

Drought and Precipitation Statement for Antigua - August 2016



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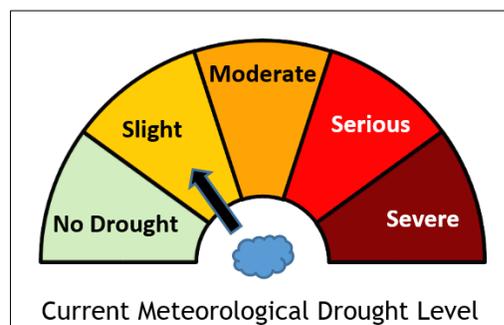
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...Record droughts continue at various intensities after 38 months...

Statement

August 2016 was the wettest since 2011 and the wettest of any month since November 2014. It was a wetter than normal month with an island-average of 130.3 mm (5.13 in). Notwithstanding, it was not enough to end any of the droughts. The meteorological and agricultural droughts continue at **slight levels** and the other droughts (**hydrological and socioeconomic**) are at **moderate or worse levels**.

Although on the decline, the number of rainfall records were again broken dating back to the start of the drought **38 months** ago. Specifically, there has been **record low rainfall** over the past 18, 20, 21, 22, 27, 28, 29...38 months ending August. In addition to being the driest of any similar period ending August, the past 21 months are the absolute driest ending any month (see table 1).



The intensity of the droughts is based on the rainfall deficits of the previous one, three, six and twelve months, using the deciles approach. Another indicator of the intensity of the droughts is the Standardized Precipitation Index or **SPI**. For the past one, three, six and twelve months, the island-average SPIs were **0.27, 0.31, -0.11** and **-1.00** respectively. The positive values are a good sign of improved rainfall levels over the short-term and the negative values represent continued rainfall deficits over the medium to long-term. The meteorological and hydrological droughts were quite slight at the end of August based on the two positive values ([SPI classification 2011](#)).

The current drought, which started in **July 2013, continues to be the worst on record** dating back to 1928 and perhaps the worst dating back to 1902. It is the longest meteorological drought on record, surpassing that of 1964-1967. Of the 71 droughts on record, it has the greatest rainfall deficit, which currently stands at **1193.8 mm (47 in)**; the next highest is 889 mm (35 in), which was caused by the 1964-1967 and 1929-1931 droughts. Of the 12 droughts lasting at least 18 months, it is presently the sixth in intensity.

For the period of the ongoing meteorological drought, in addition to the past 38 months being the driest on record, it's the eighth driest of any consecutive 38-month period.

Based on our latest analyses, below to near normal rainfall is likely for [September-November](#) and above normal for both [December-February](#) and [September-February](#). Given these and [other forecasts](#), **there is a moderate chance (55%) of no further worsening or an ending of the meteorological and agrometeorological droughts in the short-term.**

PERIOD	RAINFALL				RAINFALL RECORD – 1928 to 2016			
	Previous Month(s)	Actual	Normal (1981 – 2010)	Anomaly (1981 – 2010)	Description of Actual	Max	Year	Min
1(Aug)	5.13	4.45	+0.68	Above normal	13.23	2010	1.52	1984
3(Jun-Aug)	12.51	11.12	+1.39	Above normal	24.48	2010	3.74	2015
6(Mar-Aug)	18.93	20.61	-1.68	Near normal	40.53	2010	6.53	2015
9(Dec-Aug)	23.81	29.50	-5.69	Below normal	49.05	1951	12.39	2014
12(Sep-Aug)	35.24	47.29	-12.05	Below normal	71.84	1951	27.56	1983
24(Sep-Aug)	64.48	94.41	-29.93	Well below normal	130.76	1951	62.11	2013

Table 1: Rainfall (inches) over the past 24 months. (For records, the year given marks the start of the period).

Related Products

Climate outlooks: [Sep](#), [Sep-Nov 2016](#), [Dec 2016-Feb 2017](#), [Sep 2016-Feb 2017](#), [Drought](#)

Other statements: [Temperature](#), [Wet Season](#), [Dry Season](#)

Definition

[Drought in general means](#) water shortage and rainfall deficiency. [Meteorological \(climatological\) drought](#) is defined in terms of the magnitude of a precipitation shortfall/deficit and the duration of this shortfall event. This is assessed by first examining the rainfall periods of three months or more for selected places to see whether they lie below the 30th percentile (lowest 30% of the historical records or below the 3 decile). The approach used to determine the rainfall deficit is an adjusted version of the decile method developed by Gibbs and Maher (1967). An adjusted version of this method is used as the measurement of droughts within the Australian Drought Watch System.

The drought levels, based on consecutive three-month historical data, are defined as follow:

- **Slight:** rainfall ranges from less than 30th percentile to the 20th percentile
- **Moderate:** rainfall ranges from less than the 20th percentile to the 10th percentile
- **Serious:** rainfall ranges from less than the 10th percentile to the 5th percentile
- **Severe:** rainfall less than the 5th percentile

The level of a drought period/episode (drought lasting three or more months) is described based on the maximum consecutive three-month rainfall deficit.

Probability of drought:

- **Slight chance:** 5 to 25% chance of occurring
- **Chance:** 30 to 55% chance of occurring
- **Likely:** 60 to 75% chance of occurring
- **Highly likely/expected:** Greater than or equal to 80% chance of occurring

Rainfall Description used on the 1981 to 2010 rainfall dataset:

- **Well below normal:** Rainfall totals in the lowest 10% of the dataset
- **Below normal** (lower or less than usual): Rainfall totals in the lowest 33.3% of the dataset
- **Near normal** (normal or usual): Rainfall totals in the middle 33.3% of the data
- **Above normal** (more or higher than usual): Rainfall totals in the highest 33.3% of the dataset
- **Well above normal:** Rainfall totals in the highest 10% of the dataset
- **Rainfall:** Island average, based on rainfall at the Airport and Green Castle

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