Meteorological Service Jamaica
Jamaica's Seasonal Climate Outlook January to March 2023

Above-normal Rainfall Season Expected

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

SUMMARY:

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

The forecast for the three-month period of January to March 2023 indicates that rainfall amounts are likely to be above-normal. With this period being a part of the dry season, the island can expect an overall reduction in rainfall amounts when compared to the primary wet season which ended in November. This means that the island is likely to experience more consecutive days with little to no rainfall. Notwithstanding this, the island is likely to experience above-normal rainfall amounts during the 3-month period. It is therefore likely, that any significant rainfall event could result in flash flooding, especially in low-lying and flood prone areas.

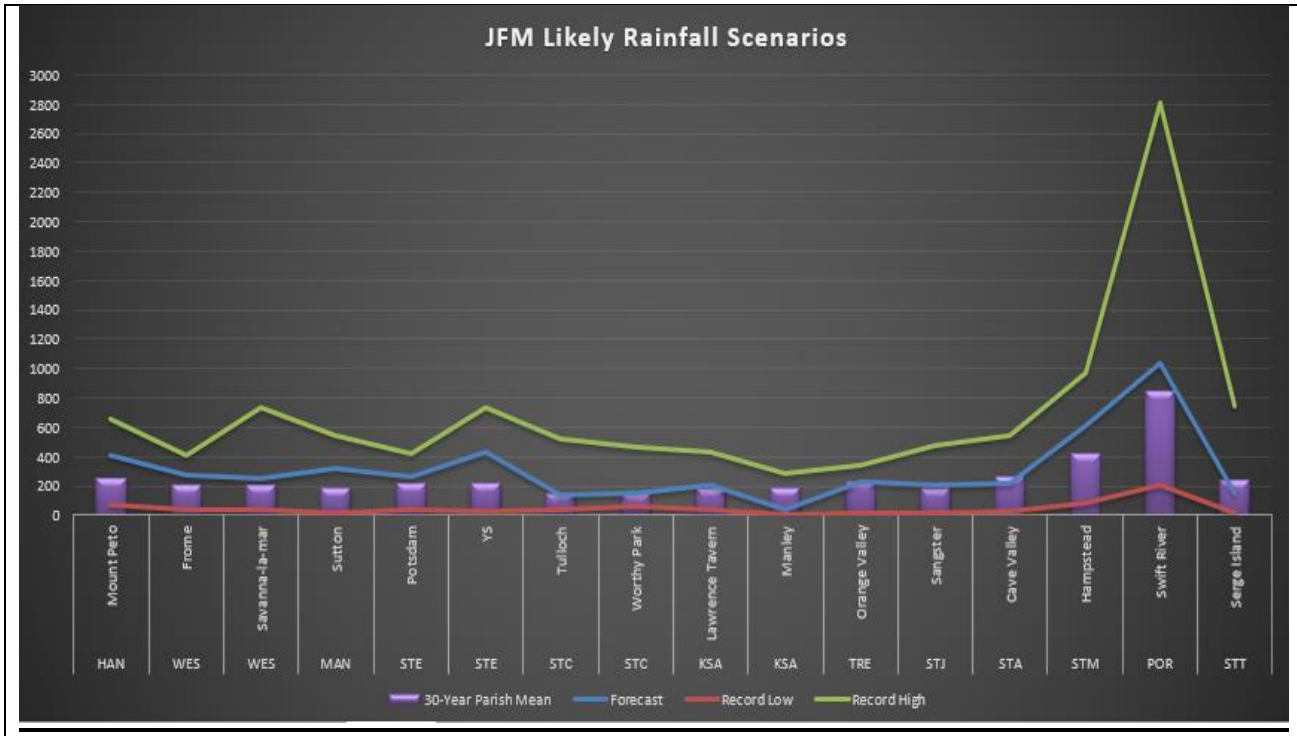
Temperatures are expected to be near-normal to above-normal, but seasonally tolerable within this period. There may, however, be occasionally cooler days and nights due to the passage of Cold Fronts.

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

FORECAST VERIFICATION JANUARY TO MARCH 2022

For the same period a year ago, January to March 2022, the forecast model performed moderately well, with a range of accuracy from 56 to 88 percentage points. The forecast indicated that rainfall was likely to be below-normal to near-normal and based on observations, the forecast materialized for most stations.

Seasonal Forecast Outlook January to March 2023 and the Likely Scenarios



KEY

JFM: January to March

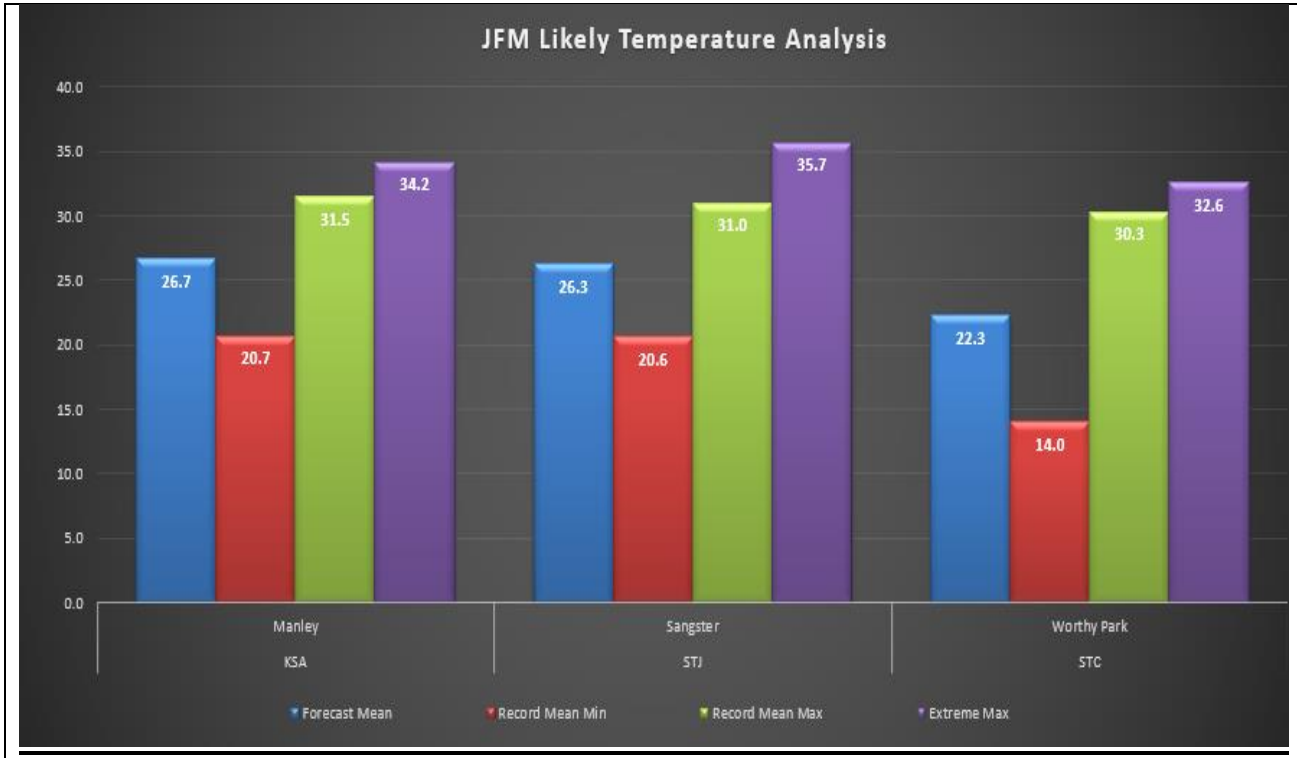
HAN: Hanover
WES: Westmoreland
MAN: Manchester
STE: St. Elizabeth
CLA: Clarendon
STC: St. Catherine
KSA: Kingston/St. Andrew
TRE: Trelawny
STJ: St. James
STA: St. Ann
STM: St. Mary
POR: Portland
STT: St. Thomas

Figure 1: January-February-March likely Rainfall Scenarios.

Parish Mean: 1981-2010

Local Precipitation Outlook Analysis:

The rainfall outlook from January to March indicates that most stations are likely to receive above-normal amounts. From the subset of stations used in the analysis (figure 1), among those that should experience rainfall greater than their parish means are Mount Peto, Sutton, YS, Hampstead and Swift River. Meanwhile, Manley, Cave Valley and Serge Island could experience rainfall lower than their parish means.



KEY

JFM: January to March

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

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

Station Mean: 1991-2020

Local Temperature Outlook Analysis:

From January to March, temperature values are likely to be near-normal to above-normal, with temperatures likely to fall between 22.3 and 26.7 degrees Celsius. Manley in the southeast is likely to experience the warmest temperatures, while Worthy Park should experience the coolest temperatures.

Background

Human-induced climate change activities 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 the 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 several 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 identified as perturbations of the ocean-atmospheric 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 tends 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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Web page: https://metservice.gov.jm/seasonal-outlook/