



Caribbean climate outlook October 2015 to March 2016

CariCOF - The Caribbean Climate Outlook Forum

WHAT HAPPENED?

June - July - August (JJA) 2015

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

+ impacts

Raised public awareness on drought

- impacts

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

Notable climate events - June to August 2015

Dry - JJA: 30 stations across all areas (except Bahamas, Cuba and Guianas, with mostly 20-40% of avg.). August: 5 stns in Barbados, 5 in Belize, 1 in Dom. Rep., 3 in Jamaica, 4 in Martinique, 4 in Puerto Rico, 1 in US Virgin Islands.
Wet - JJA: 3 stns in Guyana (150-175% of avg).

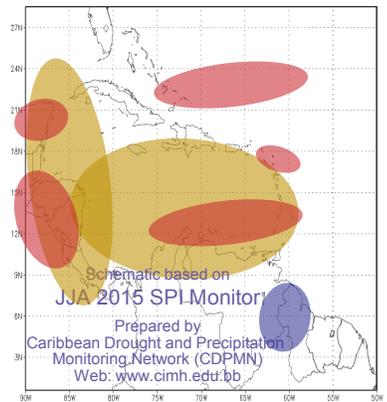
Summary

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. June: very wet in W Guyana; very dry in Dominica, S Dom. Rep. & Jamaica.
 Temperatures August - normal to above-normal across the Caribbean.

Headline Impacts

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

JJA 2015 Precipitation



Schematic based on JJA 2015 SPI Monitor
 Prepared by Caribbean Drought and Precipitation Monitoring Network (CDPMN)
 Web: www.cimh.edu.bb

Observed conditions

- Exceptionally wet (blue)
- Wet (light blue)
- Normal (white)
- Dry (yellow)
- Exceptionally dry (red)

WHAT NEXT?

October - November - December (OND) 2015

Consensus Outlook

End of wet season drier than usual in Antilles; fewer wet days and wet spells; dry season drier than usual in Guianas; initially hot.

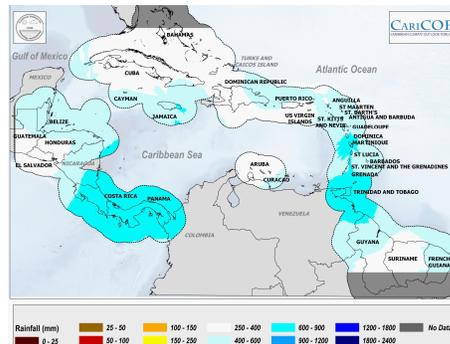
+ impacts

some short-term drought relief, limited water-related pests, epidemics and flood potential

- impacts

long-term drought remaining in many Islands; heat stress

Our typical OND rainfall patterns



Belize

Oct to Dec - wet season. Usually frequent heavy showers.

Caribbean Islands north of 16°N:

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

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

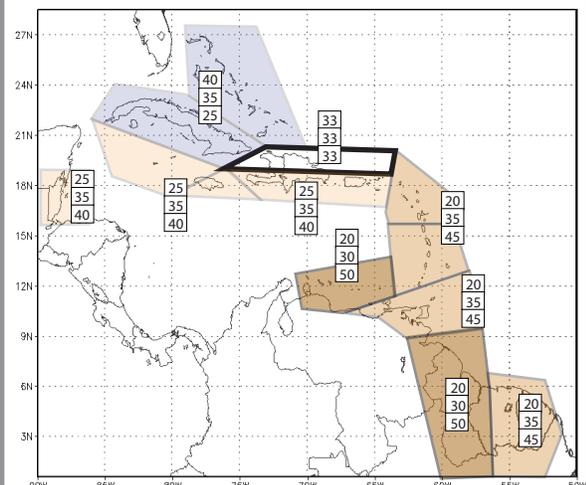
Oct to Nov - wet season. Usually frequent heavy showers.
 December - transition to dry season. Decreasing shower frequency and intensity.

ABC Islands: frequent showers, occasionally heavy.

Guianas:

October - dry season with heavy showers at times.
 Nov to Dec - transition to wet season. Increase in showers.

OND 2015 Precipitation Outlook



OND rainfall in the Caribbean is likely to be below- to normal across the Caribbean (except for Bahamas, Cuba and Turks & Caicos), with fewer wet days and wet spells than usual.

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

Climate outlook

October - November - December

(OND temperature, wet days and wet spells outlook maps available at rcc.cimh.edu.bb)

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

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

Drought conditions up to December

(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 June to August. These places (as of September 1) have suffered water shortages.

Drought alert levels: **Drought warning:** Barbados, parts of Belize, E Jamaica, most of Leewards, some of Windwards 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.

January - February - March

(JFM precip. and temp. outlook maps available at rcc.cimh.edu.bb)

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

Temperature **ABC Islands, Barbados, Guianas, Trinidad & Tobago, Windwards:** above- to normal; confidence 95%. **Cayman, Jamaica:** above- to normal; confid. 90%. **Leewards:** above- to normal; confid. 85%. **Hispaniola, US C'bean Terr.:** above- to normal; confid. 80%. **Belize:** above- to normal; confid. 80%. **Elsewhere:** below- to normal; confid. 75%.

What influences the next season?

El Niño Southern Oscillation (ENSO)

Recent observations: strong El Niño; sea-surface temperatures (SSTs) ~2°C above avg. & rising in equatorial eastern Pacific (NINO3.4).

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

Forecast: More than 95% confidence in El Niño conditions during OND and JFM.

Expected impacts on rainfall and temperatures: large shift to higher probabilities for below-normal rainfall and higher temperatures for the region, 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 N of the Caribbean during JFM due to reduced winds in the upper atmosphere, which allows for stronger showers.

Climate conditions in the Tropical North Atlantic and Caribbean

Recent observations: SSTs 0-1°C above-average around the Caribbean; trade wind speed below avg; upper level winds stronger than usual.

Expected conditions: SST anomalies expected to warm up towards the southeast; 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: Warming Atlantic temperatures increase evaporation and local deep atmospheric convection, potentially increasing precipitation. Strong high level winds are expected to reduce storm and shower activity by prohibiting vertical growth of storm 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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