



Caribbean climate outlook November 2015 to April 2016

CariCOF - The Caribbean Climate Outlook Forum

WHAT HAPPENED?

July - August - September (JAS) 2015

Dry to very dry in most of the Islands; very wet in Guyana; uncomfortably hot.

+ impacts

Raised public awareness on drought

- impacts

Water shortages; reduced crop production and livestock; reduced stream flow; increased fire incidence

Notable climate events - July to September 2015

- Observed rainfall records: **Dry** - JAS: 33 stations across all areas (except Bahamas, Cuba and Guianas, with mostly 20-50% of avg.). September: 1 stn in Anguilla, 3 in Dom. Rep., 3 in Jamaica, 2 in St. Martin/Maarten. **Wet** - JAS: 1 stn in Guyana (160% of avg).

Summary

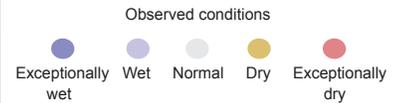
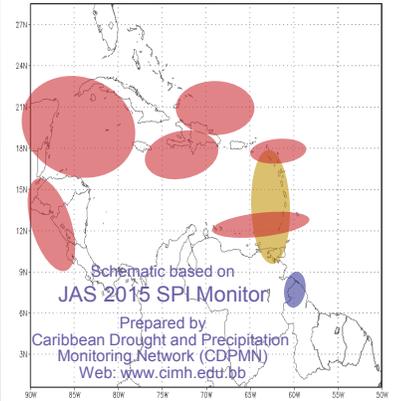
- **Rain:** *September:* very dry in Anguilla, Dominica, St. Croix, St. Maarten, Trinidad. *August:* very wet in eastern Cuba, Dominica, N Guyana; very dry in Aruba, Barbados, Belize, Grand Cayman, Grenada, Jamaica and St. Lucia. *July:* Very wet in Guyana; very dry in Barbados, N Belize, central Cuba, Dominica, S&E Dom. Rep, Grand Cayman, W Jamaica, Leewards, Puerto Rico and Tobago.

- **Temperatures:** *September:* above-normal across the Caribbean and record high in some places (esp. Bahamas).

Headline Impacts

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

JAS 2015 Precipitation



WHAT NEXT?

November - December - January (NDJ) 2015-6

Consensus Outlook

Drier than usual end of wet season from Leewards southward, wetter in extreme north-west; drier wet season in Guianas; mild.

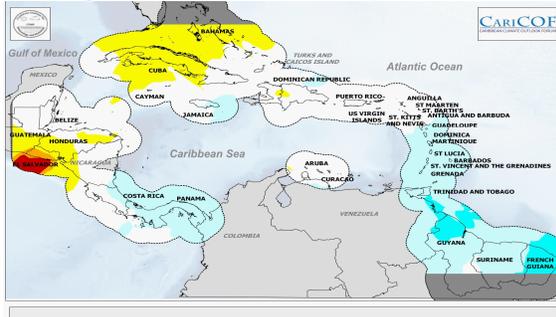
+ impacts

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

- impacts

long-term drought remaining in many Islands

Our typical NDJ rainfall patterns



Belize:

Nov to Dec - wet season. Usually frequent heavy showers. January - dry season. A few heavy showers in some years.

Caribbean Islands north of 16°N:

Nov to Dec - transition to dry season. Decreasing shower frequency and intensity. January - sunny days and some days with showers.

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

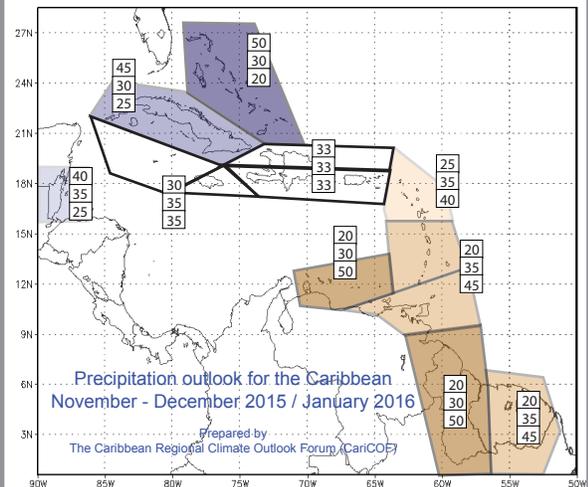
Nov - wet season. Usually frequent heavy showers. Dec to Jan - transition to dry season. Decreasing shower frequency and intensity.

ABC Islands: wet season. Frequent heavy showers..

Guianas:

Nov to Jan - wet season. Frequent, heavy showers.

NDJ 2015 Precipitation Outlook



NDJ 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*; and above- to normal for the Bahamas, Belize, Cuba and Turks & Caicos. Note that rainfall is hardly predictable at present in other areas.

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

Climate outlook

November - December - January *(NDJ temperature, wet days and wet spells outlook maps available at rcc.cimh.edu.bb)*

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

Temperature **Cayman, Jamaica, Leewards:** above- to normal; confidence 90%. **ABC Islands, Bahamas, Cuba, Hispaniola, Turks & Caicos, US C'bean Terr.:** above- to normal; confid. 85%. **Barbados, Guianas, Winwards, Trinidad & Tobago:** above- to normal; confid. 80%. **Belize:** above- or normal; confid. 80%.

Drought conditions up to January *(Drought outlook available at rcc.cimh.edu.bb)*

Drought situation: Most islands are in long-term drought and many in short-term drought after record dry July to September. These places have suffered water shortages.

Drought alert levels: **Drought warning or worse:** Cayman, W Cuba, parts of Belize, N Leewards, and US C'bean Terr.

Long-term concern: Water shortages may persist throughout the rest of the year and will worsen in the first half of next year.

February - March - April *(FMA precip. and temp. outlook maps available at rcc.cimh.edu.bb)*

Rainfall **ABC Islands, Barbados, Guianas, Jamaica, Trinidad & Tobago, Windwards** below- to normal; confidence 75%. **Bahamas, Cuba, N Hispaniola, Turks & Caicos:** below- to normal; confid. 75%. **Elsewhere:** equal chances.

Temperature **ABC Islands, Barbados, Guianas, S Hispaniola, Leewards, Trinidad & Tobago, US C'bean Terr., Windwards:** above- to normal; confidence 90%. **Cayman, Jamaica:** above- to normal; confid. 85%. **Bahamas, Cuba, Turks & Caicos:** below- to normal; confid. 75%. **Belize:** above- to normal; confid. 80%. **Elsewhere:** above- to normal; confid. 70%.

What influences the next season?

El Niño Southern Oscillation (ENSO)

Recent observations: strong El Niño; sea-surface temperatures (SSTs) 2.5°C above avg. in equatorial eastern Pacific (NINO3.4).

Model guidance: 95-99% of the models indicate continued El Niño conditions for NDJ & FMA with many suggesting some further warming.

Forecast: More than 95% confidence in El Niño conditions during NDJ and FMA.

Expected impacts on rainfall and temperatures: shift to higher probabilities for below-normal rainfall for the east and south, as El Niño usually weakens the development of rain-, thunder- and tropical 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

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 around avg; upper level winds stronger than usual.

Expected conditions: SST anomalies expected to warm up towards the east; strength of trade winds hardly predictable in most areas, but expected to be stronger over the ABC Islands as a result of the El Niño.

Expected impacts: Warm Atlantic temperatures increase evaporation and local deep atmospheric convection, potentially increasing precipitation. However, strong high level winds are expected to reduce shower activity from Leewards southward by prohibiting vertical growth of clouds.

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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