Drought and Precipitation Statement for Antigua – December 2011

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Above normal rainfall for December and for 2011

The island had above normal rainfall during December with an average total of 4.26 inches. This is the highest since 2001 for the month. Meanwhile, October to December (OND) had near normal rainfall. Further, 2011 had above normal rainfall with 63.37 inches. This total is the second highest since 1992 and the 9th highest on record. The wettest year on record is 1951 with 69.45 inches and the driest is 1983 with 26.83 inches. November was the wettest month for the year with 10.11 inches, and January was the driest with 1.39 inches. See table 1 for more.

Based on various models, trends, climatology and subjective input, near normal rainfall is most likely for January and for JFM. There is only a slight chance of drought for JFM.

Period	Rainfall (inches)				Rainfall Record – 1928 to 2011			
Previous Month(s)	Actual	Normal (1981 – 2010)	Anomaly (1981 – 2010)	Description of Actual (1981 – 2010)	Max	Year	Min	Year
1(Dec)	4.26	3.98	+ 0.28	Above normal	11.02	1971	0.96	1947
3(Oct – Dec)	17.19	16.19	+ 1.00	Near normal	31.18	1999	5.63	1983
6(Jul – Dec)	42.07	30.26	+ 11.81	Well above normal	44.26	1951	15.97	1983
9(Apr – Dec)	57.13	40.43	+ 16.70	Well above normal	62.60	1979	22.47	1930
12(Jan – Dec)	63.37	47.37	+ 16.00	Above normal	69.45	1951	26.83	1983
24(Jan – Dec)	128.66	93.86	+ 34.80	Well above normal	133.02	1952	66.55	1930

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

Top 10 Wettest Years:

1	69.45 in 1951	6	65.29 in 2010
2	68.17 in 1979	7	65.11 in 1970
3	66.98 in 1992	8	63.57 in 1952
4	66.40 in 1987	9	63.37 in 2011
5	65.96 in 1981	10	63.14 in 1936

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

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.