

Drought and Precipitation Statement for Antigua - September 2015



Dale C. S. Destin ([follow @anumetservice](#))
 Antigua and Barbuda Meteorological Service Climate Section
 October 7, 2015

[Please take our Weather Survey](#)

...Record low rainfall for a number of periods...drought remains at severe levels...

Statement

September is the first month of the year to have not had below normal rainfall. The rainfall for the month was near normal – 3.70 inches. Although the island average was near normal, there are a few areas on the northern and western side of the island that received above normal rainfall.

A number of rainfall records were again broken over the past 27 months, since the drought started. Specifically, there has been **record low rainfall** over the past 4, 5, 6, 7, 8, 9, 10, 20, 21, 23, 24, 25, 26 and 27 months (see table 1).

The intensity of the drought remains at severe levels. The intensity of drought is based on the rainfall deficit of the last three months. For each of the “seasons”: March-May (spring), April-June, May-July, June-August (summer 2015) and July-September, the rainfall totals were in the bottom 5% of all totals for the respective periods; hence, the classification of the drought to be at severe levels.

July-September is now **second driest** on record dating back to 1928. The drought remains the worst since 2000/2001. Of the 69 droughts on record dating back to 1928, it’s the sixth worst of any length, and of the fifth worst of the eleven lasting at least 18 months, based on average rainfall deficit.

The year-to-date is the driest ever on record dating back to 1928. The rainfall deficit since the drought started (**readjusted to July 2013**) has increased to **36.0 inches**, up 1.92 inches from last month. It is the record driest for any **similar** 27-month period ending September and the 12th driest of any 27-months.

Based on our latest analyses, below to normal rainfall is **forecast** for the next six months. Given these and **other forecasts**, it is likely that the drought will continue for the foreseeable future.

Period	Rainfall			Description of Actual (1981 – 2010)	Rainfall Record – 1928 to 2015			
	Actual	Normal (1981 – 2010)	Anomaly (1981 – 2010)		Max	Year	Min	Year
1(Sep)	3.70	5.67	- 2.84	Near normal	14.69	1995	0.99	1978
3(Jul-Sep)	6.62	14.06	- 7.44	Well below normal	28.43	1995	6.17	1968
6(Apr-Sep)	9.41	24.24	- 14.83	Record low	43.06	2010	9.41	2015
9(Jan-Sep)	12.97	31.17	- 18.2	Record low	50.44	1951	12.97	2015
12(Oct-Sep)	29.29	47.24	- 17.95	Well Below normal	67.74	1951	23.82	2000
24(Oct-Sep)	62.13	94.20	- 32.1	Record low	133.44	1950	62.13	2013

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

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

Disclaimer

The information contained herein is provided with the understanding that the Antigua and Barbuda Meteorological Service makes no warranties, either expressed or implied, concerning the accuracy, completeness, reliability, or suitability of this statement. The information may be used freely by the public with appropriate acknowledgement of its source, but shall not be modified in content and then presented as original material.