



Drought and Precipitation Statement for Antigua – February 2011

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Near normal rainfall for February...slight drought exists

The island had near normal rainfall during February; the total was 1.89 inches. This is the highest total since 2008. The rainfall for the winter December to February (DJF) was also near normal but the highest since 2008. However, for NDJF, there is a deficit of 4.41 inches; thus, the country continues to experience drought conditions, but it has eased from being moderate to being slight. The current trend and forecast strongly suggest that the drought will remain slight through May.

Based on various models, trends, climatology and subjective input, above normal rainfall is most likely for March, and near normal rainfall is mostly likely for the spring, MAM. There is a slight chance of the drought ending during spring. See table 1 for the rainfall totals for the past 24 months.

Period	Rainfall (inches)			Description	Rainfall Record			
	Actual	Normal (1981 – 2010)	Anomaly (1981 – 2010)		Max	Year	Min	Year
1(February)	1.89	2.20	- 0.31	Near normal	5.15	1982	0.32	1982
3(Dec – Feb)	7.52	8.89	- 1.37	Near normal	17.16	1937	3.28	1931
6(Sep – Feb)	24.94	26.68	- 1.74	Near normal	42.36	1937	13.78	1931
9(Jun – Feb)	49.45	37.39	+ 12.06	Well above normal	58.31	1937	21.12	1931
12(Mar – Feb)	65.50	46.44	+ 19.06	Well above normal	71.77	1937	23.95	1931
24(Mar – Feb)	104.23	93.88	+ 10.35	Above normal	129.72	1953	65.22	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 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

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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.