

Drought and Precipitation Statement for Antigua – December 2012



Dale C. S. Destin

[Antigua and Barbuda Meteorological Service Climate Section](#)

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Fifteenth Driest December on record

The island had significant rainfall deficit for December with the 2.07 inches that fell being the 15th lowest on record for the month. This was also the lowest for December since 2005 and amounting to only 52% of the normal total of 3.98 inches. Meanwhile, the period October to December (OND) had near normal rainfall. Based on various models, trends, climatology and subjective input, near normal rainfall (2.01 to 2.82 and 5.67 to 7.83 inches) is most likely for January and January to March respectively. There is only a slight chance of a meteorological drought developing over the next three months. See table 1 for more.

Period	Rainfall (inches)			Description of Actual (1981 – 2010)	Rainfall Record – 1928 to 2012			
	Actual	Normal (1981 – 2010)	Anomaly (1981 – 2010)		Max	Year	Min	Year
1(Dec)	2.07	3.98	- 1.91	Below normal	11.02	1971	0.96	1947
3(Oct – Dec)	17.29	16.19	+ 1.10	Near normal	31.18	1999	5.63	1983
6(Jul – Dec)	25.46	30.26	- 4.80	Below normal	44.26	1951	15.97	1983
9(Apr – Dec)	34.15	40.43	- 6.28	Below normal	62.60	1979	22.47	1930
12(Jan – Dec)	39.37	47.37	- 8.00	Below normal	69.45	1951	26.83	1983
24(Jan – Dec)	102.74	93.86	+ 8.88	Above normal	133.02	1951	66.55	1929

Table 1: Rainfall (inches) over the past 24 months. (For records, the year given marks the start of the event)

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

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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.