

## Drought and Precipitation Statement for Antigua - Sep 2014



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...Worst drought since 2002/2003...

### Statement

The meteorological drought, which started last September, is now the worst drought since the 2002/2003 drought. Given the unquestionable impact the drought has had on our economy; it is not only a meteorological drought but also an **economic drought** – the worst type of droughts. Although the 3.66 inches of rainfall for September was near normal, the near record deficit experienced in July resulted in well below normal rainfall for the period Jul-Sep; thus, a serious rainfall deficit relative to the given period. The rainfall deficit from the start of the drought to present is 16.44 inches, the worst since 2003. With respect to the year thus far, the deficit is 11.24 inches, up 2.52 inches from last month and the 6<sup>th</sup> driest Jan-Sep on record. It is also the driest such period since 2003. See table 1 for more.

Based on our latest analyses, below normal rainfall is forecast for Oct-Dec and Oct 2014 – Mar 2015. Meanwhile, near normal rainfall is forecast for Oct. Given the forecasts, the drought is likely to continue into the first quarter of 2015.

Period	Rainfall			Description of Actual (1981 – 2010)	Rainfall Record – 1928 to 2014			
	Actual	Normal (1981 – 2010)	Anomaly (1981 – 2010)		Max	Year	Min	Year
1(Sep)	3.66	5.67	- 2.01	Near normal	14.69	1995	0.99	1978
3(Jul-Sep)	<b>8.88</b>	14.06	<b>- 5.18</b>	<b>Well below normal</b>	28.43	1995	6.17	1968
6(Apr-Sep)	<b>15.46</b>	24.24	<b>- 8.78</b>	<b>Well below normal</b>	43.06	2010	10.19	1939
9(Jan-Sep)	<b>19.93</b>	31.17	<b>- 11.24</b>	<b>Well Below normal</b>	50.44	1951	14.28	1939
12(Oct-Sep)	<b>32.84</b>	47.24	<b>- 14.4</b>	<b>Well Below normal</b>	67.74	1951	23.82	2000
24(Oct-Sep)	83.42	94.20	- 10.78	Below normal	133.44	1950	64.90	1966

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 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 historical data, are defined as follow:

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

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:** Rainfall totals in the lowest 33.3% of the dataset
- **Near Normal:** Rainfall totals in the middle 33.3% of the data
- **Above Normal:** 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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