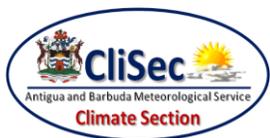


# Drought and Precipitation Statement for Antigua - July 2016



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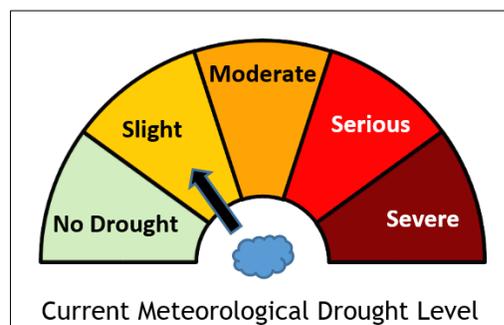
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**...Record droughts continue at various intensities after THREE years...**

## Statement

July 2016 had near normal wetness with an island-average of 84.1 mm (3.31 in). However, it is the wettest July in three years and much wetter than the last two Julys combined. However, it was not enough to end any of the droughts. 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 **37 months** ago. Specifically, there has been **record low rainfall** over the past 19, 20, 21...37 months (see table 1) ending July. In addition to being the driest of any similar period ending July, the past 20, 31, 32 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 **-0.1, -0.26, -0.29** and **-1.35** respectively. These values are 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 **1219 mm** (48 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 37 months being the driest on record, it's the sixth driest of any consecutive 37-months period.

Based on our latest analyses, above to near normal rainfall is likely for both [August-October](#) and [August-January](#). Given these and [other forecasts](#), **there is a moderate chance (40%) of, at least, a temporary end to the meteorological and agrometeorological droughts in the short-term.**

PERIOD	RAINFALL				RAINFALL RECORD – 1928 to 2016			
	Previous Month(s)	Actual	Normal (1981 – 2010)	Anomaly (1981 – 2010)	Description of Actual	Max	Year	Min
1(Jul)	3.31	3.95	-0.64	Near normal	8.85	1963	0.62	1976
3(May-Jul)	8.81	10.75	-1.94	Near normal	28.09	1970	2.86	1974
6(Feb-Jul)	14.92	18.36	-3.44	Near normal	32.19	1970	6.39	2015
9(Nov-Jul)	22.81	30.92	-8.11	Below normal	50.03	1987	14.81	1974
12(Aug-Jul)	31.69	46.99	-15.30	Below normal	71.06	1952	28.78	1974
24(Aug-Jul)	63.78	94.12	-30.34	Record low	132.22	1952	64.89	2013

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

## Related Products

Climate outlooks: [August](#), [August-October 2016](#), [November 2016-January 2017](#), [August 2016-January 2017](#), [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

## Disclaimer

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**Correction, August 19, 2016: An earlier version of this statement incorrectly stated the rainfall forecast for August to January. The forecast is for above to near normal rainfall rather than below to near normal.**