

# Drought and Precipitation Statement for Antigua - March 2017



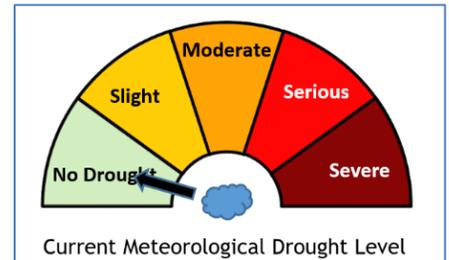
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...Near normal rainfall for March...some droughts continue...

## Statement

The rainfall for March was near normal, but the wettest since 2013. The island-average rainfall for the month was 54.1 mm (2.13 in). There continue to be **hydrological** (Hydro) and **socioeconomic** (SE) droughts, which have been going for over three years. They are at least at slight levels. The **meteorological** (Met), **agrometeorological** (AgMet) and **ecological** (EC) droughts ended last September ([click for drought definitions](#)).



The rainfall total for the past three month – January-February-March (JFM), has been below normal. The period seen an accumulation of only 136.4 mm (5.37 in) – 23% below the long-term average. Nevertheless, it is the wettest JFM since 2013.

The intensities of the droughts are 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 **0.35, -0.46, -0.03 and 0.17** respectively. Negative 0.46 reflects the below normal rainfall for JFM. For the short and long-term, rainfall is above average, as indicated by the positive values for the past one and twelve months (see [SPI classification 2011](#)).

The ended Met drought started in **July 2013**, with the Hydro drought commencing three to six months later. The Met drought was the worst dating back to 1928 and perhaps the worst dating back to 1902. It is the longest Met drought on record, surpassing that of 1964-1967.

Based on our latest analyses, below normal rainfall is being forecast for April-June and July-September respectively. Given these and [other forecasts](#), a slight or worse meteorological drought is possible in the upcoming months.

PERIOD	RAINFALL				RAINFALL RECORD – 1928 to 2017			
	Previous Month(s)	Actual	Normal (1981 – 2010)	Anomaly (1981 – 2010)	Description of Actual	Max	Year	Min
1(Mar)	2.13	2.04	+0.09	Near normal	8.90	1967	0.36	1930
3(Jan-Mar)	<b>5.37</b>	6.93	<b>-1.56</b>	<b>Below normal</b>	12.95	1937	1.82	1931
6(Oct-Mar)	21.23	23.09	-1.86	Near normal	38.52	1999	10.47	2000
9(Jul-Mar)	38.10	36.89	-1.21	Near normal	55.26	1936	19.95	1930
12(Apr-Mar)	46.71	46.56	+0.15	Near normal	71.72	1951	23.87	2015
24(Apr-Mar)	<b>70.58</b>	94.09	<b>-23.51</b>	<b>Well below normal</b>	131.61	1951	59.20	2014

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

## Related Products

Climate outlooks: [April 2017](#), [April-June 2017](#), [July-September 2017](#), [April-September 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

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