



## Drought and Precipitation Statement for Antigua – August 2012

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### Near normal rainfall for August

The island had near normal rainfall during August with an average total of 3.13 inches. Meanwhile, the period June to August (JJA) had well below normal rainfall; the lowest since 1994 and the 10<sup>th</sup> lowest on record. Notwithstanding near normal rainfall for August, the drought, which started in February, have gotten worse, moving from a slight meteorological drought to a moderate one. The total for January to August is 4.61 inches below the Climatological Normal. See table 1 for more.

Based on various models, trends, climatology and subjective input, below normal rainfall is most likely for September and SON. It is likely that the meteorological drought will continue moderate or worsen during 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(Aug)	3.13	4.45	- 1.32	Near normal	13.23	2010	1.52	1984
3(Jun – Aug)	7.51	11.12	- 3.61	Well below normal	24.48	2010	5.63	1984
6(Mar – Aug)	16.68	20.61	- 3.93	Near normal	40.53	2010	9.09	1939
9(Dec – Aug)	25.15	29.50	- 4.35	Near normal	49.05	1952	15.23	1939
12(Sep – Aug)	44.94	47.29	+ 2.35	Near normal	71.84	1952	27.56	1984
24(Sep – Aug)	105.95	94.41	+ 11.54	Well above normal	130.76	1952	66.07	1966

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 30<sup>th</sup> 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

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

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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.