Drought and Precipitation Statement for Antigua – May 2016

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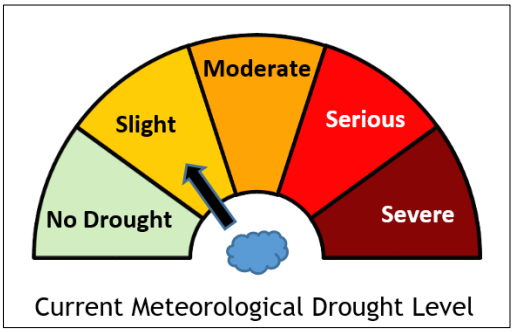
Please take our Weather Survey

...Droughts continue at various intensities...

Statement

May 2016 was wetter than that of last year's; however, it was still drier than usual and the second driest since 2007. Notwithstanding, the meteorological drought remains at **slight levels** but the other droughts **(agricultural, hydrological and socioeconomic)** are **moderate or worse**. The island-average rainfall for the month was 37.1 mm (1.46 in).



Current Meteorological Drought Level

A number of rainfall records were again broken dating back to the start of the drought **35 months** ago. Specifically, there has been **record low rainfall** over the past 11, 12, 13…18, 22, 23, 24…35 months (see table 1). In addition to being the driest of any similar period ending May, the past 17, 18, 28, 29, 30… and 35 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 **-0.9, -0.41, -1.16** and **-1.92** respectively. These values are all indicative of the existence of the various droughts mentioned, based on the regional climate centre SPI classification 2011.

The current drought, which started in **July 2013,** is the worst on record. 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 fourth in intensity.

For the period of the ongoing meteorological drought, it is not only the driest of the (86) **similar** 35-month time intervals ending May, but the record driest of any consecutive 35 months, of which there are 1027 on record.

Based on our latest analyses, above to near normal rainfall is being forecast for June-August and September-November respectively. Given these and other forecasts, **it is possible that some of the droughts could come to an end** over the next six months.

PERIOD	RAINFALL				RAINFALL RECORD – 1928 to 2016			
Previous Month(s)	Actual	Normal (1981 – 2010)	Anomaly (1981 – 2010)	Description of Actual	Max	Year	Min	Year
1(May)	1.46	4.08	- 2.60	Below normal	20.02	1987	0.25	2001
3(Mar-May)	6.42	9.48	- 3.06	Below normal	23.79	1987	2.50	2001
6(Dec-May)	11.30	18.37	**- 7.07**	**Well below normal**	29.53	1968	6.83	2000
9(Sep-May)	**22.73**	36.17	**- 13.44**	**Well below normal**	50.40	1992	19.51	2000
12(Jun-May)	**26.47**	46.87	**- 20.40**	**Record low**	65.64	1951	26.47	2015
24(Jun-May)	**58.36**	94.07	**- 35.71**	**Record low**	123.55	1950	58.36	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: June, June-August 2016, September-November 2016, June-November 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 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

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