



Caribbean climate outlook August 2014 to January 2015

CariCOF - The Caribbean Climate Outlook Forum

WHAT HAPPENED?

April - May - June (AMJ) 2014

Very dry in Jamaica and St. Croix, dry in the ABC islands and windward islands; increasingly hot into June

+ impacts

Water reservoir recharge in Guyana

- impacts

growing water shortage in Haiti, Jamaica and Eastern Caribbean; increasing heat stress

Notable climate events

- April and May combined record dry in Barbados with 16.1 and 22.6mm at the two main weather stations.
- Many places in southern Jamaica recorded no rainfall during June.

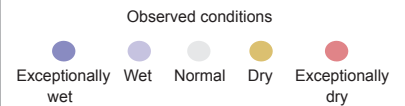
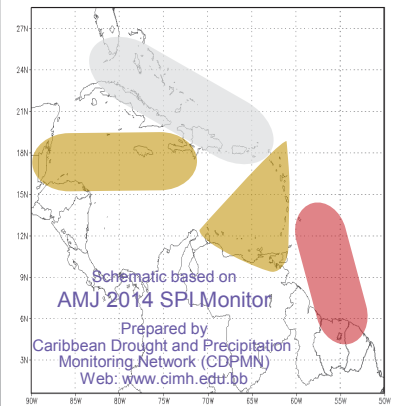
Summary

- April wet in Grand Cayman, Eastern Cuba and St. Croix; dry in Anguilla, Barbados and St. Vincent. May dry in Grenada, St. Lucia and St. Vincent and very dry in Barbados and eastern Guyana; wet in US territories. June dry in Barbados, Grenada and St. Lucia and very dry in Jamaica and St. Croix; very wet in Western Guyana.
- Increasingly hot from April to June, near to above-average temperatures across the Caribbean.

Headline Impacts

- Utility companies in Trinidad and Tobago, Jamaica, St. Lucia introduced stringent measures in dealing with low water reservoir levels.
- Drought severely affected parts of (i) Jamaica, with US\$3000/month spent on trucking water to Clarendon residents, elevating food prices; (ii) Antigua, where water supplier SembCorp will provide 200,000 additional gallons daily; (iii) St. Lucia, where government declared a water crisis.

AMJ 2014 Precipitation



WHAT NEXT?

August - September - October (ASO) 2014

Consensus Outlook

Wet season in most islands possibly drier than usual, ABC Islands dry; hot across the region

+ impacts

long-term flooding risk relatively low in most of the region

- impacts

elevated heat stress, especially in drier areas; potential reduced recharge of water reservoirs

Our typical ASO rainfall patterns

1. Belize:

- AUG usually a short dry spell ("Mauga")
- SEP + wetter, most frequent tropical storms,
- OCT hurricanes and extreme rainfall events

2. Islands north of 16°N:

- AUG usually a drier month within wet season ("mid-summer drought")
- SEP + wetter; most frequent tropical storms and
- OCT hurricanes

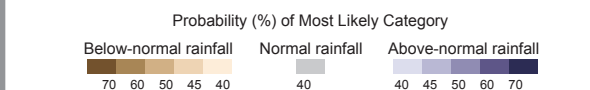
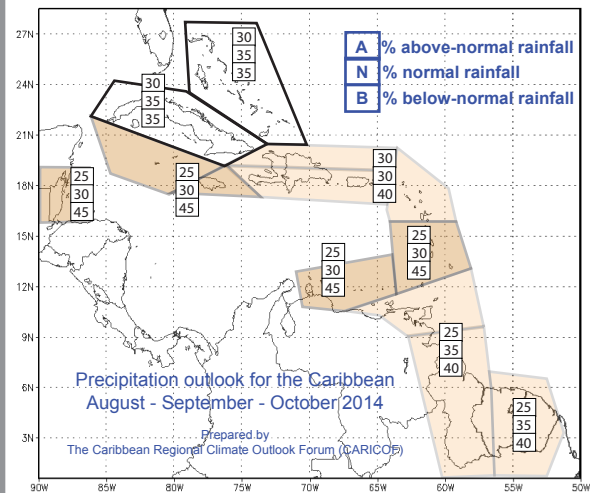
3. Islands south of 16°N:

- AUG frequent heavy rainfall; frequent and intense tropical storms and hurricanes
- SEP wetter, frequent heavy rainfall; most frequent tropical storms and hurricanes
- OCT wettest month, frequent heavy rainfall
- Note *The ABC Islands are in the midst of their dry season, nearly no rainfall*

4. Guianas:

- AUG + No direct hits by tropical storms or hurricanes; occasional heavy rainfall
- SEPT+ dry season, frequent dry spells, occasional
- OCT heavy rainfall

ASO 2014 Precipitation Outlook



ASO rainfall in the Caribbean is likely to be below- to normal with the highest confidence in the ABC Islands, Barbados, Belize, Cayman, Jamaica and the Windward Islands, but hardly predictable in the Bahamas, Cuba and the Turks and Caicos Islands.

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

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Climate outlook

August - September - October

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

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

Temperature **Guianas:** above- to normal; confidence 75%. **ABC Islands, Cayman, Jamaica:** above- to normal; confidence 75%. **Barbados, Windward Islands:** below- to normal; confidence 75%. **Hispaniola, Puerto Rico:** above- to normal; confidence 70%. **Belize, Trinidad and Tobago:** below- to normal; confidence 70%. **Leeward Islands:** Equal chances (climatology).

Drought conditions May to October

(MJJASO drought alert map available at www.cimh.edu.bb/?p=precipoutlook)

Expected impactful drought: Guyana, Trinidad & Tobago; confidence 40-60%, Guyana and Martinique; confidence 30-60%.

Imminent drought risk: Barbados, Guyana, Martinique, St. Lucia and Trinidad & Tobago under **drought warning**. Other areas under **drought watch, except Bahamas and northern Leeward Islands**.

Long-term drought concern: reduced water availability beyond the wet season, especially in Jamaica, Eastern and Southern Caribbean.

November - December - January

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

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

Temperature **ABC Islands, Belize, Cayman, Guianas, Jamaica, Trinidad & Tobago:** above- to normal; confidence 75%. **Other islands:** above- to normal; confidence 70%.

What influences the next season?

El Niño Southern Oscillation (ENSO)

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

Model guidance: a majority indicate upward trend to 0.5-1.5°C above average for ASO and NDJ, or a weak to moderate El Niño event.

Forecast: 60-70% confidence in El Niño conditions by ASO, 75-80% confidence in El Niño during NDJ.

Expected impacts on rainfall and temperatures: a shift to higher probabilities for below-normal rainfall south of 20°N for ASO and NDJ.

Climate conditions in the Tropical North Atlantic and Caribbean

Recent observations: SSTs around to below-average in the Caribbean Sea and Tropical North Atlantic; trade winds around average since April.

Expected conditions: Not much change in SST is expected except slight warming north of the Greater Antilles; trade winds expected to possibly return to stronger than average, especially over the ABC Islands in NDJ.

Expected impacts: Cooler Atlantic temperatures this Caribbean wet season (compared to previous years) slow down deep atmospheric convection, potentially reducing the severity of storm-related property damage. The signal is for decreased precipitation especially in the E Caribbean.

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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