



Caribbean climate outlook March to August 2015

CariCOF - The Caribbean Climate Outlook Forum

WHAT HAPPENED?

November - December - January (NDJ) 2014-5

Very wet in Tobago and US Virgin Islands, temperatures at comfortable levels

+ impacts

little water-borne diseases outbreaks in dry areas

- impacts

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

Notable climate events - November 2014 to January 2015

- Observed rainfall records: **Wet** - NOV-JAN: Hollis, Trinidad (160% of avg.), DEC: 2 stations in Trinidad, 2 stations in W Jamaica, JAN: 1 station in Dom. Republic. **Dry** - DEC: St. Lucia & St. Vincent (<30% of average), 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.

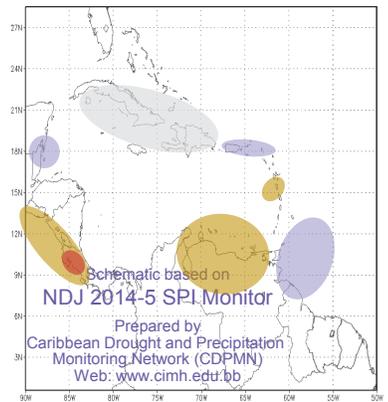
Summary

- 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. January very wet in Dominican Republic, Grenada; very dry in Anguilla and Antigua and Barbuda.
- Cool and comfortable temperatures, especially in Nov-Dec. Above-normal temperatures during Nov-Jan across much of the Caribbean.

Headline Impacts

- Repeated torrential rains affected communities in Barbados and Trinidad in November, leading to widespread flooding and extensive road damage; also in Georgetown, Guyana in November in January leading to flooding.
- Extremely low rainfall in January led to a fall in Potworks Dam, Antigua water level to below 33%.

NDJ 2014-5 Precipitation



Schematic based on NDJ 2014-5 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?

March - April - May (MAM) 2015

Consensus Outlook

Possibly wetter than usual as we approach end of dry season; initially cool becoming hotter towards May.

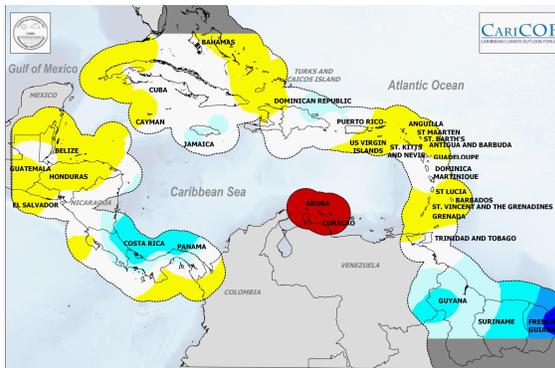
+ impacts

initially limited heat stress

- impacts

areas with reduced recharge of large/deep water reservoirs during 2014 may still see drought worsening in 2015, in particular in Cayman & Jamaica

Our typical MAM rainfall patterns



Belize and Caribbean Islands north of 16°N:

March to Apr represents the latter part of the dry season. Heavy showers are mostly limited in area and duration. May often marks a transition to the wet season.

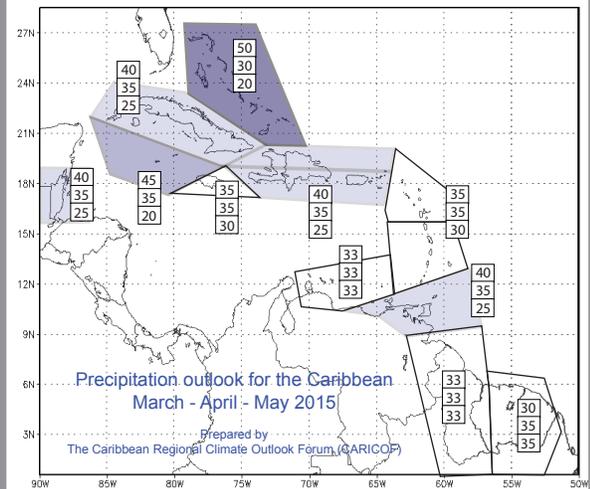
Caribbean Islands south of 16°N (except ABC Islands):

March to May represents the second half of the dry season. In most years, heavy showers are mostly limited in area and duration, though April and May are occasionally very wet.

Guianas:

The western Guianas are in a short dry season, but do experience heavy showers. In French Guiana, no short dry season is observed and heavy showers are frequent.

MAM 2015 Precipitation Outlook



Precipitation outlook for the Caribbean March - April - May 2015
Prepared by The Caribbean Regional Climate Outlook Forum (CARI COF)

Below-normal rainfall Normal rainfall Above-normal rainfall
70 60 50 45 40 40 40 45 50 60 70

MAM rainfall in the Caribbean is likely to be above- to normal from the US Caribbean Territories westward as well as in Trinidad and Tobago. Note that rainfall is hardly predictable at present in other areas.

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

Climate outlook

March - April - May

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

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

Temperature **Cuba:** above- to normal; confidence 85%. **Guianas, Trinidad & Tobago:** above- to normal; confidence 80%. **S Hispaniola, Jamaica, US C'bean Terr.:** above- to normal; confidence 80%. **ABC Islands, Barbados, Windwards:** above- to normal; confidence 75%. **Belize, Leewards:** above- or normal; confidence 70%. **Cayman:** below- to normal; confidence 75%.

Drought conditions December to May

(DJFMAM drought outlook available at 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 is evolving in St. Lucia. Protect resources. **Drought watch:** most islands east and south of Puerto Rico, parts of the Guianas.

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

June - July - August

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

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

Temperature **Trinidad & Tobago:** below- to normal; confidence 80%. **ABC Islands, Barbados, Cayman, Cuba, Guianas, Jamaica, Windwards:** below- to normal; confidence 75%. **Belize:** below- to normal; confidence 75%. **Hispaniola, US C'bean Terr.:** above- to normal; confidence 75%. **Leewards:** normal; confidence 40%.

What influences the next season?

El Niño Southern Oscillation (ENSO)

Recent observations: ENSO neutral; sea-surface temperatures (SSTs) nearly 0.5°C above average in equatorial eastern Pacific (NINO3.4).

Model guidance: half the models indicate continued 0.5-1.0°C above average SSTs for MAM & JJA, which is called a weak El Niño event, while the other half has SSTs being 0-0.5°C above average.

Forecast: ~50% confidence in El Niño conditions during MA and 45-60% confidence in JJA.

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 JJA, when El Niño may postpone somewhat the onset of the wet season in the eastern Caribbean. However, most CariCOF statistical models indicate an early 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 below-average east of the Caribbean; trade wind speed above-average.

Expected conditions: Some cooling expected; strength of trade winds hardly predictable, but might be 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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