

***Expect Near-Normal to Above-Normal Rainfall***

**SEASONAL CLIMATE FORECAST PRODUCED BY THE CLIMATE PREDICTABILITY TOOL (CPT)**

**SUMMARY:**

Station	Below (B) %	Normal (N) %	Above (A) %
<b>Jamaica Rainfall Outlook</b>	<b>25</b>	<b>35</b>	<b>40</b>
<b>Jamaica Temperature Outlook</b>	<b>15</b>	<b>25</b>	<b>60</b>

Through the period of October to December, the forecast from the Climate Predictability Tool indicates, near-normal to above-normal rainfall over most sections of the island. The latest forecast from the computer models is indicating a 40% probability of above-normal rainfall and 35% probability of near-normal activity across most stations. As temperatures continue to trend higher than previous years across the region, temperatures across the island are likely to remain warmer than normal.

The Meteorological Service will continue to monitor the findings from the models in the upcoming months, so as to advise our stakeholders, especially farmers, accordingly.

**FORECAST VERIFICATION OCTOBER TO DECEMBER 2016**

For the October-December period last year, the model performed fairly well, with accuracy in the range of 40-65 percentage points. The initial forecast indicated that rainfall was likely to be above normal for the period; however, most stations recorded near-normal to above-normal rainfall amounts. Similarly, based on the recent CPT forecast of above-normal rainfall especially over central and eastern parishes for June-August 2017, actual rainfall for the period indicated that most stations had received higher than normal rainfall amounts.

## Global Climate Model Outlook for October-December 2017

### From APEC Climate Centre

#### **Global Temperature and Precipitation Outlook:**

The images below represent the global temperatures and rainfall for the period September to December 2017.

The latest model forecasts for September to December 2017 (ASO) at the APEC Climate Center (APCC), located in Busan, Korea, indicates a persistent near normal temperature anomaly across the tropical Pacific with a weak negative to neutral El Niño-Southern Oscillation (ENSO) phase. The forecasts show positive temperature anomalies to prevail over the globe. The forecast for the same period suggests above normal rainfalls over the southern Philippine Sea, central off-equatorial Pacific and most of the southern Caribbean.

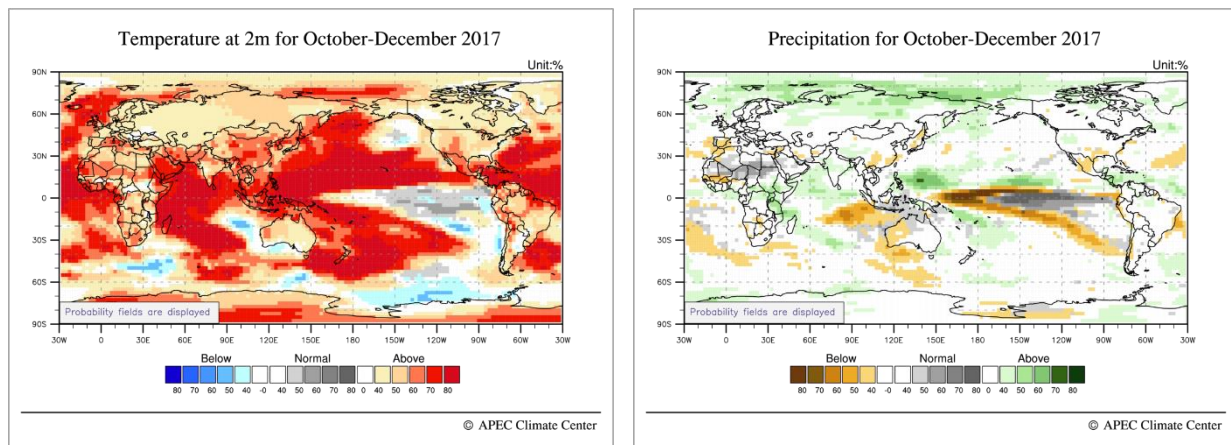


Figure 3 & 4: Dynamic model forecast for global temperatures and likely rainfall amount.

Climate Predictability Tool (CPT) Station Outlook

Parishes	Stations	Below (B) %	Normal (N) %	Above (A) %
Clarendon	Beckford	30	40	30
Hanover	Mountpeto	20	30	50
KSA	Manley	25	35	40
KSA	Langley	25	35	40
Manchester	Suttons	25	35	40
Portland	Shirley Castle	25	35	40
St. Ann	Cave Valley	30	20	50
St. Catherine	Tulloch	25	35	40
St. Catherine	Worthy Park	25	35	40
St. Elizabeth	YS	30	40	30
St. Elizabeth	Potsdam	40	35	25
St. James	Sangster	20	35	45
St. Mary	Hampstead	25	35	40
St. Thomas	Serge	30	20	50
Trelawny	Orange Valley	20	35	45
Westmoreland	SAV	40	35	25
Westmoreland	Frome	30	40	30

Key

- A: Above normal rainfall means greater than 66 percentile of the rank data
- N: Near normal rainfall means between 33 and 66 percentile of the rank data
- B: Below normal rainfall means below 33 percentile of the rank data

## **Background**

Human induced climate change and increasing climate variability, as well as other environmental issues such as land degradation, threaten the ability of the nation to meet the needs of its population for food. To address these challenges, it is important to integrate the issues of climate variability and climate change into resource use and developmental decisions.

Decreasing the vulnerability of agriculture to natural climate variability is a key issue for small islands like Jamaica. Introducing seasonal rainfall forecasts into management decisions can reduce this vulnerability of agriculture to droughts and floods. Therefore, short to long term precipitation forecasts as well as drought monitoring products will assist in making critical decisions about the growing seasons for crops as well as irrigation scheduling.

This seasonal rainfall summary is prepared by the Climate Branch of the Meteorological Service Division and takes into account a correlation between the rainfall totals and sea surface temperatures across the Pacific and Atlantic Oceans. The experiment also looks at a number of drivers of rainfall across the region, like El Niño and the North Atlantic Oscillation. Before we can arrive at the forecast, an extensive training period with a minimum of thirty years of data is used to work out the best forecast.

## **Indices and Definitions**

**El Niño:** A phenomenon in the equatorial Pacific Ocean characterized by a positive sea surface temperature departure from normal (for the 1971-2000 base period) in the Niño3.4 region greater than or equal in magnitude to 0.5°C, averaged over three consecutive months.

**La Niña:** A phenomenon in the equatorial Pacific Ocean characterized by a negative sea surface temperature departure from normal (for the 1971-2000 base period) in the Niño3.4 region greater than or equal in magnitude to 0.5°C, averaged over three consecutive months.

**ENSO (El Niño-Southern Oscillation):** An ENSO warm phase refers to an El Niño event, and an ENSO cold phase refers to a La Niña event. As El Niño and the Southern Oscillation are related, the two phrases are often combined as ENSO (El Niño-Southern Oscillation). El Niño and La Niña events have now been clearly identified as perturbations of the ocean atmosphere system. In addition to changes in SSTs, there are typically changes in the strength and direction of the Trade winds.

**NAO conditions and the Atlantic Subtropical High:** The NAO is the dominant mode of winter climate variability in the North Atlantic region ranging from central North America to Europe and much into Northern Asia. The NAO is a large scale seesaw in atmospheric mass between the subtropical high and the polar low. The corresponding index varies from year to year, but also exhibits a tendency to remain in one phase for intervals lasting several years.

## Jamaica's Probabilistic Rainfall Outlook October-December 2017

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**APCC: APEC (Asia-Pacific Economic Cooperation) Climate Center:** Provides reliable real-time climate prediction system, through a state-of-the-art multi-model climate prediction system utilizing model predictions from member economies.

Prepared by  
Climate Branch  
Meteorological Service Division  
Web page: <http://jamaicaclimate.net>