

# DOMINICA CLIMATIC NEWSLETTER



## SEASONAL CLIMATE OUTLOOK SUMMARY

### Previous Season Forecast; Mar-Apr-May (MAM) 2024

Above normal rainfall totals with warmer than usual temperatures are possible (medium to high confidence).

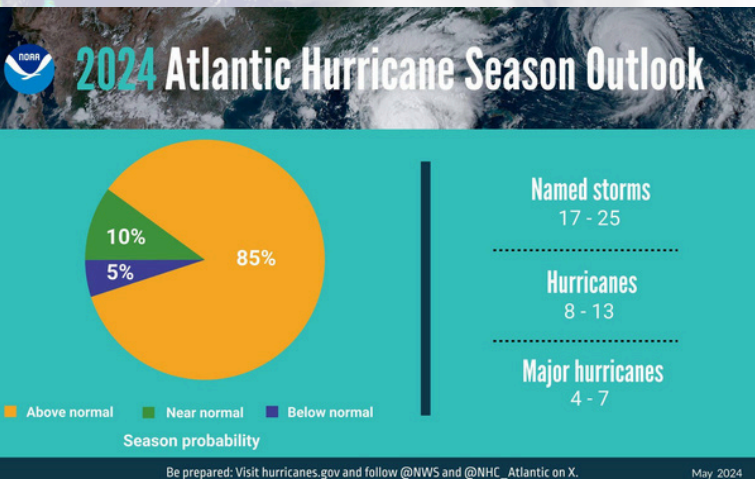
### Mar-Apr-May (MAM) 2024 Observations:

Normal rainfall totals were recorded with warmer than usual temperatures.

### Current Season Forecast; Jun-Jul-Aug (JJA) 2024

Above to normal rainfall totals with warmer than usual temperatures are possible (medium to high confidence).

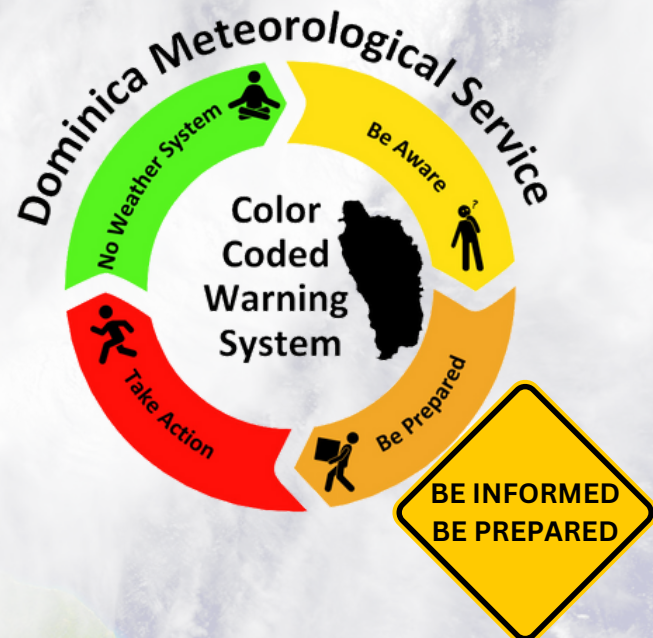
## 2024 ATLANTIC HURRICANE SEASON OUTLOOK



The National Oceanic and Atmospheric Administration (NOAA) is predicting higher chances for Above-Normal Hurricane Activity in the Atlantic Basin for the 2024 Hurricane Season (Officially from Jun 1st to Nov 30th). There is an 85% chance of an above-normal season; 10% chance of a near-normal season; 5% chance of a below-normal season

NOAA is forecasting a range of 17 to 25 total named storms (winds of 39mph or higher). Of those, 8 to 13 are predicted to become hurricanes (winds of 74mph or higher), including 4 to 7 major hurricanes (category 3, 4 or 5; with winds of 111mph or higher). Forecasters have a 70% confidence in these ranges.

A combination of; near-record warm ocean temperatures in the Atlantic Ocean, development of La Nina conditions in the Pacific Ocean, reduced Atlantic Trade Winds and less wind shear are the influencing factors favouring this prediction.



# Looking Back (2023/ 2024 Dry Season)

## CANEFIELD AIRPORT

### Canefield Airport Forecast Verification CLIMATOLOGICAL NORMAL (1991-2020)

RAINFALL	Dec 2023 -Jan-Feb 2024	Mar-Apr- May
Accumulated Normal	209.6 to 367.8mm	105.2 to 234.4mm
Forecast	Below normal to normal	Normal to above normal
Observed	170.1mm (Below normal)	180.6mm (normal)
Wet Days Normal	36 to 53 days	22 to 35 days
Forecast	32 to 56 days	24 to 40 days
Observed	31 days (below by 1)	22 days (below range)
TEMPERATURE AVERAGE (2006-2020)		
Average Maximum	29.9°C to 30.4°C	30.8°C to 31.4°C
Forecast	Warmer than usual	Warmer than usual
Observed	31.9°C (warmer)	33.5°C (warmer)
Average Mean	25.8°C to 26.1°C	26.7°C to 27.2°C
Forecast	Warmer than usual	Warmer than usual
Observed	27.2°C (warmer)	28.8°C (warmer)
Average Minimum	21.6°C to 22.0°C	22.6°C to 23.0°C
Forecast	Warmer than usual	Warmer than usual
Observed	22.6°C (warmer)	24.1°C (warmer)

## DOUGLAS-CHARLES AIRPORT

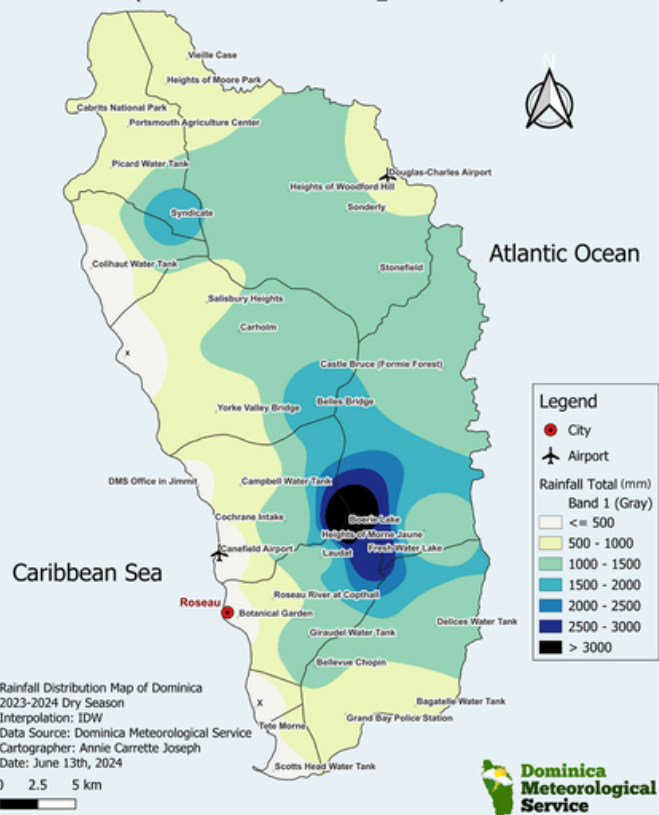
### Douglas-Charles Airport Forecast Verification CLIMATOLOGICAL NORMAL (1991-2020)

RAINFALL	Dec 2023 -Jan-Feb 2024	Mar-Apr- May
Accumulated Normal	323.3 to 480.4 mm	290.6 to 530.2mm
Forecast	Below normal to normal	Normal to above normal
Observed	533.6mm (above normal)	424.0mm (normal)
Wet Days Normal	49 to 63 days	36 to 60 days
Forecast	32 to 56 days	42 to 73 days
Observed	40 days (within range)	43 days (within range)
TEMPERATURE AVERAGE (2006-2020)		
Average Maximum	28.7°C to 28.9°C	29.2°C to 29.6°C
Forecast	Warmer than usual	Warmer than usual
Observed	29.2°C (warmer)	30.6°C (warmer)
Average Mean	25.4°C to 25.8°C	26.0°C to 26.4°C
Forecast	Warmer than usual	Warmer than usual
Observed	26.0°C (warmer)	27.1°C (warmer)
Average Minimum	22.2°C to 22.7°C	22.7°C to 23.1°C
Forecast	Warmer than usual	Warmer than usual
Observed	22.8°C (warmer)	23.5°C (warmer)

## RAINFALL

- Normal rainfall totals were recorded at both airports for the 2023/2024 Dry Season.
- The 3 longest dry spells at Canefield were 27 days (Dec-Jan), 15 days (Mar-Apr) and 16 days (May).
- At Douglas-Charles the longest were 9 days (Jan-Feb) and 8 days (Feb).

RAINFALL DISTRIBUTION MAP  
(DECEMBER 2023 - MAY 2024\_ DRY SEASON)



- The wettest areas were along the central elevated regions with the western coastal areas being the driest for the 2023/24 Dry Season.
- Boeri Lake recorded the highest total of 3993mm while Colihaut recorded the lowest total of 341.6mm of rainfall

## HEAT

Both the daytime and nighttime temperatures were above normal for the 2023/ 2024 Dry season across the island.

- The Canefield area recorded 14 hot spells (three or more consecutive hot days when daily highs equal or exceed 32.9°C at Canefield and 31.5°C at Douglas-Charles.
- There were 92/183 hot days with April observing 25 and May 27 hot days.
- The longest hot spells were 17 days in May and 9 days in April.
- At Douglas-Charles, 2 hot spells were recorded. there were only 19/183 hot days with the longest hot spells being 6 days and 3 days long in May.

## RECORD BREAKERS AT CANEFIELD AIRPORT

Month	Daily Peak	Avg Maximum vs Climatology
December 2023	33.6°C	31.9°C / 30.4°C
January 2024	34.2°C	31.9°C / 29.9°C
February 2024	34.0°C	31.9°C / 29.9°C
March 2024	34.5°C	32.9°C / 30.4°C
April 2024	35.2°C	33.5°C / 31.2°C
May 2024	36.1°C	34.1°C / 31.8°C

## RECORD BREAKERS AT DOUGLAS-CHARLES AIRPORT

Month	Daily Peak	Avg Maximum vs Climatology
January 2024	30.7°C	29.1°C (not a record breaker) / 28.6°C
May 2024	32.2°C (not a record breaker)	31.3°C / 30.2°C

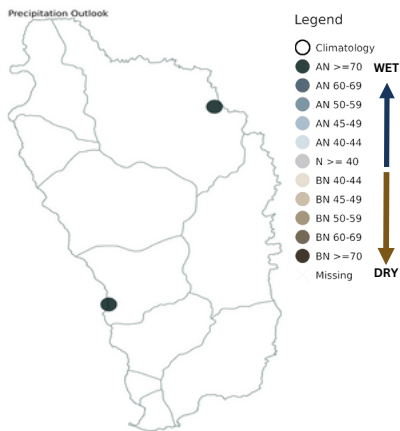
## Looking Ahead

### INFLUENCING FACTORS

- Recent observations in the Eastern Equatorial Pacific Ocean showed ENSO Neutral conditions. Models are predicting continued cooling to La Niña during the Aug-Oct 2024 Season. Transitioning from El Niño usually increases the chances for heavy showers, higher rainfall totals and air temperatures in Jun-Aug. La Niña conditions in Sept-Nov tend to increase Atlantic Hurricane activity during the second half of the season.
- Warmer than usual Sea Surface Temperatures (SSTs) continue to be maintained across the Caribbean Sea and Tropical Atlantic Ocean. This is expected to continue during the hurricane season. Warmer than usual SSTs often result in warmer than usual air temperatures, a more humid environment, an increase in the frequency of rainfall events which could be extreme and an increase in tropical cyclone activity.
- Saharan dust haze intrusion is not forecasted seasonally but weekly. Climatologically, dust plumes traverse the area frequently during the Jun-Aug season which can lead to a relatively drier atmosphere, a reduction in rainfall amounts and weakening of tropical cyclones.

### JUNE-JULY-AUGUST (JJA) 2024 Outlook

#### RAINFALL PROBABILITY FORECAST (%)



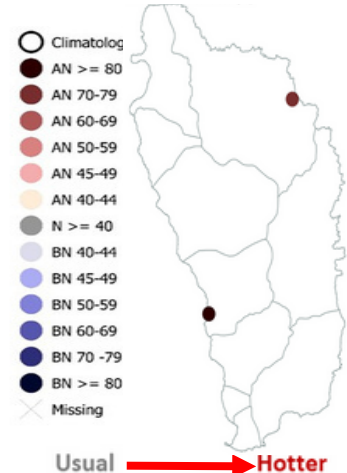
- Above normal to normal rainfall totals are expected for the season (high confidence).
- Models indicate an increase in the frequency of wet days and 7-day wet and very wet spells (high confidence).
- The total number of wet days may range from 44 to 66 days with about four to ten 7-day wet spells.
- At least five (5) excessive rainfall events (at least 30mm within 24hrs) at Canefield and eight (8) at Douglas-Charles which could trigger flash floods are possible (extremely high confidence).
- Dry season impacts especially along the western coast are expected to be alleviated into the wet season. There are no drought concerns to the end of August. About one 7-day dry spell is possible.
- Increased chances for dry spell occurrences are expected during periods when dust haze concentration is high.
- Wetter than usual to the usual conditions are expected to continue into the September to November 2024 season.

#### TEMPERATURE FORECAST

##### Night-time Lows



##### Daytime Highs



- Intense, near-record night-time and daytime heat with increasing humidity expected from June to September 2024.
- 60 or more hot days are possible. (usually 5 to 10)
- There is a high probability of having at least 30 hot spell days.
- High heat impact potential (50 to 80%) (percentage of time spent in hot spells during JJA 2024).

### JUNE-JULY-AUGUST (JJA) CLIMATOLOGY

June-July-August Season CLIMATOLOGICAL NORMAL (1991-2020)		
RAINFALL	CANEFIELD AIRPORT	DOUGLAS-CHARLES AIRPORT
Normal	474.2 to 756.8mm	544.4 to 768.5mm
Wet Days Normal	49 to 66 days	53 to 68 days
7-Day Dry Spells Normal	n/a	0 to 1
TEMPERATURE (2006-2020)		
Average Maximum	32.2°C to 32.5°C	30.7°C to 31.2°C
Average Mean	28.2°C to 28.5°C	27.7°C to 28.1°C
Average Minimum	24.1°C to 24.6°C	24.7°C to 25.1°C



## AGRICULTURE

Water availability for agriculture should not be a concern for the season.

Vigilance and preparation must be a priority for farmers and producers during this wet/ hurricane season:

- Construct drains along contour lines on slopes.
- Maintain drains free of debris.
- Retrofit all farm structures.
- Prune trees and branches that are directly over farm structures.
- During a hurricane warning, remove and secure the covering of greenhouses/nurseries and disconnect all electrical fixtures on farms.
- Where ruminants are not housed move them to more elevated regions.
- Collect and secure seedlings, eggs and other livestock products.
- Secure beehive boxes and take them into buildings.

Guard against heat stress for livestock and crops by:

- Ensuring livestock are kept cool and dry by establishing/ locating shading for livestock such as cows, sheep and goats.
- Ensuring cooling systems such as fans are in place and good ventilation is available for poultry houses.



## TOURISM

- The frequency of outdoor activity disruptions due to rainfall is likely to increase significantly.
- Tourism operators are advised to keep informed of the daily weather forecast issued by the Met. Office before venturing out.
- A state of preparedness and readiness for any sudden eventualities should be maintained.
- Heat discomfort is expected to increase and as such the need for keeping cool is likely to increase on dry and hot days.
- Visitors and operators are advised to apply sunscreen to protect the skin against extremely high exposure to harmful UV light on sunny days.
- Reduce direct exposure to sunlight during 10am and 3pm.
- Moderate influxes of sargassum are expected to continue during June with a reduction in July & August.
- There is currently a risk for coral bleaching as a Coral Bleaching "Warning" Alert Level exist. Expect an increase to Alert Level 2, by the end of August. A risk for Reef wide bleaching with mortality of heat sensitive corals is likely by August.



## HYDROLOGY

- For the next three months expect river discharges to increase following downpours increasing the risk of flooding.
- During rainfall event, one should anticipate an increase in river water levels. Levels may rise to 1.5m and above the normal heights during moderate to heavy rainfall.
- It is normal to expect surface runoff after a downpour. When it rains moderately to heavily, expect rivers to be inundated. Additionally, during a flood, our rivers' turbidity will rise.
- Prolonged and intense precipitation will result in saturated soils, raising the risk of landslides.
- When it rains heavily and for a long time, expect rivers to overflow over low-lying bridges.
- It is common for ponding to happen when there is moderate to intense rainfall.



## HEALTH

With hot conditions expected to persist, a significant increase in heat illnesses, fainting episodes and hospitalizations is possible.

- The likely increase in biological risk (e.g. Aedes mosquito borne diseases, gastrointestinal disease and Leptospirosis (following floods).
- Exacerbation of vulnerability in patients with chronic illness, children, pregnant women and the elderly.
- Probable increase in exhaustion during intense outdoor activity.
- A significant reduction in labour performance and productivity if unprotected.
- Significantly increased sweating and water consumption is expected.
- An increase in snacking/ binge eating leading to acute negative health impacts (hypertension, diabetes) and weight gain may occur.
- Increased fatigue, irritability and aggression during prolonged heatwaves is likely to occur.

For Regional Sectoral Bulletins (Agriculture, Health and Tourism)

Visit: <https://rcc.cimh.edu.bb/>

Source: Dominica Meteorological Service (DMS) in collaboration with the Caribbean Institute for Meteorology and Hydrology (CIMH) & National Oceanic and Atmospheric Administrative (NOAA) ; UWI-CERMES

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