Islands, Belize, Cayman:** above- or normal; confidence 70%. **Elsewhere:** equal chances.

Temperature **Trinidad & Tobago:** above- to normal; confidence 75%. **Cayman:** below- to normal; confidence 70%. **ABC Islands, Barbados, Belize, Hispaniola, Jamaica, Leeward & Windward Islands, Puerto Rico & US Virgin Islands:** above- or normal; confidence 70%. **Elsewhere:** equal chances.

What influences the next season?

El Niño Southern Oscillation (ENSO)

Recent observations: ENSO neutral; sea-surface temperatures (SSTs) nearly 0.9°C above average in equatorial eastern Pacific (NINO3.4).

Model guidance: a majority indicate continued 0.5-1.0°C above average SSTs for FMA, which is called a weak El Niño event, but returning to 0-0.5°C above average during MJJ.

Forecast: 50-60% confidence in El Niño conditions during FMA and 40-50% confidence in MJJ.

Expected impacts on rainfall and temperatures: a small shift to higher probabilities for below-normal rainfall and higher temperatures south of 20°N for FMA. In MJJ period, El Niño may shift the onset of the wet season in the eastern Caribbean. Models are not clear on the direction of this shift, with most CariCOF statistical models indicating an early onset, while dynamical models indicate a late onset of the wet season at this time.

Climate conditions in the Tropical North Atlantic and Caribbean

Recent observations: SSTs 1°C above-average north and north-east, but average east of the Caribbean; trade winds fluctuating around average.

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

Expected impacts: Slightly 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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