

Caribbean climate outlook December 2013 to February 2014

CariCOF - The Caribbean Climate Outlook Forum

WHAT HAPPENED?

August - September - October (ASO) 2013

Wet in Belize and SE Caribbean but exceptionally dry in Grenada and ABC Islands

+ impacts

Steady rainfall in most areas to support and sustain production of crops

- impacts

Water shortages; some losses from floodings locally

Notable climate events

- Grenada: ASO by far the driest on record
- Belize: Near record rainfall in ASO due to persistent heavy rainfall
- Puerto Rico: Near record rainfall in September.

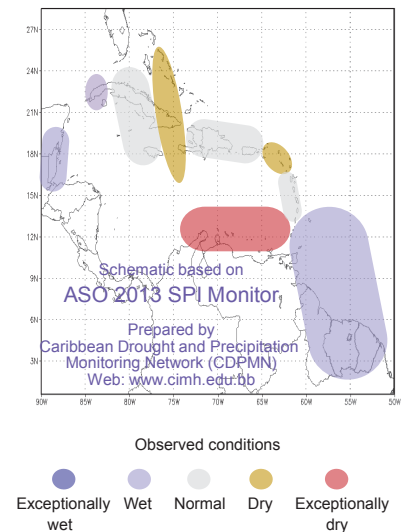
Summary

- August exceptionally dry in Grenada, dry in Haïti and eastern Cuba, wet in Belize, Guianas; September dry in Grenada & St. Kitts, exceptionally wet in Puerto Rico and wet in Belize; October wet in Belize, Tobago and central Hispaniola.
- Mild temperatures in the north-west, warm to hot in most other areas.

Headline Impacts

- Floodings in Belize, with locally up to 1.2m of water, and in Puerto Rico, where some evacuations were needed.
- Drought conditions in Grenada affected water systems with up to a 40 % reduction in production, and impaired nutmeg production.

ASO 2013 Precipitation



WHAT NEXT?

December - January - February (DJF) 13/14

Consensus Outlook

Initially wet in south and dry in north; cool & dry in Jan-Feb, but Jan wet Guianas

+ impacts

Little heat stress, reduced risk of pests and diseases into early dry season

- impacts

Initially increased risk of floods, pests and vector borne disease outbreaks in Belize and Guianas

Our typical DJF rainfall patterns

1. Belize:

- DEC wet; occasional tropical storm or hurricane
- JAN start of dry season; occasionally still wet
- FEB dry season; mostly without heavy rainfall.

2. Islands north of 16°N:

- DEC dry season moving in from NW to SE; occasional heavy rainfall
- JAN+ alternation of sunny and showery days,
- FEB mostly without heavy rainfall.

3. Islands south of 16°N:

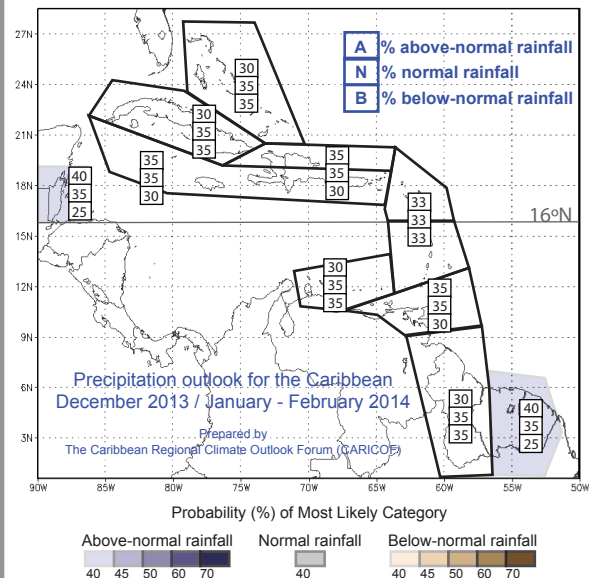
- DEC drying trend into the dry season
- JAN+ alternation of sunny and showery days,
- FEB mostly without heavy rainfall.

Note Wet season in ABC Islands in Dec-Jan; Feb usually drier.

4. Guianas:

- DEC+ wet season; frequent heavy rainfall and thunderstorms
- JAN dry season; occasional heavy rainfall and thunderstorms.
- FEB

DJF 2013-14 Precipitation Outlook



DJF rainfall appears hardly predictable at this time, as evidenced by contrasting signals seen in different models. With the exception of a small shift to above-normal in Belize and the eastern Guianas, no marked shift in rainfall probabilities is seen.

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

Climate outlook

December - January - February

Rainfall **Belize, eastern half of Guianas:** above- to normal; confidence 75%. **Cayman, Hispaniola, Jamaica, Puerto Rico:** above- or normal; confidence 70%. **ABC Islands, Bahamas, Cuba, western half of Guianas, Turks and Caicos:** below- to normal; confidence 70%. **Barbados, Leeward and Windward Islands:** equal chances (of above-, below- or normal rainfall).

Temperature **Caribbean south of 16°N:** above-normal; confidence 70%. **Leeward Islands, Puerto Rico:** above-normal; confidence 60%. **Belize, Hispaniola, Jamaica:** above- to normal; confidence 80%. **Bahamas, Cuba, Turks and Caicos:** above- to normal; confidence 75%.

March - April - May

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

Rainfall **Eastern half of Guianas:** above- to normal; confidence 75%. **Barbados, Jamaica, Hispaniola, Virgin Islands:** above- or normal, confidence 70%. **All other areas:** below- or normal; confidence 70%.

Temperature **Caribbean south of 16°N:** above-normal; confidence 60%. **Belize, Cayman, Hispaniola, Jamaica, Leeward Islands:** above- to normal; confidence 80%. **Bahamas, Cuba, Turks and Caicos:** above- to normal; confidence 75%.

What influences the next season?

El Niño Southern Oscillation (ENSO)

Recent observations: ENSO neutral; sea-surface temperatures (SSTs) 0-0.5°C below average in the equatorial eastern Pacific (NINO3.4).

Model guidance: most indicate little change in the coming months.

Forecast: neutral ENSO conditions; 86% confidence for December to February decreasing to 68% confidence for March to May.

Expected impacts on rainfall and temperatures: no noted influence at this time.

Climate conditions in the Tropical North Atlantic and Caribbean

Recent observations: SSTs about 0.5-1°C above average; trade winds stronger than average, atmosphere drier than average.

Expected conditions: above average SSTs forecasted to last but gradually decrease into May; atmosphere expected to further lose moisture into the early dry season; trade winds to be calmer than usual, though there is little confidence in this expectation.

Expected impacts: effect of SSTs on rainfall and humidity secondary to strength of the trade winds over the islands.

What caused recent climate events?

Driest August-September-October on record in Grenada: unusually persistent inflow of dry air originating from the Sahara desert reduced August and, to a lesser degree, September and October rainfall over southern portions of the Antilles, with maximum impact on rainfall in Grenada.

Near record August-September-October rainfall in Belize: Three months of above average rainfall, characterised by frequent heavy rainfalls in all areas of the country experienced from August onwards, including a lapse of two weeks of continuous heavy rains.

Exceptionally wet September in Puerto Rico: Dangerous amounts of rainfall fell in a matter of several hours in September as a rainstorm carrying excessive amounts of moisture stalled over the area.

Precipitation 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 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 third of the historical record
- Near-normal (N) - within the middle third of the historical record
- Below-normal (B) - within the driest third of the historical record

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