Meteorological Service Jamaica

Jamaica's Seasonal Climate Outlook December 2018-February 2019

Near Average Dry Season Likely

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

SUMMARY:

Station	Below (B) %	Normal (N) %	Above (A) %
Jamaica Rainfall Outlook	35	35	30
Jamaica Temperature Outlook	25	35	40

The forecast for the upcoming three-months period December to February indicate that most areas are likely to experience near-normal to below-normal rainfall with seasonally comfortable temperatures.

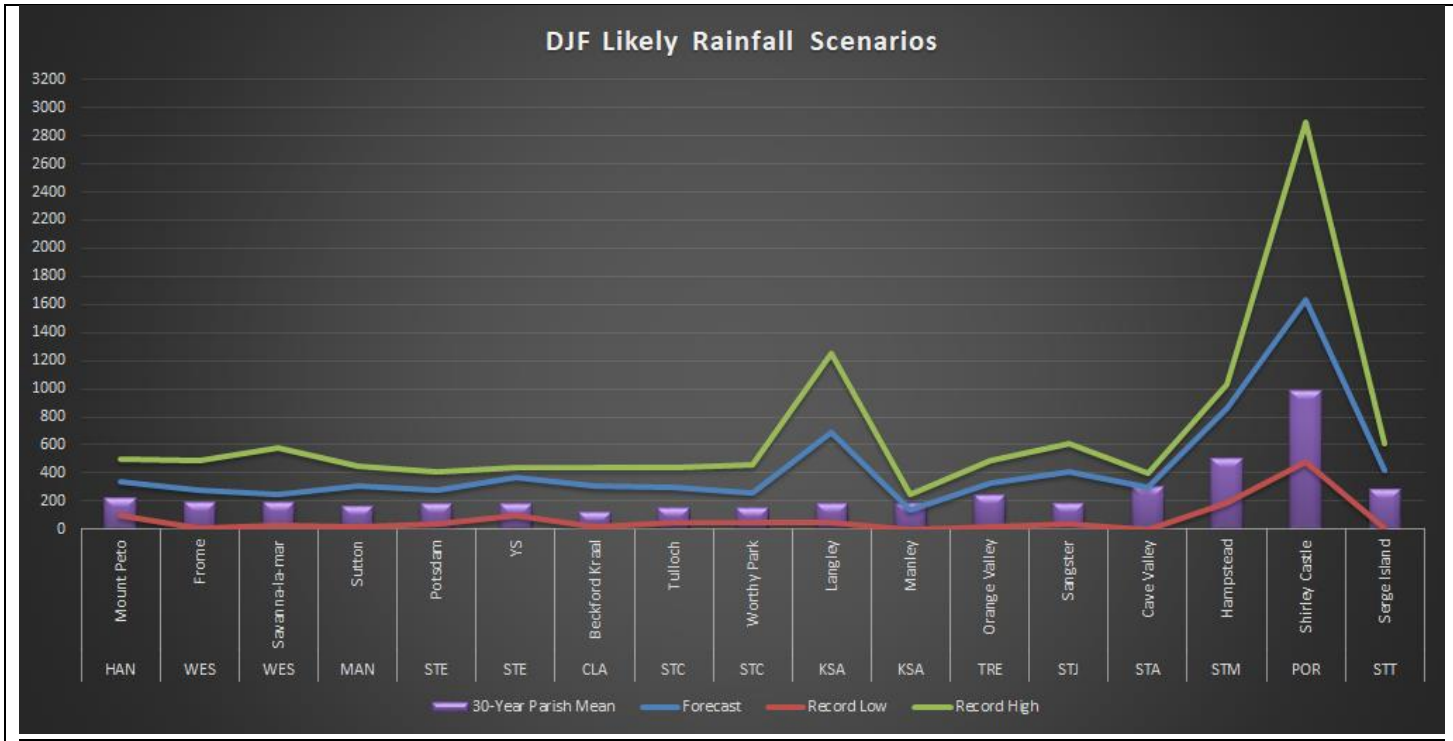
As we transition into what is considered the dry season, areas that received below average amount based on accumulated rainfall total since the start of the year are likely to experience worsen drought or dry conditions by the end of February 2019.

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 DECEMBER 2017 TO FEBRUARY 2018

For the same period last year, December 2017-February 2018, the models performed generally well, with accuracy in the range of 50-80 percentage points. The initial forecast indicated that rainfall was likely to be near-normal for the period. Preliminary findings indicated that most stations recorded near-normal to above-normal rainfall amounts during the period.

Seasonal Forecast Outlook December 2018-February 2019 and the Likely Scenarios



KEY

SON: Nov-Dec-Jan

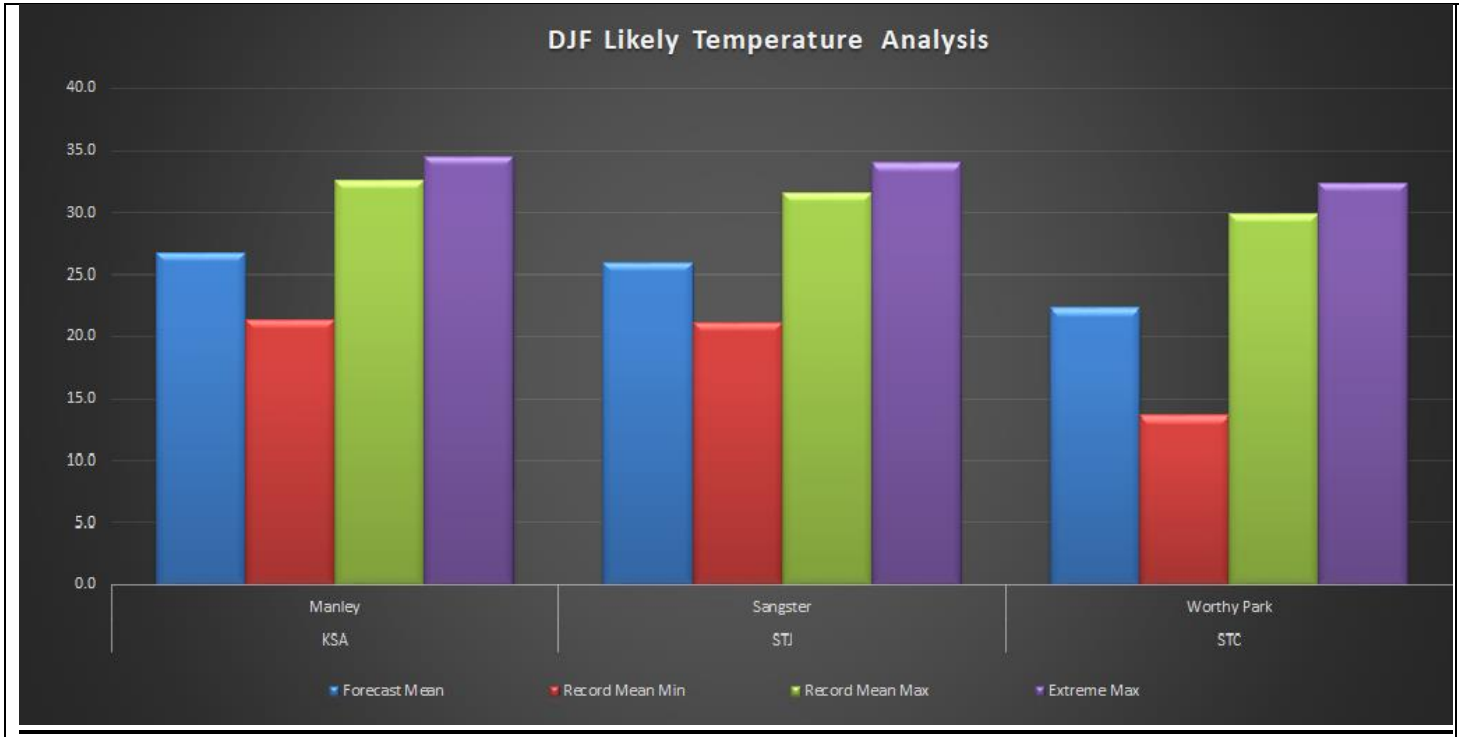
HAN: Hanover
WES: Westmoreland
MAN: Manchester
STE: St Elizabeth
CLA: Clarendon
STC: St. Catherine
KSA: Kingston/St Andrew
TRE: Trelawny
STJ: St James
STA: St Ann
STM: St Mary
POR: Portland
STT: St Thomas

Figure 1: December-January-February 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, December, January and February, the data favour a near-normal to below-normal rainfall pattern. The graph above, indicates that most stations are likely to receive about average amount of rainfall. However, all stations except Manley are likely receive above the parish mean. Langley and Shirley Castle are likely to experience the greater shift in rainfall amounts, while Manley could experience the least amount of rainfall during the period.



KEY

NDJ: Nov-Dec-Jan

KSA: Kingston/St Andrew
STJ: St James
STC: St Catherine

Figure 2: December-January-February likely Temperature Scenarios.

Local Temperature Outlook Analysis:

Over the upcoming three-months period, temperature values are likely to be above-normal when compared to the most recent years with mean temperatures varying between 22 and 27 degrees Celsius. Manley in the Southeast is likely to experience the warmest temperatures, while Worthy Park is forecasted to experience the lowest temperatures during the period.

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.

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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