

Drought and Precipitation Statement for Antigua - May 2015



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...Drought dips to severe levels...

Statement

With May being extremely dry, the drought has dipped to severe levels for the first time since it started back in September 2013. The rainfall for the month was 0.82 inch, making it the driest May since 2001 and the fourth driest on record dating back to 1928. The intensity of a drought is based on the rainfall total of the last three months. Over the period March-May, the rainfall total is 2.78 inches, putting it in the bottom 5% of all totals for this period; hence, the classification of the drought to be at severe levels. March-May is now the third driest such period on record and also the driest since 2001. It continues to be the worst drought since 2002/2003. The year-to-date is the driest since 2001 and the third driest on record. The rainfall deficit since the drought started has increased to 24.92 inches, up 3.25 inches from last month; it is the third worst for any similar 21-month period. Of the 68 droughts on record dating back to 1928, it's the thirteenth worst of any length and the seventh worst lasting a year or more.

Based on our latest analyses, below normal rainfall is forecast for [June](#) and for [June-August](#) 2015. 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(May)	0.82	4.08	- 3.26	Well below normal	20.02	1987	0.25	2001
3(Mar-May)	2.78	9.48	- 6.70	Well below normal	23.79	1987	2.50	2001
6(Dec-May)	8.64	18.37	- 9.73	Well below normal	29.53	1968	6.83	2000
9(Sep-May)	25.50	36.17	- 10.67	Below normal	50.40	1992	19.51	2000
12(Jun-May)	31.89	46.87	- 14.98	Well below normal	65.64	1951	27.17	2000
24(Jun-May)	68.07	94.07	- 26.00	Well below normal	123.55	1950	62.74	1929

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

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