Jamaica's Probabilistic Rainfall Outlook June-August 2017

Wetter than normal periods likely across most areas.

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

SUMMARY:

Station	Below (B) %	Normal (N) %	Above (A) %
Jamaica Rainfall Outlook	30	25	45
Jamaica Temperature Outlook	20	30	50

The forecast for the next three month is for warmer than normal temperatures with above normal rainfall likely over sections of eastern and central parishes. The latest forecast from the computer models are indicating a probability of near normal to above normal rainfall activity across most stations. Rainfall activities are not likely to have significant declines in amounts, even as scientists continue to monitor the sea surface temperatures over the eastern Pacific for El Niño development in the coming months.

Over the past three months (March, April and May) the island recorded significant increases in rainfall amounts, which offset the deficit in rainfall that was observed over most central and western parishes during period of December through to February. However, we will continue to monitor the findings from the models in the upcoming months, so as to advice our stakeholders especially the farmers accordingly.

FORECAST VERIFICATION JUNE TO AUGUST 2016

For the same period last year, the model performed below average with accuracy ranging from about 25-60 percentage. The initial forecast indicated that rainfall was likely to remain above normal for the period. Throughout the period most stations recorded near normal to below normal rainfall amounts.

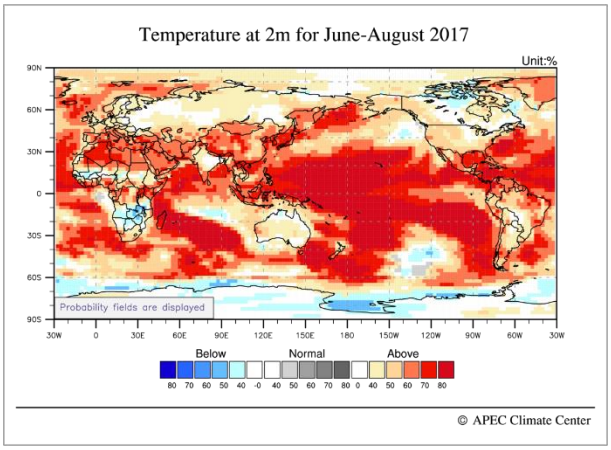
Global Climate Model Outlook for June-August 2017

From APEC Climate Centre

Global Temperature and Precipitation Outlook:

The images below represent the global temperatures and rainfall for the period June to August 2017.

The latest model forecasts for June to August 2017 (JJA) at the APEC Climate Center (APCC), located in Busan, Korea, indicates persistent positive temperature anomaly across the tropical Pacific with the positive El Niño-Southern Oscillation (ENSO) phase. The forecast for the whole period shows positive temperature anomalies to prevail over the globe, with highly probable near normal rainfalls over the Caribbean region.



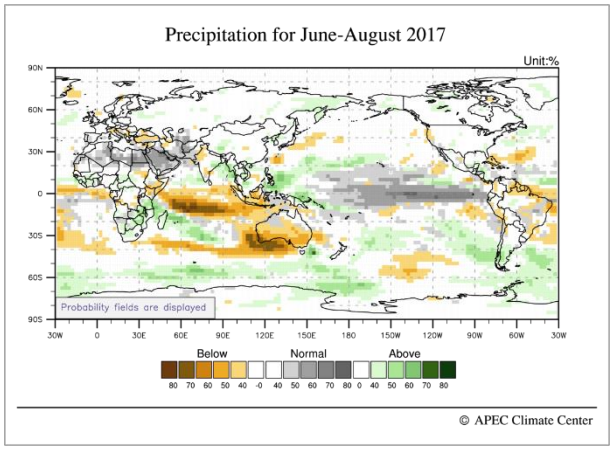


Figure 3 & 4: Dynamic model forecast for global temperatures and likely rainfall amount.

Climate Predictability Tool (CPT) Station Outlook

Stations	Parishes	Below (B) %	Normal (N) %	Above (A) %
Manley	Kingston	20	30	50
Sangster	St. James	20	30	50
Sav.	Westmoreland	60	25	15
Beckford	Clarendon	20	25	55
Serge Island	St. James	55	25	20
Cave Valley	St. Ann	10	20	70
Tulloch Estate	St. Catherine	30	25	45
Y.S. Estate	St. Elizabeth	20	25	55
Hampstead	St. Mary	40	25	35
Orange Valley	Trelawny	55	25	20
Langley	Kingston	15	25	60
Mount Peto	Hanover	40	25	35
Shirley Castle	Portland	40	25	35
Suttons	Manchester	10	15	75
Potsdam	St. Elizabeth	20	25	55
Frome	Westmoreland	30	25	45
Worthy Park	St. Catherine	30	25	45

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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