# Warmer Temperatures with Above-Normal Rainfall Expected

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

## SUMMARY:

| Station | Below (B) % | Normal (N)  % | Above (A) % |
|---|---|---|---|
| **Jamaica Rainfall Outlook** | 25 | 35 | 40 |
| **Jamaica Temperature Outlook** | 20 | 25 | 55 |

The forecast for the upcoming three months, indicates warmer than normal temperatures along with the likelihood of 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 activity across most stations. As temperatures continue to rise across the region, rainfall activities are also likely to remain above-average.

Over the past three months (May-July) preliminary rainfall totals collected for the period were above normal for most stations. This was enough to offset any deficit in rainfall that was observed over sections of the island during the first few months of the year.
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 AUGUST TO OCTOBER 2016
For the August-October period last year, the model performed near average with accuracy ranging from about 30-76 percentage points. The initial forecast indicated that rainfall was likely to be above normal for the period. Most stations recorded near-normal to above-normal rainfall amounts.

## Global Climate Model Outlook for August-October 2017

## From APEC Climate Centre

**Global Temperature and Precipitation Outlook:**
The images below represent the global temperatures and rainfall for the period August to October 2017.

The latest model forecasts for August to October 2017 (ASO) at the APEC Climate Center (APCC), located in Busan, Korea, indicates a persistent weak positive temperature anomaly across the tropical Pacific with a weak positive El Niño-Southern Oscillation (ENSO) phase. The forecast for the whole period shows positive temperature anomalies to prevail over the subtropical Pacific and the tropical and subtropical Atlantic, with highly probable near-normal rainfalls over the central and eastern equatorial Pacific as well as the most of the Caribbean.
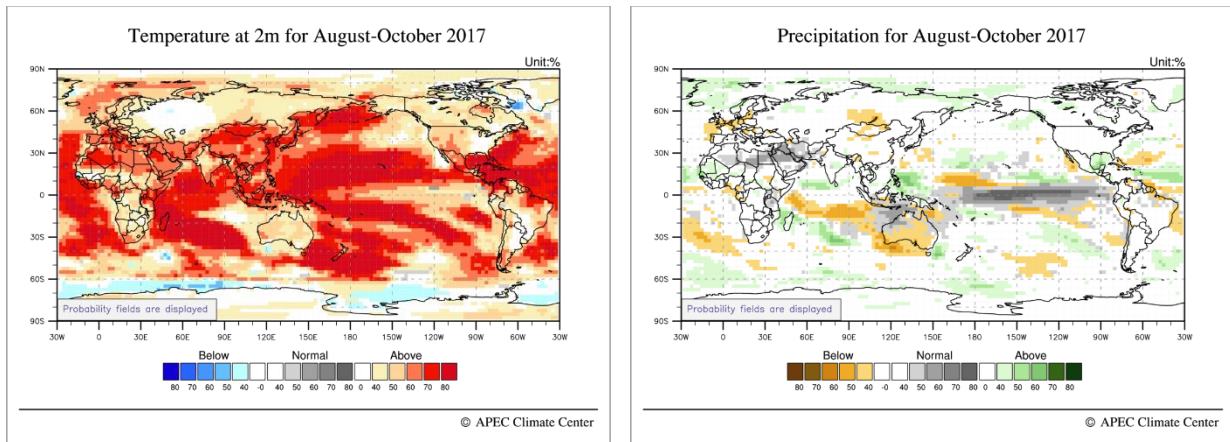


Figure 3 & 4: Dynamic model forecast for global temperatures and likely rainfall amount.

# Climate Predictability Tool (CPT) Station Outlook

| Stations | Parishes | Below (B) % | Normal (N) % | Above (A) % |
|---|---|---|---|---|
| Beckford | Clarendon | 25 | 35 | 40 |
| Mount Peto | Hanover | 15 | 25 | 60 |
| Manley | Kingston | 20 | 35 | 45 |
| Langley | Kingston | 15 | 25 | 60 |
| Suttons | Manchester | 15 | 30 | 55 |
| Shirley Castle | Portland | 40 | 35 | 25 |
| Cave Valley | St. Ann | 33 | 33 | 33 |
| Tulloch Estate | St. Catherine | 20 | 30 | 50 |
| Worthy Park | St. Catherine | 20 | 35 | 45 |
| Y.S. Estate | St. Elizabeth | 15 | 30 | 55 |
| Potsdam | St. Elizabeth | 40 | 30 | 30 |
| Sangster | St. James | 25 | 35 | 40 |
| Serge Island | St. James | 50 | 30 | 20 |
| Hampstead | St. Mary | 25 | 30 | 45 |
| Orange Valley | Trelawny | 33 | 33 | 33 |
| Sav. | Westmoreland | 45 | 30 | 25 |
| Frome | Westmoreland | 15 | 25 | 60 |

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.

**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.

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