

## Drought and Precipitation Statement for Antigua – September 2010

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### Near normal rainfall for September

Notwithstanding the near average rainfall for September, a period of abundance rainfall continues for Antigua. The average total rainfall for September of 4.05 inches or 102.9 mm was the lowest since 2007. Further, the rainfall for the season (period) July to September was the highest since 1995 and eighth highest on record.

Based on various models, trends, climatology and subjective input, above normal rainfall is most likely for October and near normal rainfall is most likely through the season November to December (NDJ). There is a slight chance of drought over the period NDJ. See table 1 for the rainfall totals for the past 24 months.

Period	Rainfall (inches)			Description	Rainfall Record			
	Actual	Standard Normal	Anomaly (1961 – 1990)		Max	Year	Min	Year
1(Sep)	4.05	5.41	- 1.36	Near normal	14.69	1995	0.99	1978
3(Jul – Sep)	22.20	13.74	+ 8.46	Well above normal	28.43	1995	6.17	1968
6(Apr – Sep)	43.06	23.89	+ 19.17	Well above normal	43.06	2010	10.19	1939
9(Jan – Sep)	47.65	30.51	+ 17.14	Well above normal	50.44	1951	14.28	1939
12(Oct – Sep)	57.67	46.12	+ 11.55	Above normal	67.74	1952	23.82	2001
24(Oct – Sep)	110.42	92.57	+ 17.85	Above normal	133.44	1952	64.90	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 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

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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.