Dominica Meteorological Service

DOMINICA CLIMATIC NEWSLETTER

VOL 5 ISSUE 03 | September –November | YEAR 2020

Seasonal Climate Outlook Brief Summary

June-July-August (JJA) 2020— Forecast: Wetter than to usual conditions with warmer than to usual temperatures.

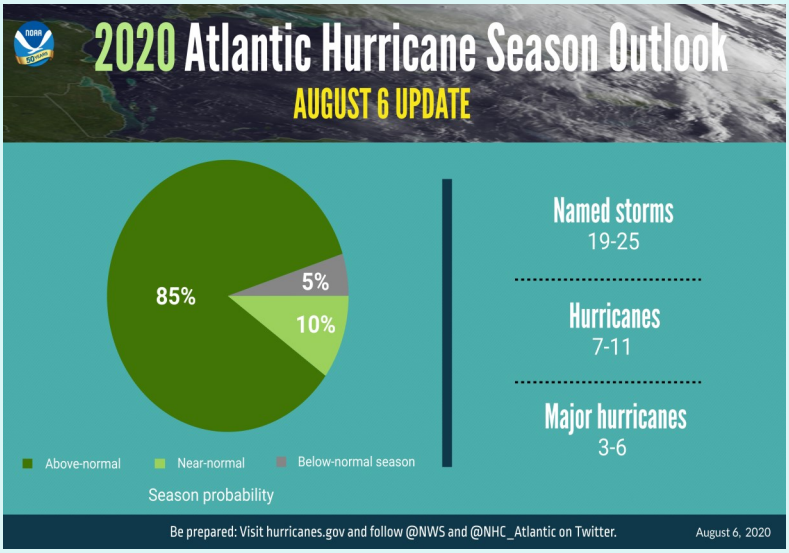
Observation: The total rainfall and the total number of wet days were as usual at the Douglas-Charles Airport while, slightly less rainfall with fewer wet days than usual were recorded at the Canefield Airport. Warmer than to usual temperatures with significant heatwaves were recorded at both stations.

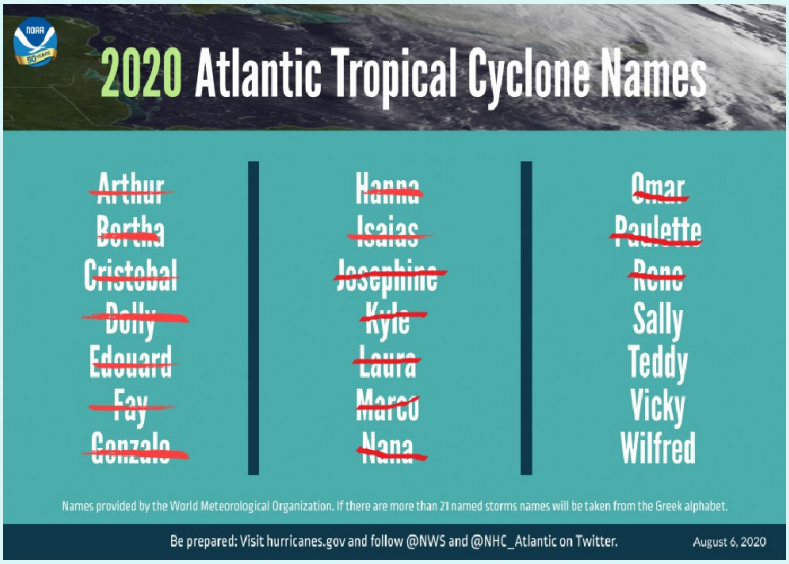
September-October-November (SON) 2020 Forecast—Little can be said at this time as it relates to rainfall totals. Flash flood potential exists with expected extreme 3-day wet spells. Heatwave chances remain very high especially for September.

2020 Atlantic Hurricane Season (August Update)

…….EXTREMELY ACTIVE SEASON EXPECTED…..

- The 2020 Atlantic Hurricane Season has been of to a rapid pace with a record setting 17 named storms so far (as of Sept. 8th) and has the potential to be one of the busiest on record.
- An average season produces twelve named storms, including six hurricanes of which three become major hurricanes (Category 3, 4, or 5).
- The updated outlook calls for 19-25 named storms (winds of 39 mph or greater), of which 7-11 will become hurricanes (winds of 74 mph or greater), including 3-6 major hurricanes (winds of 111 mph or greater).
- To date, Potential Tropical Storm #9 on July 29th (later became Hurricane Isaias) passed near Dominica. This system contributed a total of 73.3mm of rainfall at Canefield and 50.7mm at Douglas-Charles.
- Tropical Storm Josephine (15th August) and Tropical Storm Laura (21st to 22nd August) passed north of and across the Leeward Islands, respectively. Flooding was reported in Portsmouth on the 21st of August during the passage of Laura. A total of 38.3mm of rainfall was recorded at Douglas-Charles and 13.8mm at Canefield.





Looking Back …..*June-July-August (JJA) 2020*

- An increase in rainfall activity was observed across the island from July putting an end to a short lived drought, especially across the western to northern areas of the island.
- A 7-day dry spell was recorded towards the latter end of August at Canefield.
- There were 4 significant heatwaves at Canefield and 2 at Douglas-Charles for the season. The longest at Canefield was 13 days in June and 10 days at Douglas -Charles August into September . (A heatwave is two or more consecutive hot days with peak temperatures of 32.8°C and higher at Canefield and regions along the west coast and 31.5°C at Douglas-Charles and neighbouring regions.)
- Record high temperatures were recorded at Canefield:
  June—Daily Mean Maximum (32.9°C) and July—Daily Average (28.7°C)

June-July-August (JJA) 2020 Season CLIMATOLOGICAL NORMAL (30YEARS)		
RAINFALL	CANEFIELD AIRPORT	DOUGLAS-CHARLES AIRPORT
Normal	506.5mm to 785.3mm	534.7 to 759.4mm
JJA 2020 Total	425.3mm (below normal)	560.7mm (normal)
Wet Days Normal	50 to 67 days	53 to 69 days
JJA 2020 Wet Days Total	47	61
TEMPERATURE 15YRS AVERAGES		
Average Maximum	31.7°C to 32.2°C	30.5°C to 31.1°C
JJA 2020 Average Maximum	32.9°C (above normal)	31.3°C (above normal)
Average Mean	28.0°C to 28.3°C	27.7°C to 28.0°C
JJA 2020 Average Mean	28.9°C (above normal)	28.1°C (above normal)
Average Minimum	24.2°C to 24.6°C	24.8°C to 25.1°C
JJA 2020 Average Minimum	24.9°C (above normal)	24.9°C (normal)

Seasonal Climatic Outlook….. September-October-November *(SON) 2020*

Influencing Factors

El Niño Southern Oscillation (ENSO)

Recent observations: Sea Surface Temperatures (SSTs) in the eastern Pacific cooled during May from slightly above average to between -0.7°C and 0°C. This resulted in neutral to borderline La Niña conditions.
Model forecast and guidance: The models slightly favour a transition to La Niña through December-January-February 2020/21 (with around 50-60% confidence) over maintaining ENSO neutral (35-45% confidence).
Expected impacts on rainfall and temperatures: La Niña tilts the odds to more rainfall, more extreme rainfall and stronger tropical cyclone activity. In addition, temperatures tend to be tempered by the added moisture and more frequent showers in areas that are wetter than usual.

Climate conditions in the Tropical North Atlantic and Caribbean

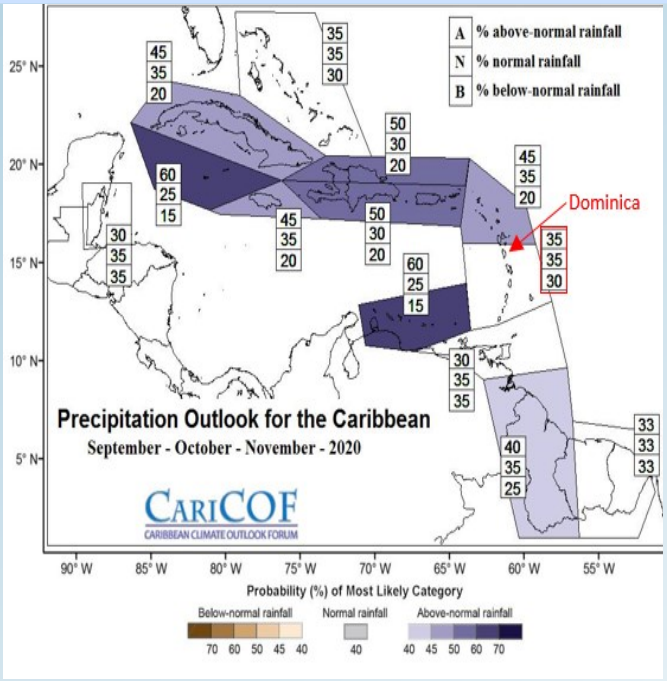
Recent observations: SSTs along the shores of the Caribbean and in parts of the Tropical North Atlantic (TNA) and sub-tropical North Atlantic are around 0.5°C to 1°C above average.
Expected conditions: Most models sustain warm SST anomalies of around +0.5°C across the Caribbean Sea, the TNA and the sub-tropical North Atlantic throughout September-October-November and December-January- February 2020/21.
Expected impacts: Continued warm SSTs throughout the Caribbean tends to contribute to above average humidity, seasonal rainfall totals, wet spell frequency and Atlantic Hurricane Season activity across the region. In addition, warm SSTs favours warmer night-time temperatures and where rainfall does not increase warmer daytime temperatures.

Climatological Normal (SON)

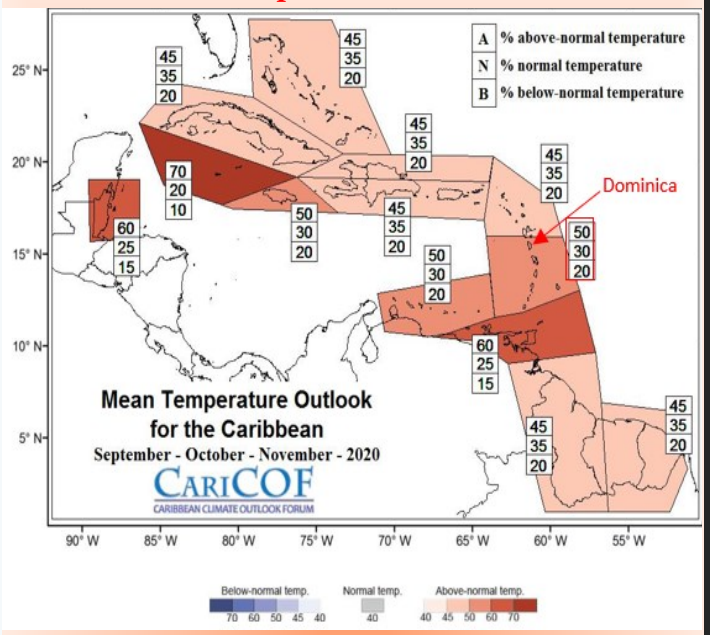
September-October-November Season CLIMATOLOGICAL NORMAL (30YEARS)		
RAINFALL	CANEFIELD AIRPORT	DOUGLAS-CHARLES AIRPORT
Normal	466.4 to 746.7mm	737.4 to 1077.1mm
Wet Days Normal	42 to 54 days	57 to 69 days
TEMPERATURE (15YRS AVERAGES)		
Average Maximum	31.5°C to 31.9°C	30.6°C to 30.8°C
Average Mean	27.5°C to 27.8°C	27.2°C to 27.4°C
Average Minimum	23.4°C to 23.8°C	23.6°C to 24.0°C

Rainfall Forecast

- Little can be said at this time for rainfall expectations towards the end of November. However, it is anticipated that conditions will be at least as wet as usual. Please keep updated.
- Despite the low confidence in rainfall probabilities, this is the second half of the wet season and frequent rainfall activity is expected to be normal especially with the onset of La Nina which usually triggers rainfall events.
- Models indicate no significant changes from the usual number of wet days and wet spells for the season. At least 1 to 2 extreme 3-day wet spells are expected which increases flash flooding potential.
- There are no short-term drought concerns (covering June to November 2020). However, the possibility for a hydrological/ long term drought (covering December 2019 to November 2020) remains, as the island continues to record less rainfall than normal for that period. An increase in rainfall activity is expected towards the end of 2020 into 2021. Keep updated.

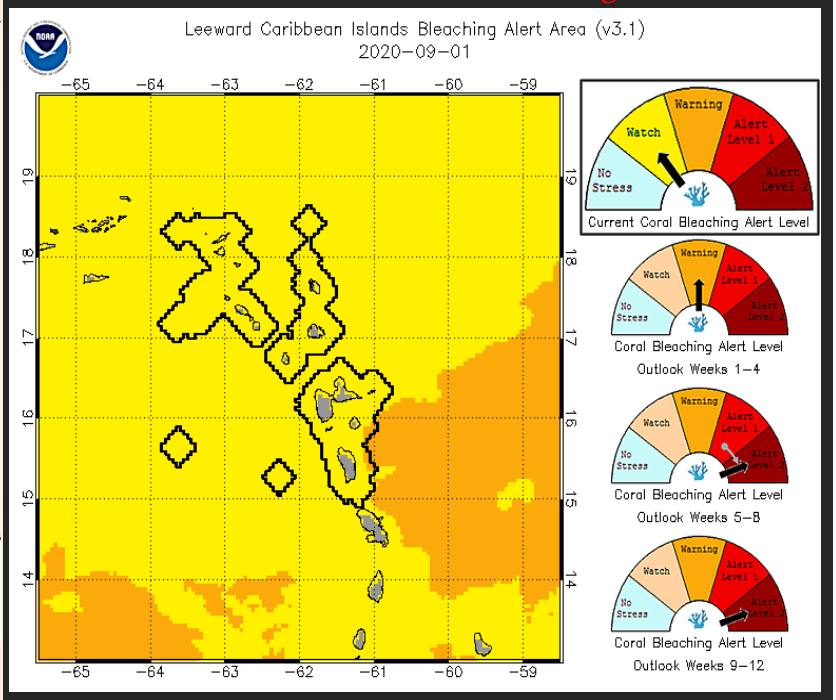


Temperature Forecast



- Temperatures are expected to remain warmer than to usual throughout.
- Daytime highs are expected to remain uncomfortably hot towards the end of October when the island transition out of the heat season (May to October). The probability for having 7 to 14 heatwave days in September is very high.
- Night-time lows are expected to remain warmer than to usual. Some cooling is expected during heavy rainfall periods. Comfortable temperatures are expected towards the end of the season.

Coral Reef Bleaching



Currently there is a "**WATCH ALERT"** for coral bleaching within the vicinity of Dominica. Sea Surface Temperatures (SSTs) are currently at the coral bleaching threshold (≥29.3°C). This is expected to be maintained into the latter half of October and is forecast to result in thermal stress. Coral bleaching "**ALERT LEVEL 2"** is expected by the end of September to late October before returning to watch level when SSTs are expected to cool below the threshold level.

WATCH....*Low-level thermal stress* **WARNING**....*Thermal stress accumulating* **ALERT LEVEL 1** .....*Bleaching expected* **ALERT LEVEL 2** ... *Widespread bleaching and some mortality expected*

SECTORAL IMPLICATIONS

Agriculture

To avoid erosion and crop loss during heavy rainfall;

- Maintain drains around crop beds or plant crops on raised beds.
- House animals on high grounds or on raised pens.
- Store fertilizer away from moisture and water sources.
- Agricultural pests and diseases may increase after excess periods of rainfall. Monitor and employ recommended treatment as necessary.

Review hurricane preparations as strong tropical cyclone activity is likely during the second half of the season.

Provide shade and ample water for livestock during periods of heatwaves. Farmers should also pay attention to their health and protect themselves from heat stroke by consuming lots of water; wearing appropriate clothing; adjusting times of field activities where necessary.

Tourism

The direct link between the spread of COVID-19 and the movement of people has resulted in the closure of regional and international tourism activities and business. Nonetheless, local tourism has seen a spike on the island and caution needs to be taken when venturing out.

Tour operators are advised to keenly monitor weather advisories issued by the Dominica Meteorological Service ahead of tours.

Sudden localized heavy showers and prolonged downpours may result in flash flooding, landslides and sudden increase in discharge in waterfalls and rivers.

Heat stress is of major concern. There is a high risk of skin damage due to intense UV radiation. Ensure you apply high SPF sunscreen lotion regularly (preferably reef safe) and seek shaded areas between the hours of 10am and 3pm.

An increase in sea swell is possible during the season especially during the passage of weather systems.

Given the current global Covid-19 pandemic, at all times, tourism operators should maintain a state of readiness, including formulating communication plans and response protocols to deal with sudden eventualities.

Hydrology

- During torrential rainfall river levels may rise rapidly and reach it's peak discharge in quick time.
- The characteristics of the river basins will determine the length of time it takes for overflow. Small river channels may not have the capacity to withstand prolonged intense rainfall and may flood quicker.

- Gutters and ravines should be clear of debris at all times as they may also overflow during rainfall events.
- Expect ponding to occur frequently as the hurricane season continues.
- Further increase in soil moisture is expected during the season.

Health

With the presence of COVID-19 one should be extremely cautious when outdoors and in areas where social distancing is limited . More so, the wearing of face masks on hot days can be a challenge and can be dangerous. High temperatures can increase the risk of morbidity from heat stress in vulnerable persons, especially young children and the elderly. If you have no reasons to be out, please remain indoors or in isolation.

Ensure to remain hydrated during heatwaves.

Increased use of containers for water storage and the presence of stagnant water may potentially create more breeding sites for mosquitoes, especially those associated with mosquito borne diseases, such as Dengue, Chikungunya and Zika which are of great concern.

There is increased risk of Leptospirosis following a flood event as there will be displaced rodents that could contaminate flood waters, household items and food containers.

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

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