



DOMINICA CLIMATIC NEWSLETTER

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DECEMBER-JANUARY-FEBRUARY

YEAR 2021/22

Seasonal Climate Outlook Summary

Previous Season Forecast; Sept-Oct-Nov (SON) 2021- Usual to slightly less than usual rainfall accumulation with warmer than usual day and night-time temperatures. Temperatures were expected to become more comfortable during November.

SON Observation: The accumulated rainfall totals were normal though at the low end of the range. Day-time temperatures were as warm as usual while for some months, night-time temperatures were cooler than usual at Douglas-Charles.

Current Season Forecast; Dec-Jan-Feb (DJF)2021/22- The first half of the dry season is likely to accumulate more than the usual amounts of rainfall. A drier pattern is more likely during March to May (MAM). Temperatures are expected to be generally comfortable.

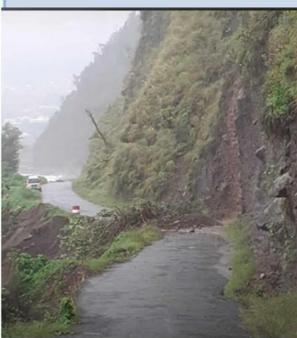
2021 Atlantic Hurricane Season in Review

The season officially ended November 30th having produced 21 named storms (winds of 39mph or greater), including 7 hurricanes of which 4 were major hurricanes (winds of 111mph or greater). This above-average hurricane season was accurately predicted by the National Oceanic and Atmospheric Administration (NOAA) Climate Prediction Center in both the May and August outlooks.

The Atlantic season which began early in May, was the 3rd most active year on record in terms of named storms. It marks the 6th consecutive above-normal hurricane season and the first time that 2 consecutive seasons have exhausted the list of 21 storm names.

In spite of the above-average activity, only a few systems moved through or in the vicinity of the Lesser Antilles and Dominica by extension, during the season. A Tropical Storm Warning was issued for the island on July 2nd as Hurricane Elsa passed near Barbados. This system produced squally over the southern half of the island and a wind gust of 44kts/ 51mph. Similar conditions were observed as Tropical Storm Grace passed over Guadeloupe on August 14th. Meanwhile, Tropical Storm Peter only generated light winds and swells across the area from September 19th to 20th.

Localized floods were observed in usual susceptible areas including communities in the north and south of Dominica during the passage of tropical waves and trough systems.



Landslide at Dubique and flooding in Pointe Michel

2021 Atlantic Tropical Cyclone Names		
Ana	Henri	Odette
Dill	Ida	Peter
Claudette	Julian	Rose
Danny	Kate	Sam
Elsa	Larry	Teresa
Fred	Mindy	Victor
Grace	Nicholas	Wanda

Names provided by the World Meteorological Organization

Be prepared: Visit hurricanes.gov and follow @NWS and @NHC_Atlantic on Twitter. November 30, 2021

Rainfall

Accumulated rainfall totals at both airports for the 2020/21 dry season were normal. However, these totals were at the low end of the range.

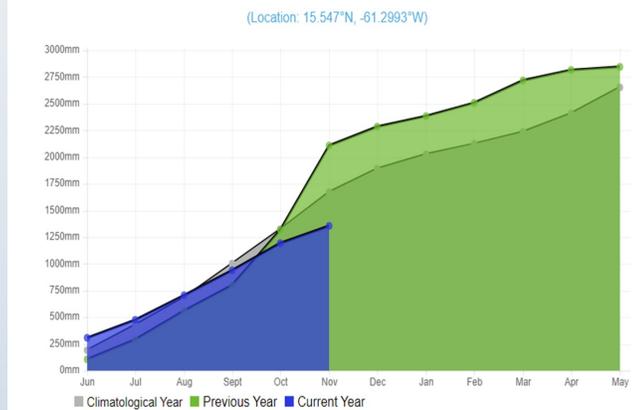
At Douglas-Charles, a total of 1355.7mm/ 53.37in of rainfall was recorded. The first half of the season (JJA) observed approximately 52% of the season’s total rainfall.

- ⇒ June was the wettest month with a total of 307.5mm/ 12.11in and the driest was November (which is normally the wettest month of the year) with 161.5mm/ 6.36in. July and September were also slightly below normal.
- ⇒ There were 110 wet days out of 183 (60%). There was an 8-day dry spell towards the end of August into September and a 5-day dry spell in November.

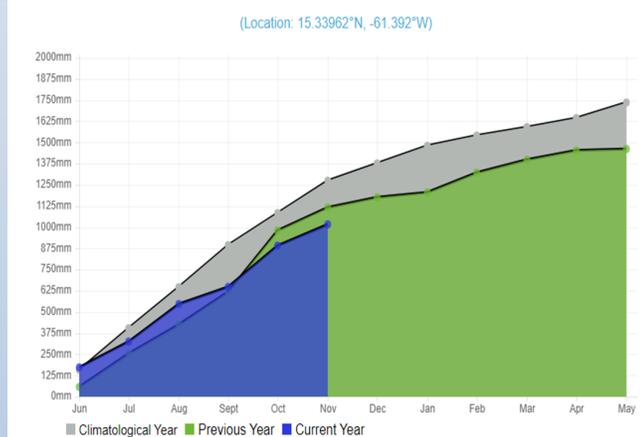
At Canefield a total of 1016.4mm/ 40.02in was recorded which is normal. About 54% of this was observed during the first half of the wet season.

- ⇒ October was the wettest month with 243.4mm/ 9.58in and September was the driest with 101.0mm/ 3.95in. Below normal totals were recorded in July and September and above normal rainfall followed in October.
- ⇒ There were 94 wet days out of a possible 183 (51%). There was one 7-day dry spell observed towards the end of October and some 6-day dry spells in other months.

Douglas-Charles, Dominica - Accum. Rainfall Water Year



Canefield, Dominica - Accum. Rainfall Water Year



Temperature

Douglas-Charles experienced slightly cooler than usual daily mean and daily minimum temperatures with usual daytime maximum temperatures during the wet season.

- ⇒ September was the warmest month with a maximum temperature average of 31.8°C/ 90°F. The coolest was November with an average minimum temperature of 22.4°C/ 72°F. Highest temperature recorded during the season was 33.4°C/ 91°F on the 20th of September and the lowest was 20.4°C/ 68°F on November 26th.
- ⇒ There were three 5-day heatwaves and one 6-day heatwave in September.

At Canefield, air temperature during the period was average, with daytime highs slightly warmer than usual while night-time lows were as cool as usual.

- ⇒ September was very warm with an average maximum of 33.1°C/ 91°F. November was the coolest month with a mean minimum temperature of 22.5°C/ 73°F. The absolute maximum temperature for the season was 35.7°C/ 97°F on the 21st of September and the minimum was 21.7°C/ 72°F on November 25th.
- ⇒ One 5-day heatwave was observed early September.

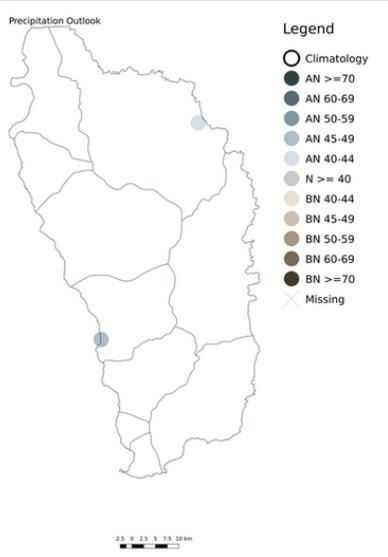
(Heatwave—Three or more consecutive hot days when daily highs are equal to or exceeds 32.9°C at Canefield and 31.5°C at Douglas-Charles).

CLIMATOLOGICAL AVERAGES FOR SON (2021)		
Parameters	Canefield	Douglas-Charles Airport
Temperature (15 years)		
Average Maximum	31.8 to 32.2°C	30.6 to 31.0°C
SON 2021	32.5°C	31.0°C
Average	23.4 to 23.7°C	23.6 to 23.9°C
SON 2021	23.6°C	22.9°C

INFLUENCING FACTORS

- Sea Surface Temperatures (SSTs) in the eastern Pacific have recently dropped to below -0.5°C ; La Niña conditions have returned this year. The models forecast La Niña conditions in DJF, which may continue into MAM (March-May) or return to ENSO neutral conditions. La Niña tilts the odds to more rainfall activity in DJF and MAM. ENSO neutral offers little contribution to seasonal rainfall or temperature prediction in the Caribbean.
- SSTs have warmed to $0.5-1^{\circ}\text{C}$ above average around the Caribbean and in the equatorial and sub-tropical portions of the North Atlantic in September and persisted into October. Models are forecasting observed SST around average to maintain $0-1^{\circ}\text{C}$ above average. Warm SSTs in and around the Caribbean tend to contribute to higher air temperatures with above-average humidity, seasonal rainfall totals and an increased frequency of extreme rainfall

RAINFALL FORECAST

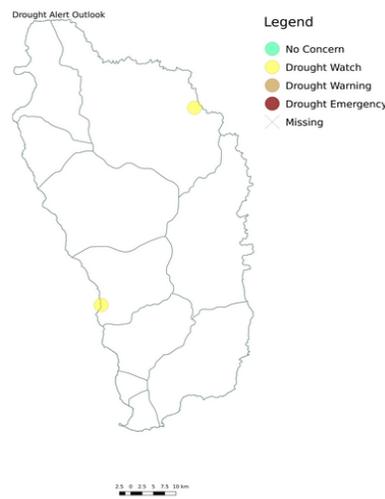


The dry season is marked by a general decline in rainfall frequency and intensity.

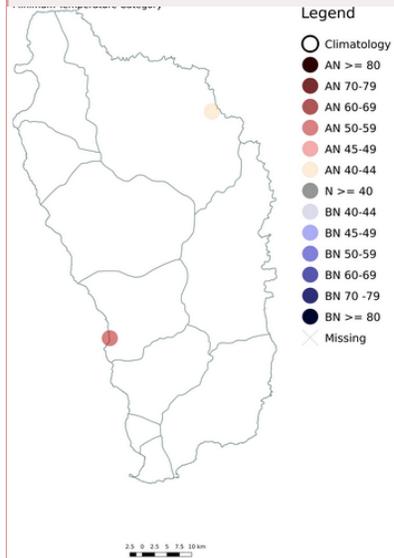
The first half of the season (DJF) is likely to accumulate the usual to slightly higher than usual rainfall.

At least 25mm are possible during weeks 2 and 3 in December, particularly over the southern parts of the island.

- A slight increase in the number of wet days and 7-day wet spells is likely, with at least three 7-day very wet spells
- There is a very high chance of at least three 7-day dry spells during DJF but a very low chance of a 15-day dry spell.
- At this time, a drier trend is highly likely during the second part of the season (MAM), with less than usual rainfall accumulations
- Drought-like conditions are likely in areas experiencing reduced rainfall amounts, by the end of February.



TEMPERATURE FORECAST



This is the cool period of the year when temperatures are more comfortable. The chance of heat-waves is negligible during DJF with 2 or 3 becoming possible during MAM.

- Overall, night-time minimum and daytime maximum temperatures are likely to be the usual or slightly warmer than usual, particularly at Douglas-Charles during DJF.
- However, there is some indication of night-time temperatures being slightly cooler than usual at Canefield during MAM.

CLIMATOLOGICAL AVERAGES FOR DJF		
Parameters	Canefield Airport	Douglas-Charles Airport
<i>Accumulated Rainfall (30 years)</i>		
Normal	204.1 to 333.5mm	314.8 to 470.1mm
Wet days	36 to 53	48 to 62
7 day wet spell	1 to 4	1 to 3
7 day dry spell	NA	1
<i>Temperature (15 years)</i>		
Average Maximum	29.8 to 30.2°C	28.5 to 28.9°C
Mean	25.8 to 26.1 °C	25.5 to 25.8°C
Average Minimum	21.6 to 22.0°C	22.3 to 22.8°C

MOON PHASES
 Dec: LQ 11th, NM 4th, FQ 27th, FM 19th
 Jan: LQ 25th, NM 2nd, FQ 9th, FM 17th,
 Feb: NM 1st, FQ 8th, FM 16th, LQ 23rd



TOURISM

- ◆ Facilities should continue to enhance/ upgrade water conservation practices, as well as, rainwater harvesting and repairs to leaky pipes, etc. ahead of the peak of the dry season, and advise staff and guests of the need to conserve water on an ongoing basis.
- ◆ Ocean temperatures will decrease to their annual minimum by the end of February. It is imperative to minimize runoff of pollutants into coastal waters and to encourage the use of reef-safe sunscreen by guests and locals alike, which can increase the survival chances of coral reefs.
- ◆ Marketing efforts could focus on attracting visitors to the generally sunny, warm and breezy weather, and general health and safety in the Caribbean region.



AGRICULTURE

- As the island transitions into the dry season, water availability may not be a major concern from December to February. However, preparations should be made for a likely drier than usual March to May. These conditions may be beneficial for the establishment of potatoes during the early dry season in the southern parts of the island.
- Pests and diseases thrive in wet conditions and farmers will have to be vigilant for any signs of increased infestations.
- DJF may be a good time to add nutrients and fertilizers to prep plants for a likely drier MAM.
- Different methods of water harvesting and soil moisture conservation methods should be investigated for particular locations to prep for a likely drier than usual heart of the dry season.
- Rainwater that is harvested should be kept covered to inhibit mosquito breeding.



HEALTH

- ◆ Water availability which is critical for hygiene purposes during the COVID-19 pandemic, is not expected to be a concern.
- ◆ Less frequent episodes of Saharan dust incursions into the Caribbean in the coming season may reduce the risk of exacerbations of allergic rhinitis and asthma in susceptible persons.
- ◆ UV radiation will be at its annual minimum in December and January, though still high and increasing to extremely high in February
- ◆ Keep cool and hydrated.
- ◆ Continue wearing face masks and ensure they are breathable. Avoid crowds during hot days and if feeling ill. Remove masks in a private space. Sweaty masks should be changed.
- ◆ Manage water storage containers properly to reduce mosquito breeding areas and incidents of vector-borne diseases such as Dengue, Chikungunya and Zika.

HYDROLOGY



- ◆ River discharge should remain relatively the same for the next 3 months.
- ◆ During DJF, heavy rainfall may cause some rivers to flood low-lying bridges, impacting traffic and pedestrians.
- ◆ Anticipate the usual increase of river levels and overflowing of gutters and ravines during heavy rainfall.
- ◆ Ponding is expected in saturated areas as well as on unlevel ground.
- ◆ River levels are expected to decrease slightly with a reduction in rainfall amounts during MAM.
- ◆ Soils may become dry and compact during increasing runoff during a rainfall event.

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