



Caribbean climate outlook June to November 2015

CariCOF - The Caribbean Climate Outlook Forum

WHAT HAPPENED?

February - March - April (FMA) 2015

Very dry in Leeward Islands; temperatures rising to hot (and record high in Cuba in April)

+ impacts

little water-borne diseases outbreaks in dry areas

- impacts

water shortage in Antigua & Barbuda, St. Lucia & Trinidad, many bushfires & crop losses in Dominica

Notable climate events - February to April 2015

- Observed rainfall records: **Dry** - FMA: 1 station in Anguilla & in St. Maarten (both 40% of avg.); Apr.: 2 stns. in Dom. Republic, 1 in Guyana, 1 in Jamaica.

Summary

- February very dry in N Belize. March very wet in Aruba, Barbados, N Guyana and E Jamaica; very dry in Antigua and St. Martin. April: very dry in S Belize, Dominica and E Jamaica.

- Initially comfortable temperatures rose in April (to record high in Cuba) and were above-normal across the Caribbean.

Headline Impacts

- Continued low rainfall over the past year in Antigua led to Potswort Dam water levels at around 20% in Apr., more bushfires than usually and 65% of farmers running out of business.

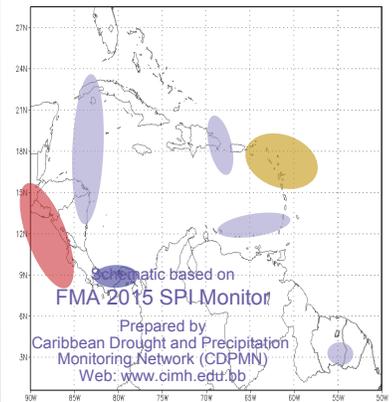
- Dry conditions in Dominica impacted vegetation, with more bushfires than usually, and crops (e.g. 35% of onion crop lost).

- St. Lucia declared a water emergency (until July) amidst continuing drought.

- Dry conditions in Trinidad since Jan. reduced water production to 53%.

- Generally dry conditions in April in some regions in Guyana led to shortages of domestic water supply

FMA 2015 Precipitation



Observed conditions
 Exceptionally wet (blue), Wet (light blue), Normal (white), Dry (yellow), Exceptionally dry (red)

WHAT NEXT?

June - July - August (JJA) 2015

Consensus Outlook

Start of wet season drier than usual in E Caribbean, only Bahamas possibly wetter until August; heat becoming uncomfortable.

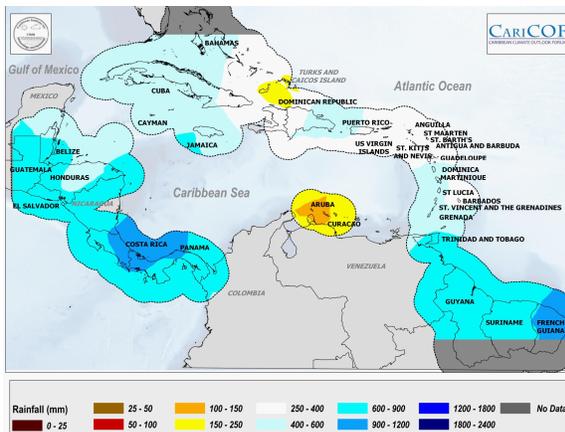
+ impacts

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

- impacts

long-term drought remaining in parts of E. Caribbean; heat stress

Our typical JJA rainfall patterns



Belize & Caribbean Islands north of 16°N:

Jun - wet season. Usually frequent heavy showers.
 Jul to Aug - wet season. Often incl. a mid-summer dry spell.

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

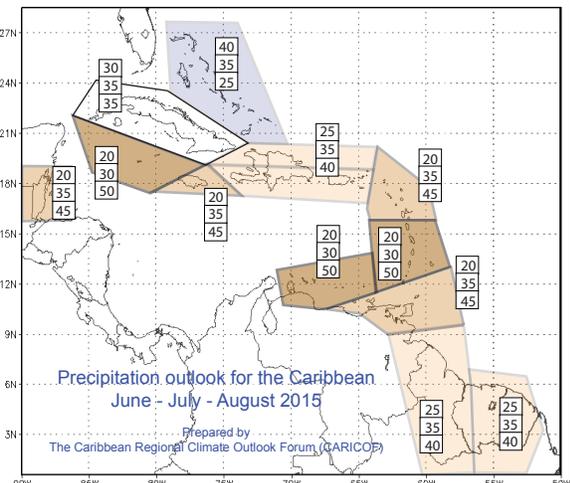
Jun to Aug - first half of wet season. Increasingly heavy showers.

ABC Islands: mostly dry with occasional wet spells.

Guianas:

Jun to Aug - long wet season. Heavy showers are frequent.

JJA 2015 Precipitation Outlook



JJA rainfall in the Caribbean is likely to be below- to normal across the Caribbean, except in Bahamas, where we expect above- to normal and Cuba, where rainfall is hardly predictable at present.

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

Climate outlook

June - July - August

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

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

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

Drought conditions March to August

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

Drought situation: Eastern Cuba, South-eastern Jamaica, Haïti, many of the Windwards and part of the Leewards are in long-term drought and have suffered water shortages. Barbados, eastern Cuba, the Leewards and parts of the Windwards are in short-term drought.

Drought alert levels: **Drought watch:** Eastern Cuba, Leeward Islands, US C'bean Territories and parts of Hispaniola.

Long-term concern: Water shortages may persist into the wet season, especially in St. Lucia and some other islands east of Hispaniola.

September - October - November

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

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

Temperature **Cayman, Jamaica:** above- to normal; confidence 90%. **Trinidad & Tobago:** above- to normal; confidence 90%. **ABC Islands, Barbados, Leewards & Windwards:** below- to normal; confidence 80%. **Elsewhere:** above- to normal; confidence 80%.

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 and rising in equatorial eastern Pacific (NINO3.4).

Model guidance: 85-90% of the models indicate continued rise in SSTs for JJA & SON with some suggesting further warming into a moderate or strong El Niño event by JJA and SON, while only 5% has SSTs decreasing to 0-0.5°C below average beyond JJA.

Forecast: 90% confidence in El Niño conditions during JJA and 85% during SON.

Expected impacts on rainfall and temperatures: a 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.

Climate conditions in the Tropical North Atlantic and Caribbean

Recent observations: SSTs 0.5°C above-average around the Caribbean, -1°C to average further east; trade wind speed above-average.

Expected conditions: SST anomalies expected to weaken; strength of trade winds hardly predictable, but might become stronger over the ABC Islands as a result of the El Niño.

Expected impacts: Initially cooler Atlantic temperatures slow down deep atmospheric convection, potentially decreasing 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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