

Drought and Precipitation Statement for Antigua - January 2016



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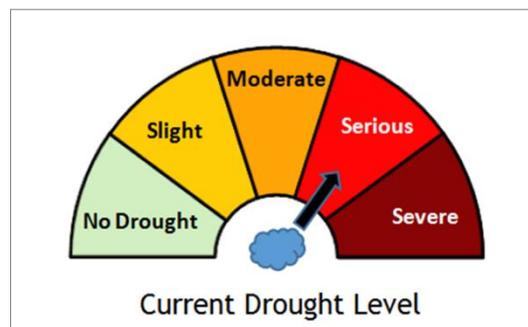
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...Worst drought on record...

Statement

Well below normal rainfall for January has resulted in the drought remaining at **serious levels**. The island-average rainfall for the month was 45.7 mm (1.80 in), drier than last January and the seventh sub-fifty mm January in the last 16 years.

A number of rainfall records were again broken over the **past 31 months**, since the drought started. Specifically, there has been **record low rainfall** over the past 7, 8, 9...15, and 18, 19, 20...31 months (see table 1). In addition to being the driest of any similar period ending January, the past 13, 24 (2 years), 25 and 26 months are the absolute driest ending any month.



The intensity of drought is based on the rainfall deficit of the previous three months. With the exception of September-October-November (SON), all “seasons” – overlapping three-month intervals, for the past 13 months had rainfall totals in the bottom 10% of all totals for the respective periods. This means that the drought has been mostly at serious levels or worse for over a year. The just ended NDJ “season” is the **10th driest** in a series which dates back to 1928 and the second driest since 2001.

The current drought is now deemed the worst on record. It is the second longest behind the drought of 1964-1967, which lasted 32 months, one month more than the current drought (**July 2013-current**). Of droughts lasting at least a year, it is the sixth most intense of a total of twenty. Of the 71 droughts on record, it has the greatest rainfall deficit of **44 inches**; the next highest is 35 inches caused by the droughts of 1964-1967 and 1929-1931.

For the period of the ongoing drought, in addition to being the record driest of the (86) **similar** 31-month time intervals ending January, it is also the 9th driest of any consecutive 31 months, of which there are 1021.

Based on our latest analyses, below to near normal rainfall is being **forecast** for February, whereas above normal rainfall is forecast for May-July. Given these and **other forecasts**, it is likely that the drought will continue into the second quarter of 2016. However, there is a moderate chance of it **easing significantly or ending around midyear**.

PERIOD	RAINFALL				RAINFALL RECORD – 1928 to 2016			
	Previous Month(s)	Actual	Normal (1981 – 2010)	Anomaly (1981 – 2010)	Description of Actual	Max	Year	Min
1(Jan)	1.80	2.70	- 0.9	Below normal	8.57	2006	0.64	1931
3(Nov-Jan)	7.89	12.64	- 4.75	Below normal	26.06	1999	4.95	1983
6(Aug-Jan)	16.77	28.72	- 11.95	Well below normal	44.96	1936	16.19	1983
9(May-Jan)	19.73	39.24	- 19.51	Record low	64.40	1970	19.73	2015
12(Feb-Jan)	23.15	46.58	- 23.43	Record low	69.81	1951	23.15	2015
24(Feb-Jan)	58.22	94.11	- 35.89	Record low	131.40	1951	58.22	2014

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

Related Products

Climate outlooks: [February](#), [February to April 2016](#), [May to July 2016](#), [February-July 2016](#), [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). 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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