

Drought and Precipitation Statement for Antigua - December 2015



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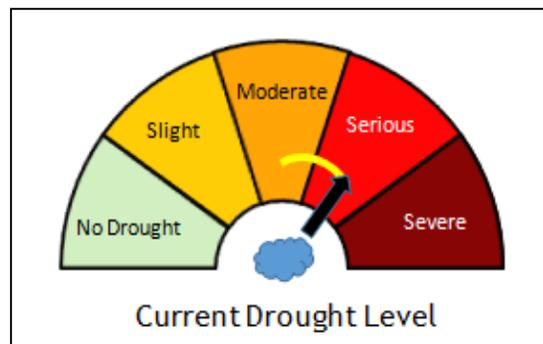
...Drought sinks back to serious levels...record driest year...

Statement

Well below normal rainfall for December has resulted in the drought sinking back to **serious levels**. The island-averaged rainfall for the month was 1.93 inches, the 10th driest on record and the driest since 2005. Notwithstanding being such a dry month, it's the fourth wettest for the year.

A number of rainfall records were again broken over the past 30 months, since the drought started. Specifically, there has been **record low rainfall** over the past 7, 8, 9...14, and 18, 19, 20...30 months (see table 1).

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 year had rainfall totals in the bottom 10% of all totals for the respective periods. This past OND "season" is the **ninth driest** on record dating back to 1928. It's also the driest since 2001.



The drought remains the worst since 2000/2001. However, of the 69 droughts on record dating back to 1928, it's the fifth worst of any length, and the fourth worst of the 11 lasting at least 18 months, based on average rainfall deficit. The current drought is now the second longest on record. The longest is the drought of 1964-67, which lasted for 32 months.

2015 is now the direst year on record in a series from 1871. The rainfall deficit since the drought started in **July 2013** has increased to **42.56 inches**, up 2.05 inches from last month. It is the record driest of the (86) **similar** 30-month periods ending December and the 8th driest of any consecutive 30 months, of which there are 1027.

Based on our latest analyses, below to near normal rainfall is **forecast** for the next three months. Given these and **other forecasts**, it is likely that the drought will continue into the second quarter of 2016. The drought could **ease or end around midyear**.

Period	Rainfall			Description of Actual	Rainfall Record – 1928 to 2015				
	Previous Month(s)	Actual	Normal (1981 – 2010)		Anomaly (1981 – 2010)	Max	Year	Min	Year
1(Dec)		1.93	3.98	- 2.05	Well below normal	11.02	1971	0.96	1947
3(Oct-Dec)		9.66	16.19	- 6.53	Below normal	31.18	1999	5.63	1983
6(Jul-Dec)		16.28	30.26	- 13.98	Well below normal	44.26	1951	15.97	1983
9(Apr-Dec)		19.02	40.43	- 21.41	Record low*	62.60	1979	19.02	2015
12(Jan-Dec)		22.62	47.37	- 24.75	Record low*	69.45	1951	22.62	2015
24(Jan-Dec)		58.87	93.86	- 34.99	Record low*	133.02	1951	58.87	2014

Table 1: Rainfall (inches) over the past 24 months. (For records, the year given marks the start of the period). *Record for the period 1871 to 2015.

Related Products

Climate outlooks: [January](#), [January-March 2016](#), [April-June 2016](#), [January-June 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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