

# Drought and Precipitation Statement for Antigua - June 2016



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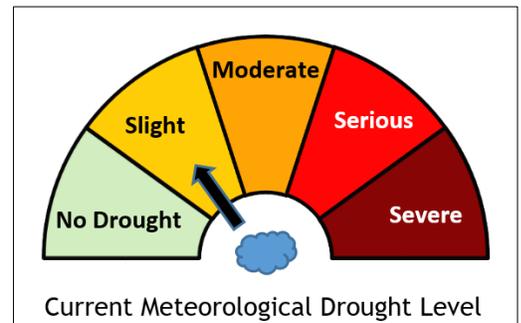
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**...Droughts continue at various intensities after THREE years...**

## Statement

June 2016 was wetter than normal with an island-average of 102.6 mm (4.04 in). It is the wettest June in six years and the second wettest month since November 2014. Notwithstanding, the meteorological and agricultural droughts continue at **slight levels** and the other droughts (**hydrological and socioeconomic**) are at **moderate or worse levels**.

A number of rainfall records were again broken dating back to the start of the drought **36 months** ago. Specifically, there has been **record low rainfall** over the past 15, 16, 17...36 months (see table 1) ending June. In addition to being the driest of any similar period ending June, the past 19, 30, 31 and 34 months are the absolute driest ending any month.



The intensity of the droughts is based on the rainfall deficits of the previous one, three, six and twelve months, using the deciles approach. Another indicator of the intensity of the droughts is the Standardized Precipitation Index or **SPI**. For the past one, three, six and twelve months, the island-average SPIs were **0.66, -0.08, -0.46** and **-1.59** respectively. These values are generally indicative of the fact that sufficient rain has not fallen to end the various droughts mentioned (**SPI classification 2011**).

The current drought, which started in **July 2013, continues to be the worst on record** dating back to 1928 and perhaps the worst dating back to 1902. It is the longest meteorological drought on record, surpassing that of 1964-1967. Of the 71 droughts on record, it has the greatest rainfall deficit, which currently stands at **1194 mm** (47 in); the next highest is 889 mm (35 in), which was caused by the 1964-1967 and 1929-1931 droughts. Of the 12 droughts lasting at least 18 months, it is presently the fifth in intensity.

For the period of the ongoing meteorological drought, in addition to the past 36 months being the driest on record, it's the fifth driest of any consecutive 36-months (three-year) period.

Based on our latest analyses, below to near normal rainfall is being forecast for **July-December**. Given these and **other forecasts**, **it is likely that the droughts will continue for the rest of the year or only ending briefly**.

PERIOD	RAINFALL				RAINFALL RECORD – 1928 to 2016			
	Previous Month(s)	Actual	Normal (1981 – 2010)	Anomaly (1981 – 2010)	Description of Actual	Max	Year	Min
1(Jun)	4.04	2.73	+1.31	Above normal	12.22	1938	0.32	1974
3(Apr-Jun)	8.61	10.18	-1.57	Near normal	26.61	1987	2.26	1940
6(Jan-Jun)	13.41	17.11	-3.70	Below normal	31.75	1987	5.12	1929
9(Oct-Jun)	23.07	33.18	-10.11	Below normal	49.53	1986	13.09	2000
12(Jul-Jun)	29.69	46.98	-17.29	Well below normal	68.92	1951	26.34	2000
24(Jul-Jun)	61.23	94.15	-32.92	Record low	127.51	1950	61.23	2014

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

## Related Products

Climate outlooks: [July](#), [July-September 2016](#), [October-December 2016](#), [July-December 2016](#), [Drought](#)

Other statements: [Temperature](#), [Wet Season](#), [Dry Season](#)

## Definition

[Drought in general means](#) water shortage and rainfall deficiency. [Meteorological \(climatological\) drought](#) is defined in terms of the magnitude of a precipitation shortfall/deficit 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 or below the 3 decile). 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 consecutive three-month 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

The level of a drought period/episode (drought lasting three or more months) is described based on the maximum consecutive three-month rainfall deficit.

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 used on the 1981 to 2010 rainfall dataset:

- **Well below normal:** Rainfall totals in the lowest 10% of the dataset
- **Below normal** (lower or less than usual): Rainfall totals in the lowest 33.3% of the dataset
- **Near normal** (normal or usual): Rainfall totals in the middle 33.3% of the data
- **Above normal** (more or higher than usual): 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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