



BOON



BMS MONTHLY CLIMATE OUTLOOK NEWSLETTER

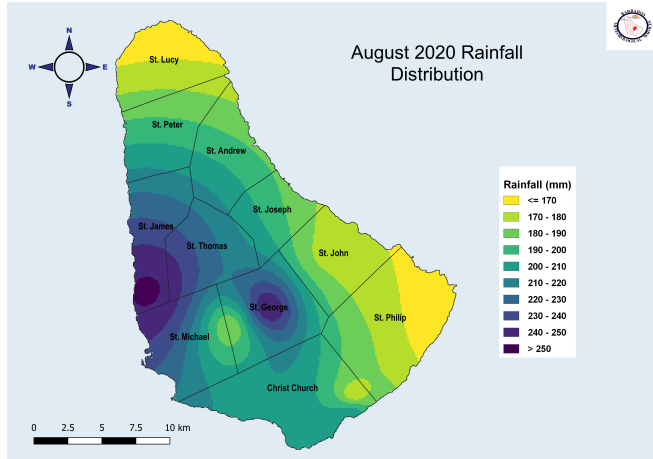
September 2020. Issue No. 8

Key Messages: Normal to above average rainfall is predicted on the short term (October to December 2020). On the long-term (January to March 2021), above average rainfall is forecast across of the island. Predictions favor the possibility of the agricultural drought decreasing at the end of December 2020 with an alert level of green for No concern for drought. However, forecast indicate that the hydrological drought is likely to persist at the end of November 2020 at least for St. John where a drought watch is in effect. There is no concern for drought across the remainder of the Island.

August in Review

Precipitation

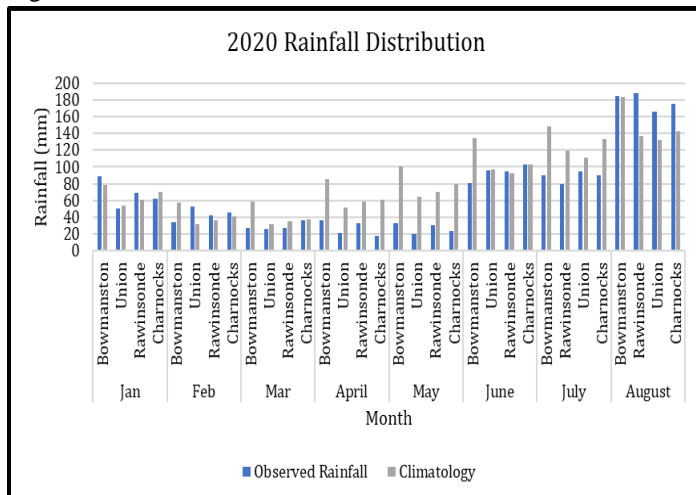
Figure 1: August 2020 Rainfall Distribution



The month of August saw higher accumulations occurring in the western and central sections of the island with 3 stations recording rainfall in excess of 200mm. The maximum rainfall recorded in St. James was 249.6mm which is also the highest rainfall amount recorded across the island for the month. A maximum of 246.6mm was recorded at a station in St. George.

Localized activity, due to low wind speeds and daytime heating attributed to these higher rainfall totals in the western and central parts of the island. Over 100mm of rainfall was recorded at other stations across the Island, with the lowest rainfall of 165.3mm recorded at Union St. Phillip.

Figure 2: 2020 Rainfall Distribution

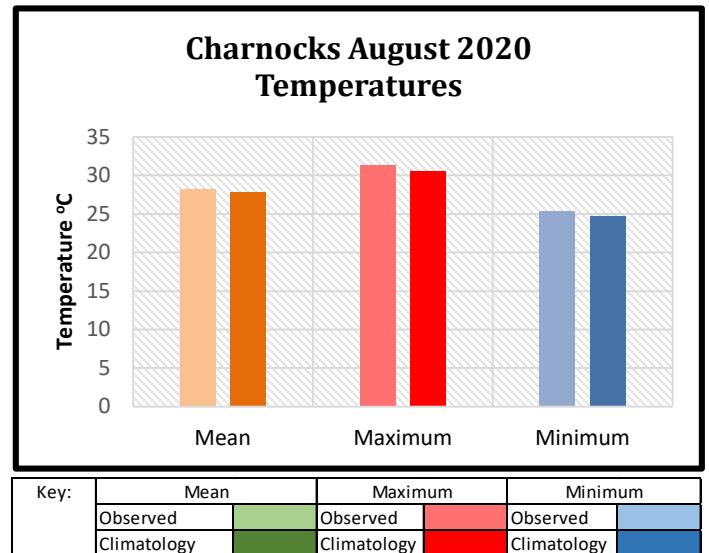


Rainfall distribution for August indicates that the selected stations across the island depicted in Figure 1 recorded above normal rainfall. For the second time this year Bowmanston, St. John recorded above normal rainfall, though just a slight increase of 1.5mm. For the month of August, Rawinsonde Station, Christ Church recorded the highest increase in rainfall of 51.4mm above its climatological average of 136.9mm. The two other selected stations recorded an increase of over 30mm, with Union St. Philip recording 33mm more than the climatological average and the Met office station in Charnocks 32.9mm more than its 30-year average.

The current monthly total for September thus far stands at 119.3mm which is significantly below the climatological average for September of 157.6mm. It is worth mentioning, that the total rainfall for the year thus far stands at 674.0mm which is 7.6mm above the climatological average rainfall for the period January to August.

Temperature

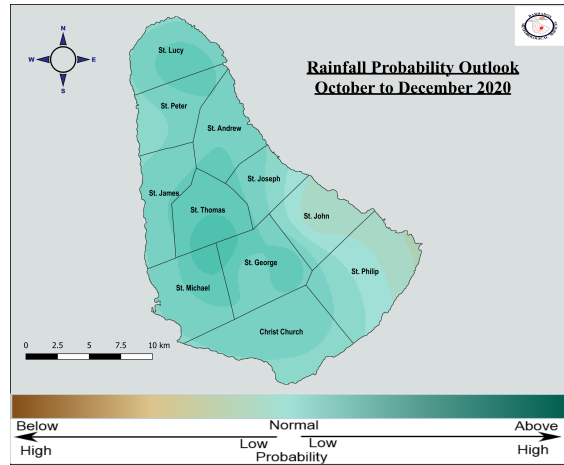
Figure 3: August 2020 Charnocks Temperatures



Observed mean, maximum and minimum temperatures for the Met Office station in Christ Church were above normal for the month of August. The mean temperature was higher by 0.4 °C, the maximum temperature 0.5°C higher and the observed minimum temperature was 0.6°C higher than the climatological average.

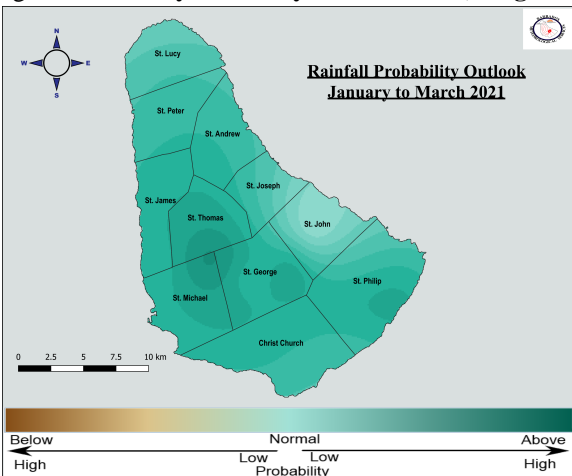
PRECIPITATION OUTLOOK

Figure 4: October-November-December (Short-Term)



The current outlook for the season October to December 2020, indicates a higher chance of above normal rainfall 40% across central and western through northern sections of the Island. There is a 28% chance of slightly below normal rainfall in St. John and a 32% chance of near normal rainfall occurring across the remainder of the island throughout the season.

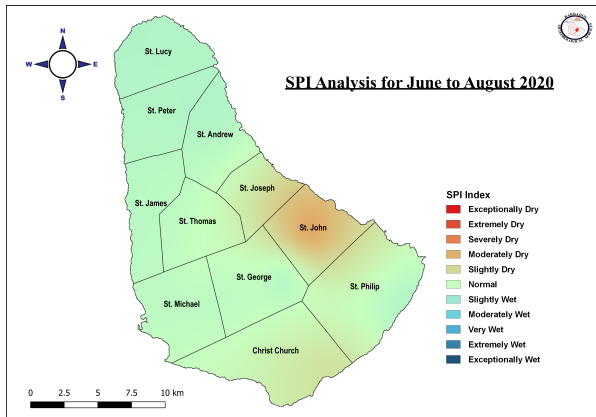
Figure 5: January-February-March 2021 (Long-Term)



The current outlook for the season January to March 2021, indicates a 50% probability of above normal rainfall across the island. Contrastingly, St. John and St. Lucy have a low probability of near normal rainfall on the long-term.

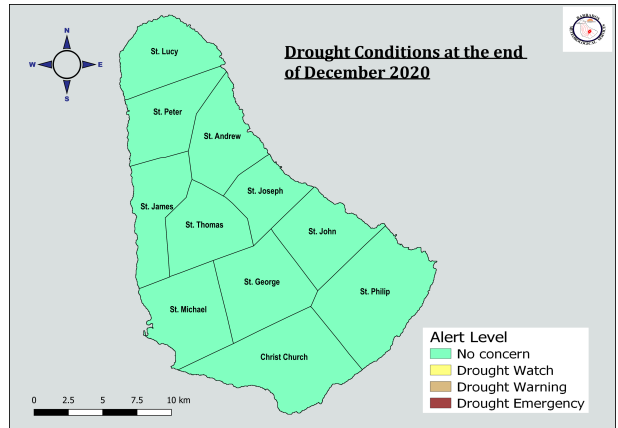
DROUGHT OUTLOOK

Figure 6: Current state: June – August 2020



Conditions were slightly to moderately dry across St. John and southern parts of Christ Church. Contrastingly, climatologically normal conditions were observed across the remainder of the island throughout the period June to August 2020.

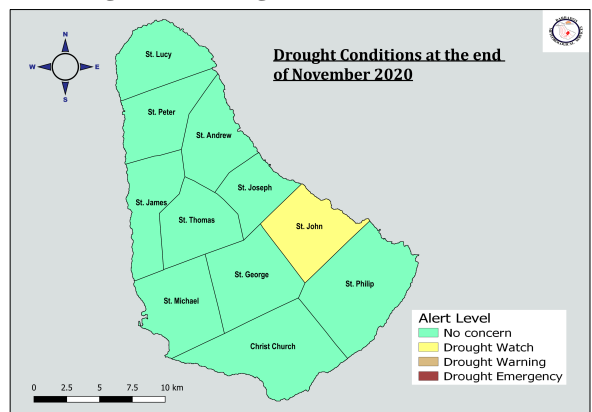
Figure 7: Short-term Drought Outlook



***(Short-term drought spans a time period of 6-months from July 2020 to December 2020 and is specific to agricultural drought)**

Current rainfall probability forecast indicates continued relief from dry conditions both on the long and short-term. This will continue to decrease the likelihood of *agricultural drought at least by the end of December 2020. It is important to note, that while these are the expected conditions at the end of December, there is still the possibility of dry periods occurring across some parishes through October and November.

Figure 8: Long-Term Drought Outlook



***(Long-term drought spans a time period of 12-months from December 2019 to November 2020 and is specific to hydrological drought)**

The possibility of diminishing *hydrological drought is forecast by the end of November 2020. Despite recent rains, reservoir levels across the island continue to be of a concern. Thus, it will take a lot longer for levels to return to normal.

TEMPERATURE OUTLOOK

Figure 9: Charnocks Temperature Outlook

Temperature °C	Season	Forecast Probability%
Minimum Temperature	OND	50 - 59
	JFM	50 - 59
Maximum Temperature	OND	60 - 69
	JFM	Normal
Mean Temperature	OND	70 - 79
	JFM	45 - 49

Key: (Red-Above-normal) (Blue-Below normal) (Grey-Normal)

Above normal mean and minimum temperatures are forecast for the Met Office station in Christ Church on the short-term (October-December 2020) and on the long-term (January-March 2021). While above normal maximum temperatures are forecast on the short-term, climatologically normal maximum temperatures are expected on the long-term.



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POSSIBLE SHORT-TERM AND LONG-TERM SECTORAL IMPACTS AND RESPONSES (OCTOBER 2020 TO MARCH 2021)

Water:

- Slow recharge of underground aquifers on the short and long-term
- Areas where water quality is a concern may experience marginal relief
- Although above normal rainfall is forecast, rainwater harvesting solutions may still need to be employed
- Slow recharge to water storage facilities throughout the forecast season.

***Hydrological Drought Definition: a prolonged meteorological drought or increased water consumption diminishing reserves causing available water to fall below its statistical average.**

Agriculture:

- Periodic dry spells across some areas may continue to cause an increase in the presence of insects and pests.
- Recent rains may continue to increase the incidence of fungal pathogens affecting the crops.
- The sporadic rainfall experienced over the last three months could also bring about some variation in the yield of some crops such as sweet potato and cassava.
- The forecast for above normal temperatures in the vicinity of Charnocks, Christ Church, may cause heat stress for both plants and livestock, thus cooling solutions are advised.

***Agricultural Drought Definition: Insufficient soil moisture for average crop or range production.**

Alert Level	Meaning	Action Level
No concern	No drought concern	<ul style="list-style-type: none"> ○ Monitor resources ○ Update and ratify management plans ○ Public awareness campaigns ○ Upgrade infrastructure
Drought Watch	Drought possible	<ul style="list-style-type: none"> ○ Keep updated ○ Protect resources and conserve water ○ Implement management plans ○ Response training ○ Monitor and repair infrastructure
Drought Warning	Drought evolving	<ul style="list-style-type: none"> ○ Protect resources ○ Conserve and recycle water ○ Implement management plans ○ Release public service announcements ○ Last minute infrastructural repairs and upgrades ○ Report impacts
Drought Emergency	Drought of immediate concern	<ul style="list-style-type: none"> ○ Release public service announcements ○ Implement management and response plans ○ Enforce water restrictions and recycling ○ Enforce resource protection ○ Repair infrastructure ○ Report impacts

Health:

The forecast for above normal rainfall throughout the season October 2020 to March 2021 may mean fewer hot days. As we head into the cooler part of the year excessive heat may become less of a concern. However, throughout October and into November, above normal temperatures may be exacerbated, especially in urban areas which can lead to:

- Heat stress
- Possible dehydration, especially for those vulnerable persons in society e.g. very young, very old and persons with underlying conditions.
- Increased risk of the spread of infectious diseases or worsened respiratory infections
- Persons are urged to:
 - stay hydrated
 - Implement cooling solutions where necessary or available

ENSO (El Nino Southern Oscillation) TRENDS

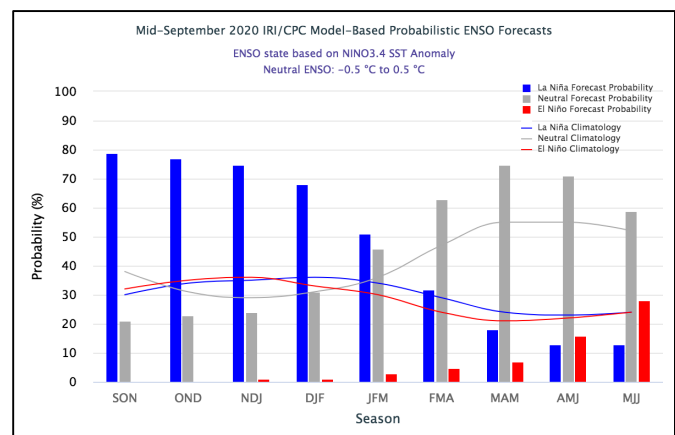
ENSO is the interaction between the ocean and atmosphere in the equatorial Pacific which results in periodic departures from the expected sea surface temperatures. There are two phases of ENSO, the cold phase of sea surface temperatures, La Nina and the warm phase, El Nino. La Nina conditions usually results in higher rainfall for Barbados. El Nino conditions usually result in lower rainfall for the island. Neutral conditions which are close to average or what is normally expected.

Current state

The current tropical atmospheric circulation is consistent with La Nina conditions. Meanwhile, equatorial sea surface temperatures (SSTs) are below average across the east-central Pacific Ocean which is consistent with a La Nina.

What's the Outlook?

CPC/NCEP predictions indicate that La Nina conditions are present. There is a 75% chance of La Nina continuing through the northern hemisphere winter. This may result in increased or normal rainfall across the island throughout the remainder of the year.



(Source: CPC/IRI)

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