



Drought and Precipitation Statement for Antigua – October 2012

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Near record high rainfall for October ends drought

The island had near record high rainfall during October with an average total of 12.67 inches. This total is the second highest on record for the month; only October 2008 had more rainfall with 15.13 inches (1928 – 2012). Further, only four other times October has yielded more than 10 inches (") of rainfall – 2008, 15.13"; 2005, 11.41"; 1938, 10.20 and 1990, 10.02". More than half of the rainfall for the month was caused by Tropical Cyclone Rafael over the period Oct 11 - 18. Meanwhile, the period August to October (ASO) had near normal rainfall. The near record high rainfall for October has ended the (meteorological) drought, which started in February and got to serious levels in September. See table 1 for more.

Based on various models, trends, climatology and subjective input, above and near normal rainfall is most likely for November and November to January respectively. There is only a slight chance of a meteorological drought over the next three months.

Period	Rainfall (inches)			Description of Actual (1981 – 2010)	Rainfall Record – 1928 to 2012			
	Actual	Normal (1981 – 2010)	Anomaly (1981 – 2010)		Max	Year	Min	Year
1(Oct)	12.67	6.34	+ 6.33	Near normal	15.13	2008	1.13	1953
3(Aug – Oct)	16.99	16.45	+ 0.54	Near normal	32.63	1995	6.43	'68&'94
6(May – Oct)	26.35	27.21	- 0.86	Near normal	45.01	1951	13.10	'30&'53
9(Feb – Oct)	31.75	34.81	- 3.06	Near normal	55.88	2010	16.25	1930
12(Nov – Oct)	49.12	47.37	+ 1.75	Near normal	67.70	1987	24.88	1968
24(Nov – Oct)	105.18	94.23	+ 10.95	Above normal	132.45	1952	65.06	1968

Table 1: Rainfall (inches) over the past 24 months.

Drought

Drought in general means water shortage and rainfall deficiency. 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 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

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

The following definitions are being 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

Disclaimer

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Note: The issuing of formal drought and precipitation statements by the Antigua and Barbuda Met Service is not to be taken to mean that there are unprecedented rainfall totals. Rather, the Met Service in harmony with its mission has seen the need to provide these statements to inform the public regarding the state of rainfall in Antigua and Barbuda.