



## Drought and Precipitation Statement for Antigua – April 2011

Dale C. S. Destin

Antigua and Barbuda Meteorological Service Climate Section

May 17, 2011

### Above normal rainfall for April

The island had above normal rainfall during April with a total of 3.23 inches. This is the second highest total since 2002. For the period February to April (FMA), the rainfall was above normal; this brought an end to the drought which started in January. Based on various models, trends, climatology and subjective input, above normal rainfall is most likely for May, and for MJJ. There is only a slight chance of drought for this period (MJJ). See table 1 for the rainfall totals for the past 24 months.

Period	Rainfall (inches)			Description (1928 – 2010)	Rainfall Record			
	Actual	Normal (1981 – 2010)	Anomaly (1981 – 2010)		Max	Year	Min	Year
1(April)	3.23	3.37	- 0.14	Above normal	9.66	1981	0.23	1944
3(Feb – Apr)	8.08	7.38	+ 0.70	Above normal	16.19	1992	2.44	1947
6(Nov – Apr)	16.53	20.16	- 3.63	Near normal	34.31	2000	8.83	1948
9(Aug – Apr)	44.39	36.23	+ 8.16	Above normal	53.44	1952	20.05	1931
12(May – Apr)	60.77	46.76	+ 14.01	Well above normal	72.04	1952	25.11	1931
24(May – Apr)	106.75	94.18	+ 12.57	Above normal	130.93	1953	63.07	1931

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 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 in the description of rainfall:

- **Well Below normal:** Rainfall totals in the lowest 10% of the historical data
- **Below Normal:** Rainfall totals in the lowest 30% of the historical data, but not in the lowest 10%
- **Near Normal:** Rainfall totals in the middle 40% of the historical data
- **Above Normal:** Rainfall totals in the highest 30% of the historical data, but not the highest 10%
- **Well Above Normal:** Rainfall totals in the highest 10% of the historical data
- **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.

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.