CARIBBEAN AGRO-CLIMATIC BULLETIN OF THE CARISAM

FEBRUARY 2020 • VOLUME 3 • ISSUE 9

A joint bulletin of the Caribbean Agricultural Research and Development Institute (CARDI) and the Caribbean Institute for Meteorology and Hydrology (CIMH).

KEY MESSAGES

The region advances into the peak of the dry season (February to April). Low rainfall amounts in many parts of the region in 2019 have likely impacted surface water and groundwater reserves.

Concerns continue over available water for agriculture as soil moisture, stream flow and river flow may be impacted (by the end of April 2020) especially for Tobago.

Moreover, larger rivers and reservoirs, and groundwater may be impacted by the end of the 2020 dry season particularly across the ABC Islands, Antigua, Barbados, Cayman Islands, Dominican Republic, eastern Jamaica, Saint Lucia, St. Vincent, and Trinidad and Tobago.

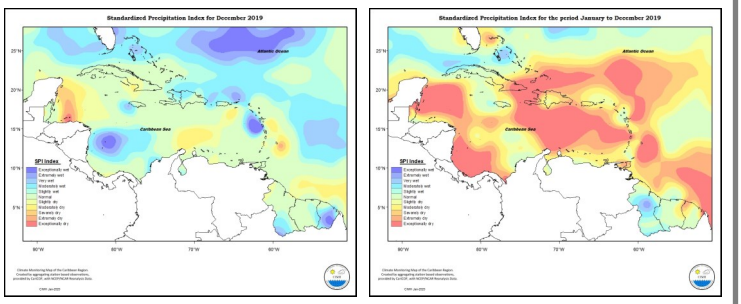
Interests across the region should continue to closely monitor their water status as this period should experience peak in water depletion rates.

DECEMBER IN REVIEW

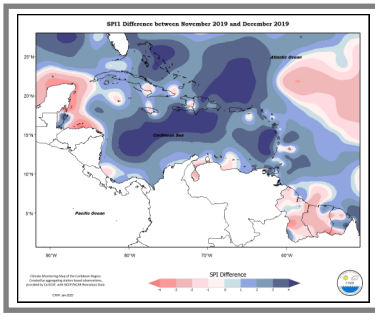
Mixed conditions were seen throughout the islands of the eastern Caribbean in the month of December. Trinidad, Tobago, Grenada and Antigua were normal; St Vincent slightly dry; St Lucia and St Croix normal to slightly dry; Barbados slight to moderately dry from north to south; Martinique predominantly normal with the exception of the extreme northern border which was slight to moderately wet; Dominica slight to exceptionally wet from the north east to the south west; Guadeloupe normal to very wet from east to west; St Kitts and St Maarten slight to moderately wet; and St Thomas very wet. Conditions in the Guianas ranged from slightly dry in northwest and northeast Guyana to extremely wet in southern Guyana and to exceptionally wet in south-eastern French Guiana. Curacao was normal.

Puerto Rico, Hispaniola and Jamaica were normal to moderately wet, Grand Cayman was normal, while Cuba was predominantly normal with the exception of the extreme northwest that was slightly wet and some east central areas which were slight to moderately dry. Northern Bahamas was moderate to very wet. Belize, though mostly normal, was slightly wet in the east and slight to severely dry on the western border.

DECEMBER 2019 SPI (left) and 12-month SPI JANUARY TO DECEMBER 2019 (right)



Surface dryness continued to be relieved with increasing rains in the month of December across the region. This month was wetter than November for most, with notable exceptions across much of the Guianas and Barbados.



SPI Difference (November and December 2019)

Read more at https://rcc.cimh.edu.bb/spi-monitor/

AGRI-NEWS

Belize: Millions of dollars in losses as sugar cane production drop by 30 per cent due to a prolonged drought in 2019. Read more *https://edition.channel5belize.com/archives/196461*

Jamaica: Big drought plan. Government says it will not allow effects of last year's dry season to be repeated in 2020. Read more http://www.jamaicaobserver.com/front-page/big-drought-plan-gov-t-says-it-will-not-allow-effects-of-last-year-s-dry-season-to-be-repeated-in-2020_183132

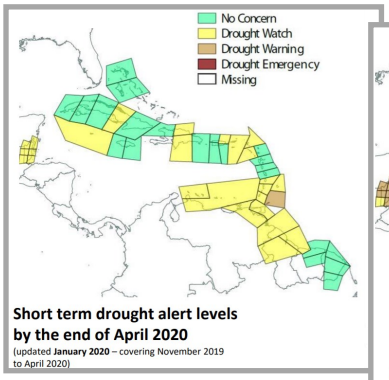
ABOUT CariSAM

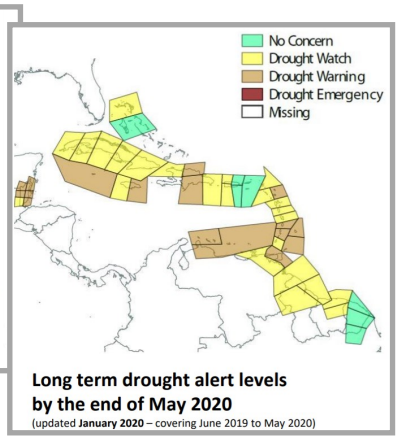
The Caribbean Society for Agricultural Meteorology (CariSAM) is an online platform that hosts forums, provided online weather and climate information for agro-meteorologists, and much more. Agricultural interests can register and access relevant information and be a part of future capacity building exercises, and more. *Visit us at: www.carisam.cimh.edu.bb*

REGIONAL OUTLOOKS

DROUGHT

At present, moderate (or worse) shorter term drought has developed in territories of the Antilles (with notable exceptions of Antigua, Dominica Grenada, Martinique, St. Martin and Tobago), as well as eastern portions of the Bahamas and northernmost Guyana).



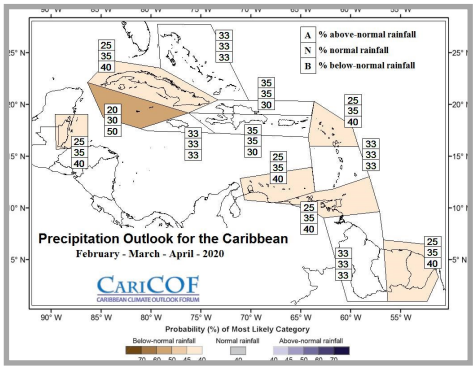


Surface soil wetness, and stream and river flow is likely to decrease across Tobago and possibly across The ABC Islands, Barbados, Belize, Cayman Islands, central Cuba, Dominican Republic, Grenada, Guyana, northeastern Puerto Rico, St. Kitts, Saint Lucia, St. Vincent, St. Maarten/St. Martin, Trinidad, and the US Virgin Islands by the end of April 2020.

By the end of the 2020 dry season drought conditions could be a challenge in farming especially where water supply is sourced from larger reservoirs, large rivers or groundwater, affecting the ABC Islands, Antigua, Barbados, Cayman Islands, Dominican Republic, eastern Jamaica, Saint Lucia, St. Vincent, and Trinidad and Tobago. Long term drought might possibly develop or continue in other locations (with the exception of the northwestern Bahamas, French Guiana, eastern Puerto Rico and the US Virgin Islands). ***Interests across the region should continue to closely monitor their water status during this dry season.***

RAINFALL, WET/DRY SPELLS and TEMPERATURE (FEBRUARY—APRIL 2020)

As the region enters into the heart of the dry season rainfall totals are likely to be normal to below normal for the Cayman Islands, Cuba, Belize, the Leeward Islands, the ABC Islands, Trinidad and Tobago, and eastern parts of the Guianas.

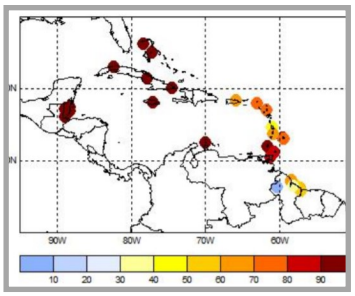


Furthermore reducing wet days, wet spells and extreme wet spells (especially Antigua) could impact available water for planting with a peak in water depletion rates.

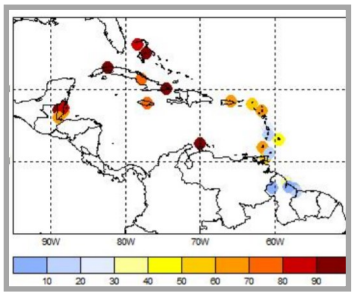
Flooding and flash flooding potential could be a possibility in the month of April, especially in the Greater Antilles.

A favourable chance exists for the occurrence of at least three 7-day dry spells especially across Belize, Jamaica, Cuba, northern Bahamas, the ABC Islands and Grenada. These territories can see as many as 8 (or more) 7-day dry spells during February to April. The occurrence of at least one 15-day dry spell is highly favourable across Belize, Jamaica, Cuba, northern Bahamas, and the ABC Islands.

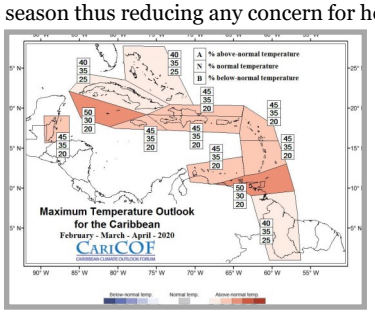
Probability of at least THREE 7-day dry spells in FMA

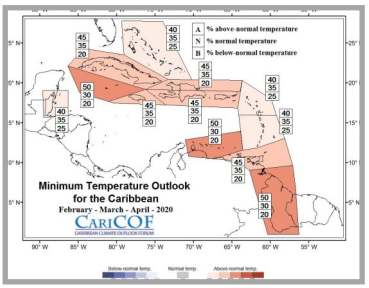


Probability of at least ONE 15-day dry spell in FMA



Day (maximum) and night (minimum) time temperatures even though they continue to possibly be warmer than usual, would be comfortable for this season thus reducing any concern for heatwaves.





Visit http://rcc.cimh.edu.bb/climate-outlooks/ to access the latest climate outlooks.

CLIMATE-SMART ADVISORIES

- Farmers should at this time have alternate water sources for on-farm activities. Remember February to April is the peak of the dry season with 2019 already being dry.
- Continue to employ water conservation measures, especially in severely impacted areas. Water conservation techniques such as mulching and (drip) irrigation are known to increase crop yields by close to 10% compared to crops that are not mulched or irrigated.
- In preparation, farmers should consider planting plots that their limited water resources would irrigate/satisfy. Consider planting drought tolerant species and varieties. Provide shade and ample water for livestock. And keep good written production records.
- Irrigate in the early morning preferably. There is less chance of wind and lower evaporation rates.
- Territories of the Greater Antilles should be on guard for flood producing rains, especially in April:

⇒ Maintain drains around crop beds and/or plant crops on raised beds

⇒ House animals on high ground and/or on raised pens

⇒ Store fertilizer away from moisture and water sources

Please also take into consideration your local weather and climate advisories.

CONTACT US:

Adrian Trotman
Agro-meteorologist/ Chief of Applied Meteorology and Climatology, CIMH
Email: atrotman@cimh.edu.bb

Shontelle Stoute
Technical Officer, CIMH
Email: sstoute@cimh.edu.bb

Kistian Flemming
Climate Change Development Specialist, CARDI
Email: kflemming@cardi.org