Drought and Precipitation Statement for Antigua – January 2011

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January is among the top 10 driest

The island had well below normal rainfall during January; the total was 1.39 inches. This is the lowest total since 2002 and the ninth lowest on record. Further, the rainfall for the period November to January (NDJ) was below normal, the lowest since 2000. For NDJ, there is a moderate deficit of 4.10 inches; thus, the country entered a moderate drought at the end of January. The current trend and forecast strongly suggest that the drought will become slight by the end of February. However, the drought is expected to persist through FMA with variable strengths.

Based on various models, trends, climatology and subjective input, near normal rainfall is most likely for the month of February, and below normal rainfall is mostly likely for FMA. There is a slight chance of the drought ending over the period FMA. See table 1 for the rainfall totals for the past 24 months.

Period	Rainfall (inches)				Rainfall Record			
Previous Month(s)	Actual	Normal (1981 – 2010)	Anomaly (1981 – 2010)	Description	Max	Year	Min	Year
1(Jan)	1.39	2.70	- 1.31	Well below normal	8.57	2006	0.64	1931
3(Nov – Jan)	8.45	12.55	- 4.10	Below normal	26.06	1999	4.95	1947
6(Aug – Jan)	36.31	28.63	+ 7.68	Above normal	44.96	1937	16.19	1984
9(May – Jan)	52.69	39.15	+ 13.54	Well above normal	64.40	1971	21.65	1931
12(Feb – Jan)	64.33	46.49	+ 17.84	Well above normal	69.81	1952	24.80	1931
24(Feb – Jan)	103.84	93.94	+ 9.90	Above normal	131.40	1953	65.82	1931

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

Top 10 Driest Januarys:

1 0.64 inch in 1931
2 0.84 inch in 1977
3 1.12 inches in 1995
4 1.15 inches in 1966
5 1.19 inches in 2001
6 1.24 inches in 2002
7 1.33 inches in 1986
8 1.37 inches in 1929
9 1.39 inches in 2011
10 1.50 inches in 1981

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 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 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

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.