Warmer than normal temperatures with Below-Normal rainfall

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

SUMMARY:

Station	Below (B) %	Normal (N) %	Above (A) %
Jamaica Rainfall Outlook	50	25	25
Jamaica Temperature Outlook	20	25	55

During the period of July to September the forecasts are indicating high chance of warmer-than-normal temperatures with below-normal rainfall.

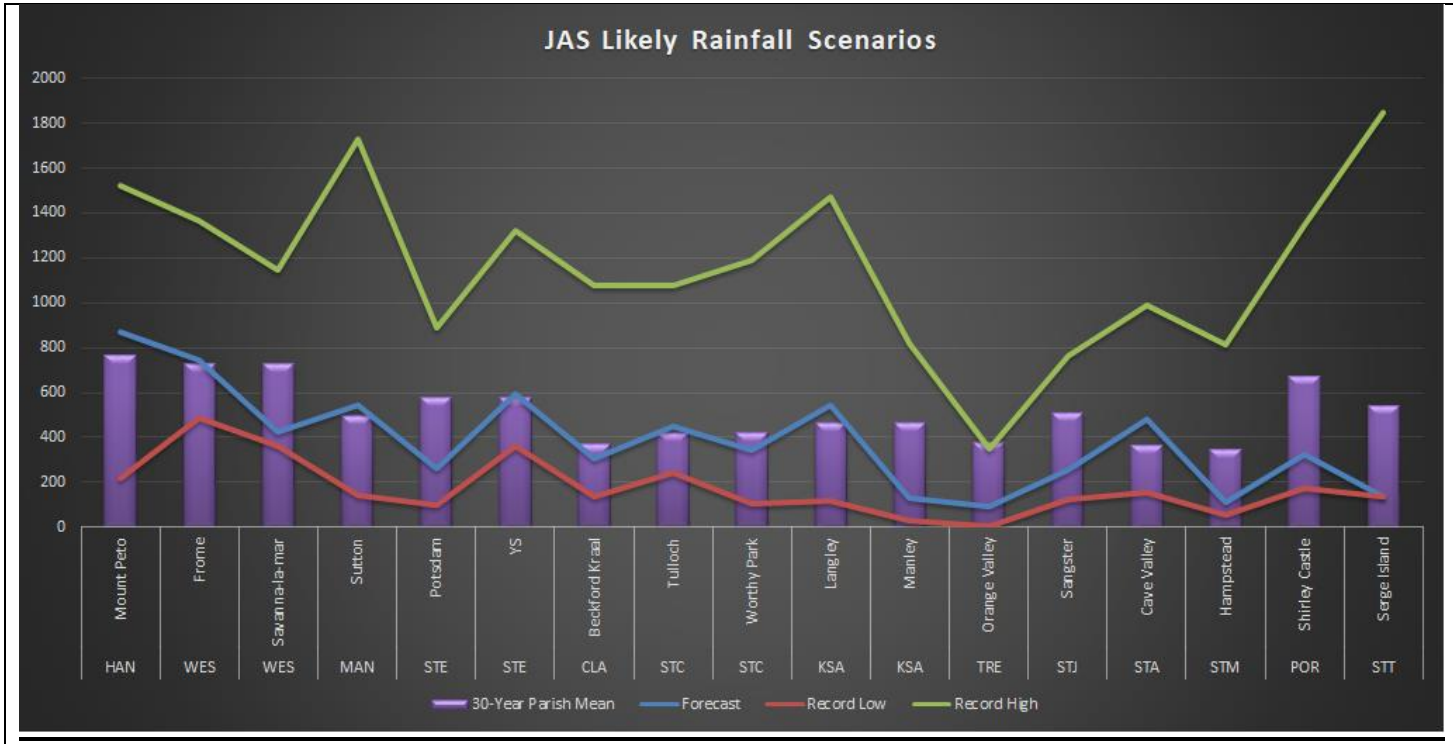
With, current projections are now indicating a decline in rainfall over most stations, over the upcoming three months, there is a possibility that this could lead to worsening drought conditions, especially over sections of Portland, St Catherine and Clarendon.

The Meteorological Service has issued a drought watch for the parish of Portland, with drought alert for sections of St Catherine and Clarendon. 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 JULY TO SEPTEMBER 2017

For the same period last year, July-September 2017, the models performed generally fair, with accuracy in the range of 18-65 percentage points. The initial forecast indicated that rainfall was likely to be above-normal for the period. Preliminary findings indicated that most stations recorded near-normal to above-normal rainfall amounts during the period.

Seasonal Forecast Outlook July-September 2018 and the Likely Scenarios



KEY

JAS:

July-August-September

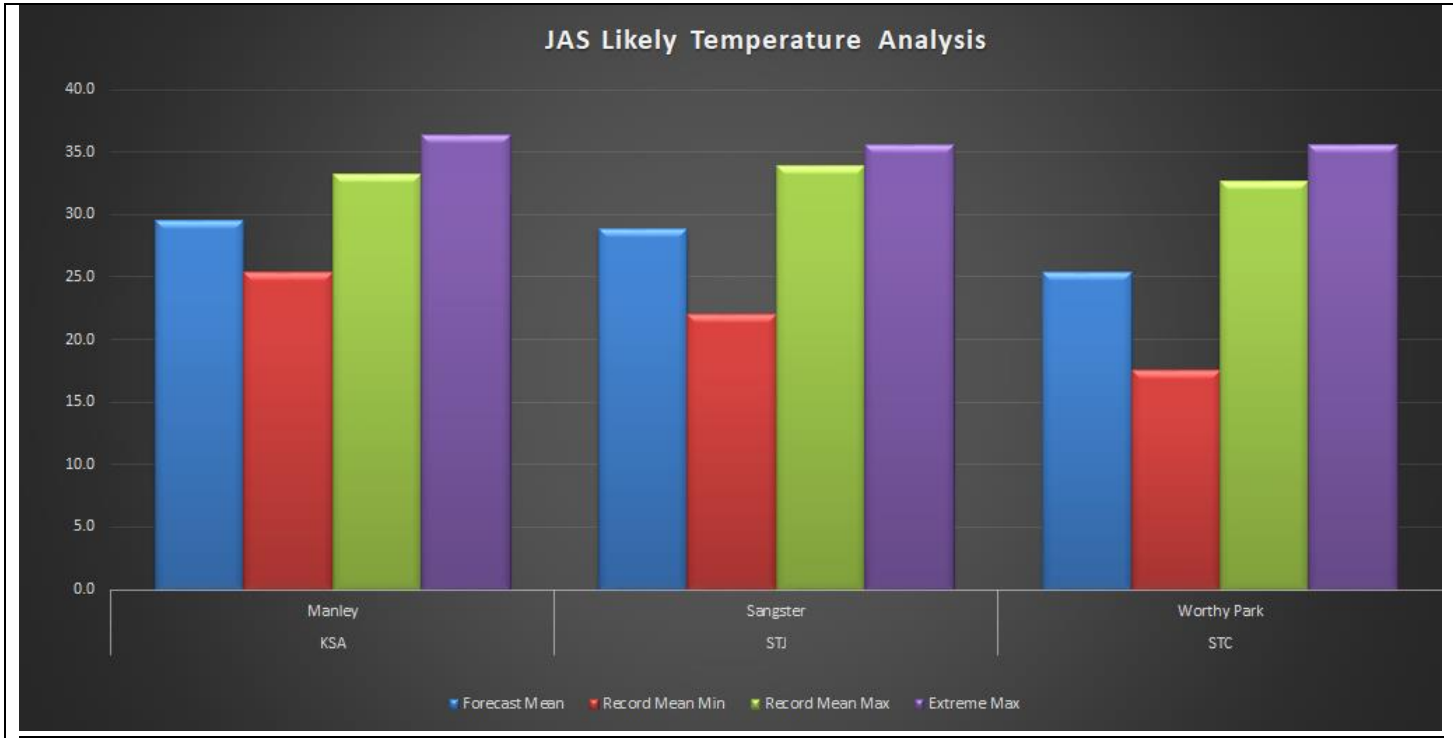
HAN: Hanover
WES: Westmoreland
MAN: Manchester
STE: St Elizabeth
CLA: Clarendon
STC: St. Catherine
KSA: Kingston/St Andrew
TRE: Trelawny
STJ: St James
STA: St Ann
STM: St Mary
POR: Portland
STT: St Thomas

Figure 1: July-August-September likely Rainfall Scenarios.

Parish Mean: 1981-2010

Local Precipitation Outlook Analysis:

From the analysis of the forecasted rainfall pattern for the upcoming three months period, (July, August and September), the data favours a below-normal rainfall pattern. The graph above, indicates that the most stations are likely to receive below their parish and station means, in terms of rainfall amounts. Mount Peto and Cave Valley are likely to experience near-normal rainfall amounts during the period. Mount Peto in Hanover is likely to experience the greater amounts of rainfall while Orange Valley in Trelawny could experience the least amount of rainfall during the period.



KEY

JAS:

July-August-September

KSA: Kingston/St Andrew
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STC: St Catherine

Figure 2: July-August-September likely Temperature Scenarios.

Local Temperature Outlook Analysis:

Over the period, temperature values are likely to be higher than normal with mean temperatures varying between 25 and 30 degrees Celsius. Manley in the Southeast is likely to experience the warmest temperatures, while Worthy Park is forecast to experience the lowest temperatures during the period in comparison to other stations.

Climate Predictability Tool (CPT) Station Outlook

Parishes	Stations	Below-Normal (%)	Normal (%)	Above-Normal (%)
Clarendon	Beckford Kraal	60	25	15
Hanover	Mount Peto	45	25	30
KSA	Manley	55	25	20
KSA	Langley	50	30	20
KSA	Lawrence Tavern	60	20	20
Manchester	Sutton	25	35	40
Portland	Shirley Castle	60	20	20
St James	Sangster	45	30	25
ST. Ann	Cave Valley	25	30	45
ST. Catherine	Tulloch	60	25	15
ST. Catherine	Worthy Park	50	25	25
ST. Elizabeth	YS	60	20	20
ST. Elizabeth	Potsdam	55	25	20
ST. Mary	Hampstead	60	20	20

ST. Thomas	Serge	70	15	15
Trelawny	Orange Valley	60	20	20
Westmoreland	SAV	60	20	20
Westmoreland	Frome	40	25	35

Key

Above normal rainfall means greater than 66 percentile of the rank data
Near normal rainfall means between 33 and 66 percentile of the rank data
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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