Drought and Precipitation Statement for Antigua - Aug 2014

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September 16, 2014

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Drought continues

The meteorological drought, which started last September, is at serious levels again relative to the last three months. Although the rainfall for August was above normal, the deficit experienced in June and July resulted in well below normal rainfall for the period Jun-Aug; thus, resulting in a serious rainfall deficit. The rainfall deficit for Jun-Aug is 4.22 inches and the deficit for the year ending August is 13.87 inches. With respect to the year thus far, the deficit is 8.72 inches and is the 10th driest Jan-Aug on record and the driest such period since 2003. See table 1 for more.

According to the Caribbean Climate Outlook Forum (CarCOF), below normal rainfall (less than 15.07 inches) is most likely for the period Sep-Nov. Given the outlook, the drought is likely to continuing to the end of the year.

Period	Rainfall (inches)				Rainfall Record – 1928 to 2013			
Previous Month(s)	Actual	Normal (1981 – 2010)	Anomaly (1981 – 2010)	Description of Actual (1981 – 2010)	Max	Year	Min	Year
1(*Aug)	4.45	4.45	0.0	*Above normal	13.23	2010	1.52	1984
3(Jun-Aug)	6.90	11.12	- 5.63	Well below normal	24.48	2010	5.63	1984
6(Mar-Aug)	12.95	20.61	- 4.29	Well below normal	40.53	2010	9.09	1939
9(Dec-Aug)	21.80	29.50	- 1.70	Below normal	49.05	1951	15.23	1938
12(Sep-Aug)	33.37	47.29	- 6.71	Below normal	71.84	1951	27.56	1983
24(Sep-Aug)	81.46	94.41	- 4.45	Below normal	130.76	1951	66.07	1965

Table 1: Rainfall (inches) over the past 24 months. (For records, the year given marks the start of the period). *August rainfall is very skewed; hence, the threshold for above normal rainfall is 4.35 although the normal/average is 4.45 inches.

Drought

Drought in general means water shortage and rainfall deficiency. Meteorological (climatological) drought is defined in terms of the magnitude of a precipitation shortfall and the duration of this shortfall event. 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

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