

Meteorological Service Jamaica
Jamaica's Seasonal Climate Outlook July to September 2019

Increase Drought and Heat Stress-Related Impacts

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

SUMMARY:

Station	Below (B) %	Normal (N) %	Above (A) %
Jamaica Rainfall Outlook	45	30	25
Jamaica Temperature Outlook	15	25	60

Over the upcoming three-month period of July to September, temperatures are likely to be hotter than normal with near normal to below normal rainfall, based on the latest findings from the seasonal climate forecast model. Current and projected environmental conditions continue to point towards a warmer and dryer Caribbean, including Jamaica. Therefore, Jamaicans should brace for an increase in heat stress-related impacts, frequent bush fires as well as reduced water inflows in our water storage facilities and reservoirs in the upcoming three-month season of July-September.

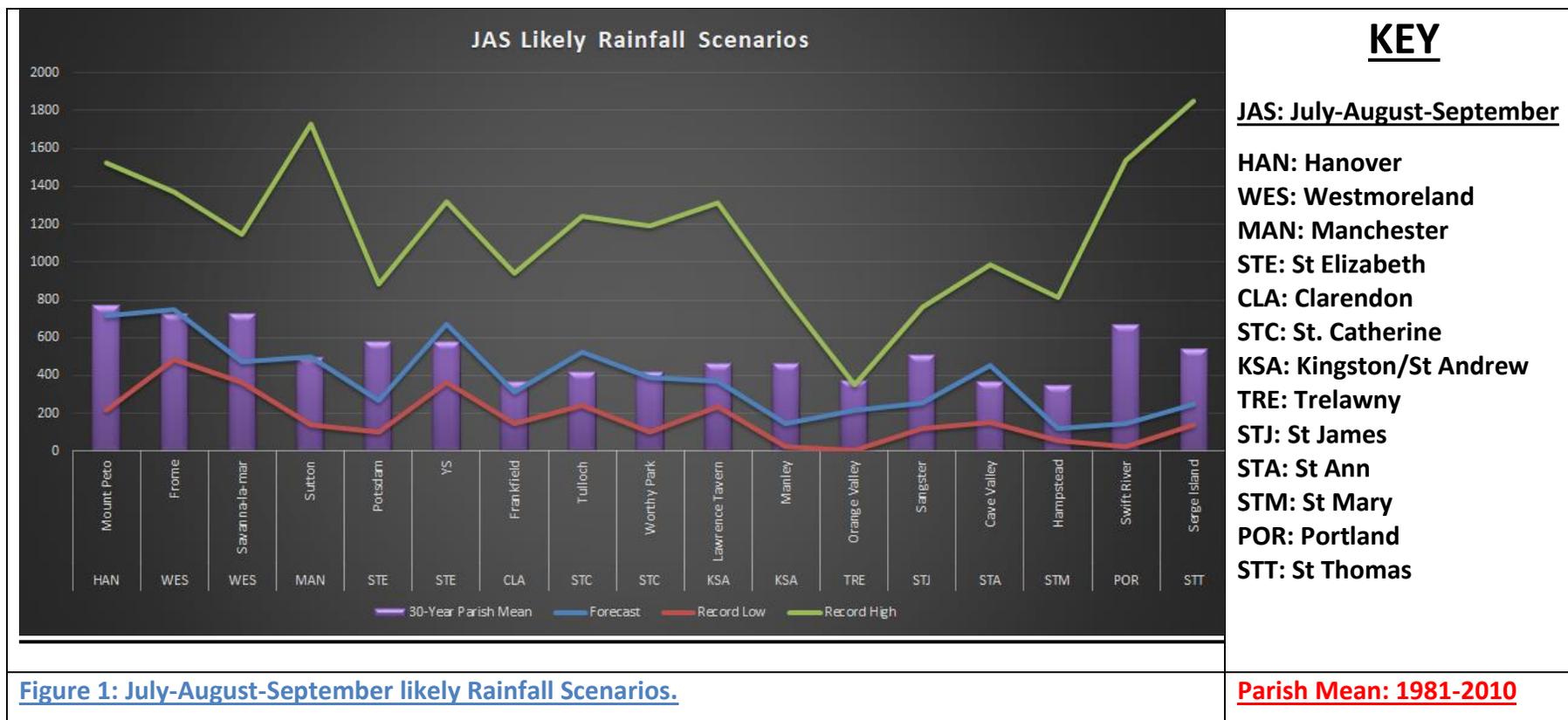
The Meteorological Service will continue to monitor the findings from the models in the upcoming months so as to advise our stakeholders, especially farmers accordingly.

FORECAST VERIFICATION JULY TO SEPTEMBER 2018

For the same period last year, July-September 2018, the models performed fairly well, with accuracy in the range of 67-87 percentage points. The initial forecast indicated that rainfall was likely to be below normal for the period and based on preliminary findings most stations recorded below-normal rainfall amounts during the period.

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Seasonal Forecast Outlook July-September 2019 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 forecast indicate a near-normal to below-normal rainfall pattern. From the graph above most stations are likely to receive below the parish average. However, YS, Tulloch and Cave Valley are likely to experience rainfall amounts greater than the parishes mean, while Hamstead could experience the least amount of rainfall during the period.

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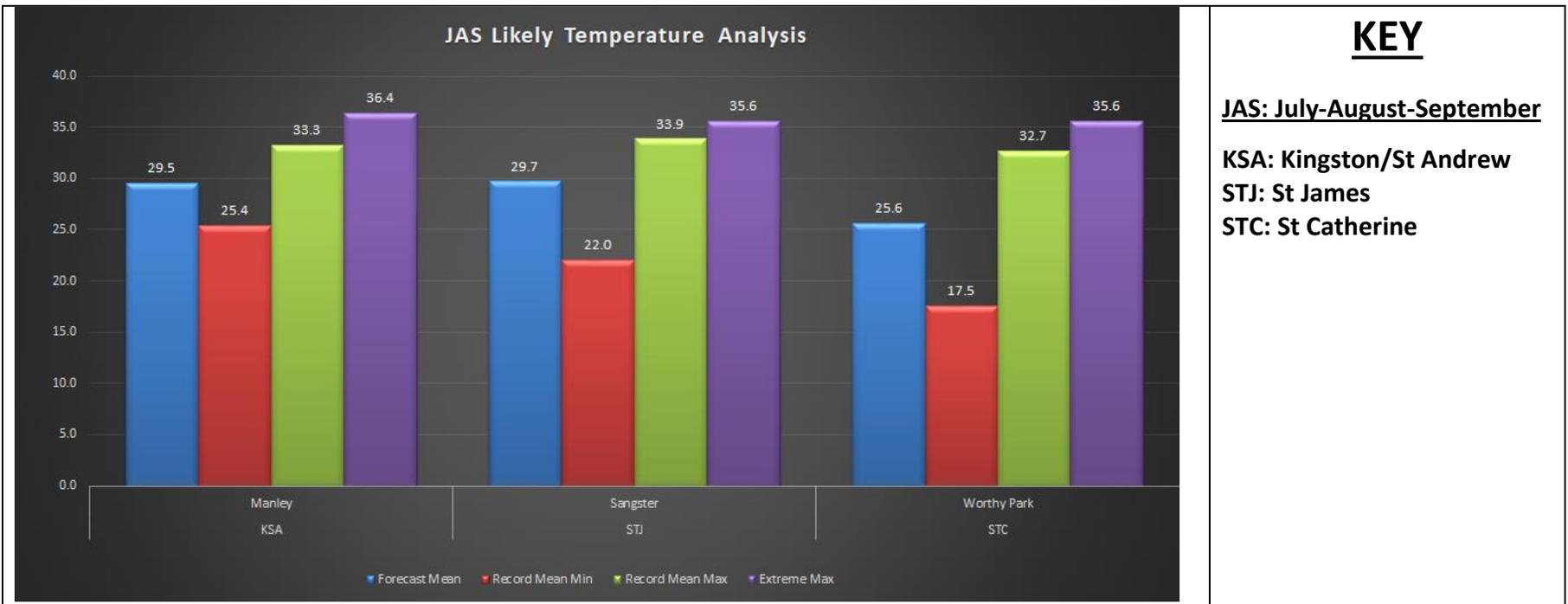


Figure 2: July-August-September likely Temperature Scenarios.

Local Temperature Outlook Analysis:

Over the period of July to September, temperature values are likely to be warmer than normal when compared to the most recent years. The average temperatures are likely to fall between 26 and 30 degrees Celsius. Sangster in the northwest is likely to experience the warmest temperatures, while Worthy Park could experience cooler night-time temperatures.

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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 Jamaica 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.

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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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