

# Drought and Precipitation Statement for Antigua - Jan 2014



Dale C. S. Destin

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

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## Meteorological drought eases

The meteorological drought which started in September and got to serious levels has eased significantly. The rainfall for November to January has resulted in the drought becoming slight from a meteorological standpoint. The rainfall for January, 2.45 inches, was near normal. Further, the total for the last three months, November to January was also near normal with the total for December being the highest since 2001. The rainfall deficit since September is 5.52 inches; however, the deficit since July is 7.15 inches; this equivalent to all the rainfall for January to March on average. See table 1 for more.

According to the Caribbean Climate Outlook Forum ([CariCOF](#)) and global models, there is a near equal chance of above normal, near normal and below normal rainfall for the period February to April; in other words, the climate is not providing any decisive signal as to what can be expected with respect to rainfall total for the said period.

Period	Rainfall (inches)			Description of Actual (1981 – 2010)	Rainfall Record – 1928 to 2013			
	Actual	Normal (1981 – 2010)	Anomaly (1981 – 2010)		Max	Year	Min	Year
1(Jan)	2.45	2.70	- 0.25	Near normal	8.57	2006	0.64	1931
3(Nov – Jan)	12.61	12.55	+ 0.06	Near normal	26.06	1999	4.95	1947
6(Aug – Jan)	23.43	28.63	- 5.20	Below normal	44.96	1936	16.19	1983
9(May – Jan)	35.53	39.15	- 3.62	Near normal	64.40	1970	21.65	1930
12(Feb – Jan)	45.72	46.49	- 0.77	Near normal	69.81	1951	24.80	1930
24(Feb – Jan)	85.02	93.94	- 8.92	Below normal	131.40	1951	65.82	1929

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

## 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 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 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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