Issue: 53
June, 2017

Hydrometeorological Service of Guyana

Farmer's Monthly Weather Bulletin

This bulletin is prepared by the Hydrometeorological Service of Guyana. We welcome feedback, suggestions and comments on this bulletin. Correspondences should be directed to: The Chief Hydrometeorological Officer (Ag), and the Agronomist.

HIGHLIGHTS

- Guyana was classified as Very Wet (VW) for the month of May, 2017 with an average of 302.6mm of rainfall with 20 rain days.
- The highest one day rainfall was recorded at Kaieteur, Region 8 with a value of 196.8mm of rainfall on May 19, 2017.
- Regional Classification for the month showed that Region 7 recorded the highest mean rainfall of 377.2mm with 22 rain days.
- Lethem, Region 9 recorded the highest daily temperature of 34.6 ^{0}C on May 27, 2017.
- Kamarang, Region 7 recorded the lowest daily temperature of 19.6^{0}C on May 26, 2017.
- Above-normal rainfall conditions predicted for June through August, 2017.
- Above-normal to Near-normal temperature conditions predicted for June through August, 2017.
- ENSO-neutral conditions are present.

Rainfall Overview for May, 2017

Guyana was classified as Very Wet (VW) for the month of May, with a monthly average rainfall of 302.6mm across the country with 20 rain days. The highest monthly rainfall total was recorded at Kaieteur, Region 8 with a total of 950.2mm of rainfall and 28 rain days, along with the highest daily rainfall with a value 196.8mm on May 19, 2017. The lowest monthly rainfall total was recorded at Bush Lot, Region 5 with a total of 97.3mm of rainfall with 11 rain days. Most of the stations recorded above normal rainfall conditions, stations in Region 2, 5, 6 and 9 recorded rainfall totals below their long-Term Averages (Figure 1).

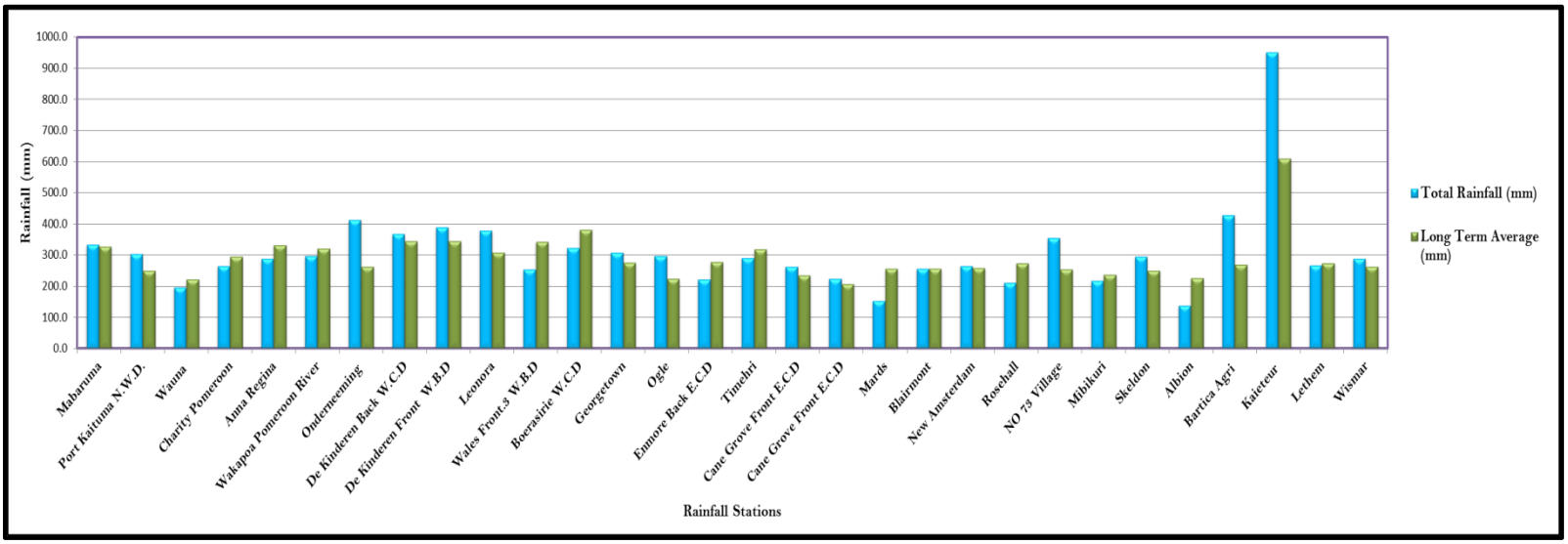

Figure1: Comparison of the accumulated rainfall and the long-term averages for selected stations for May, 2017

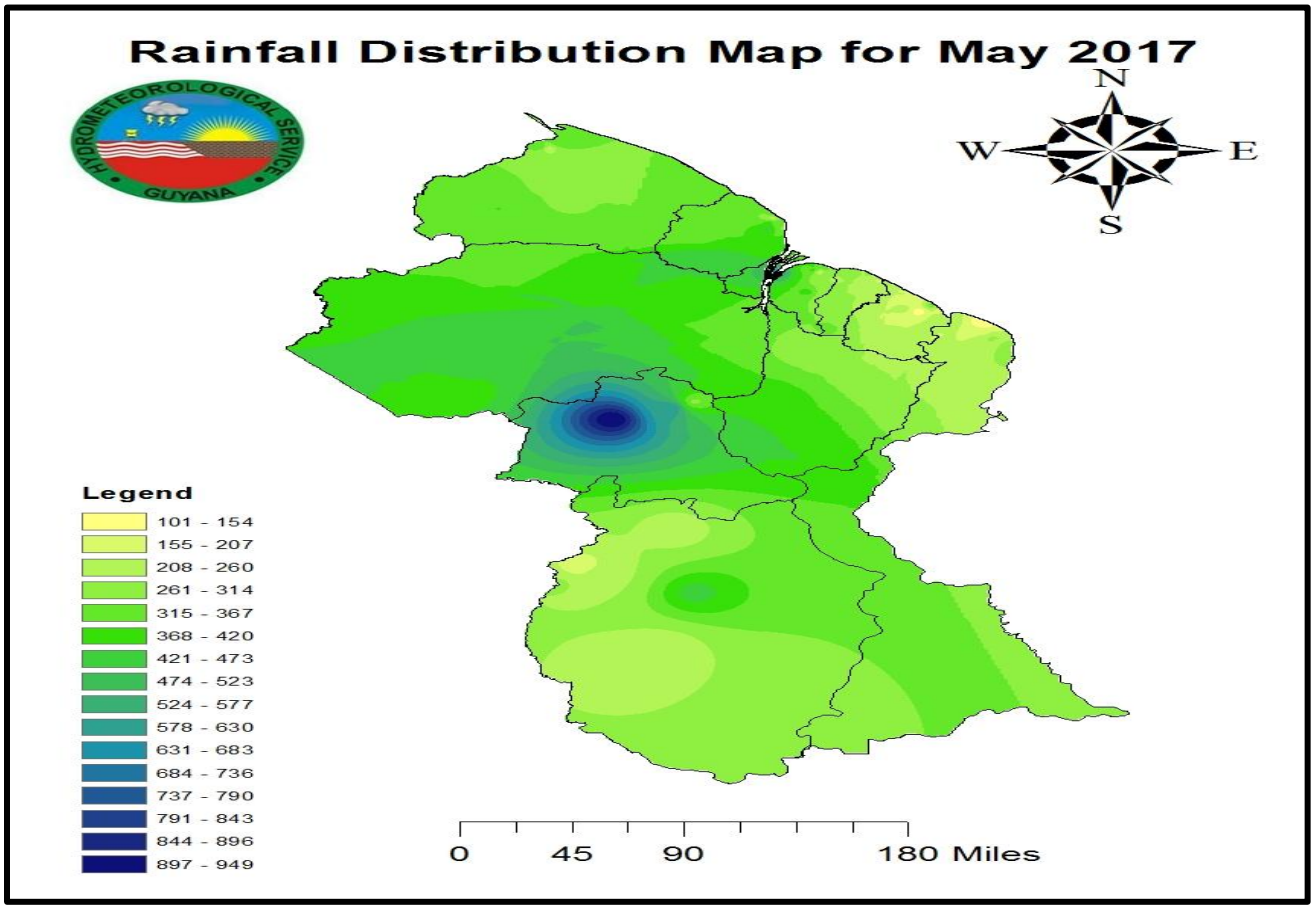

Figure 2: Rainfall Distribution for May, 2017

Table 1: Classification of Regional Average Rainfall Data for May, 2017

Regions	Regional Average (mm)	Average Rain days	Classification	Remarks
1	317.7	21 days	Very Wet (VW)	Arakaka recorded 374.5 mm of rainfall with 24 rain days.
2	346.5	21days	Exceedingly Wet (EeW)	Kabakaburi recorded 472.0 mm of rainfall with 20 rain days.
3	375.8	20 days	Very Wet (VW)	Fort Island Essequibo River recorded 669.4 mm of rainfall with 24 rain days.
4	268.7	20 days	Wet (W)	Enterprise E.C.D recorded 363.0 mm of rainfall with 19 rain days.
5	212.1	20 days	Wet (W)	Abary/MMA recorded 342.5 mm of rainfall with 25 rain days.
6	227.5	17 days	Wet (W)	#73 recorded 354.9 mm of rainfall with 20 rain days.
7	377.2	22 days	Exceedingly Wet (EeW)	Mahdia recorded 631.9 mm of rainfall with 27 rain days.
8	950.2	28 days	Extremely Wet (EtW)	Kaieteur recorded 950.2 mm rainfall with 28 rain days.
9	256.3	17 days	Wet (W)	Kumu Rupununi recorded 441.8 mm rainfall with 21 rain days.
10	320.9	22 days	Very Wet (VW)	58 Miles Mabura Road recorded 404.9 mm of rainfall with 23 rain days.

Sunshine Hours Summary for May, 2017

Lethem, Region 9 recorded the highest monthly mean sunshine of 6.5 hours. The highest one day sunshine of 11.4 hours was recorded at Ogle Synoptic Station, Region 4 on May 18 and 19, 2017. Georgetown, Region 4 recorded the lowest mean sunshine of 5.5 hours. All of the stations recorded mean sunshine hours above their long- term averages (figure 3).

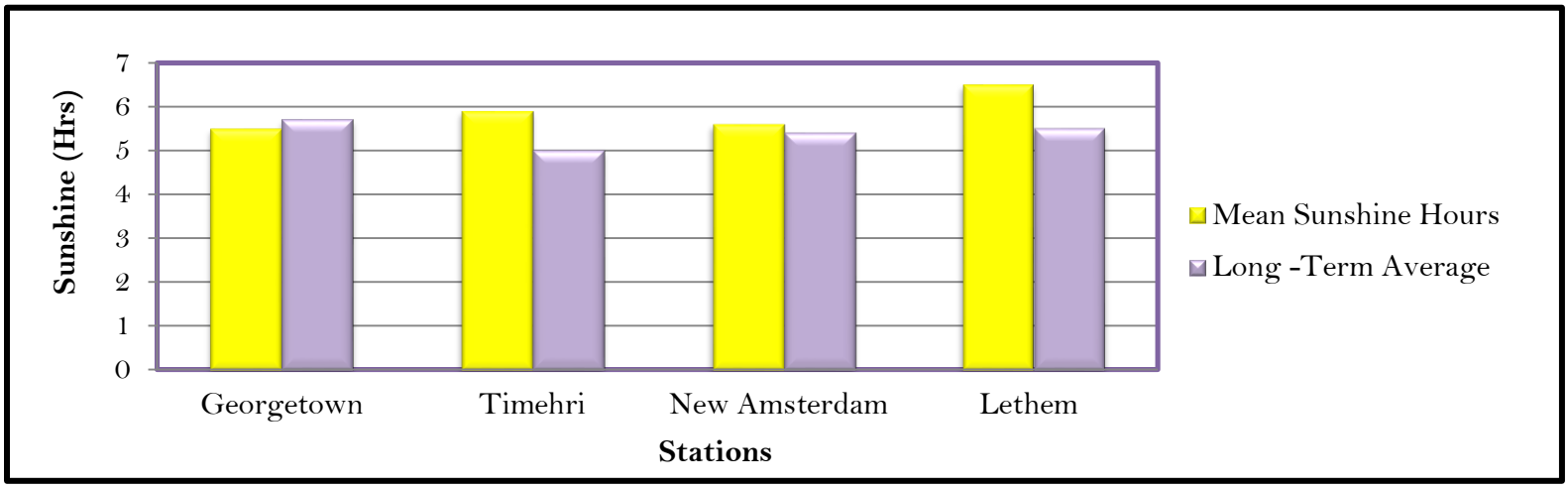

Figure 3: Comparison of the mean sunshine hours and the long-term averages for selected stations for May, 2017

Temperature Overview for May, 2017

For the month of May, the highest one day temperature was recorded at Lethem, Region 9 with a value of 34.6^{0}C on May 27, 2017. Timehri, Region 4 recorded the highest mean maximum temperature of 33.7^{0}C. While Georgetown, Region 4 recorded the highest one day minimum temperature of 26.9^{0}C on May 17, 2017 along with the highest mean minimum temperature of 24.7^{0}C. Kamarang, Region 7 recorded the lowest daily temperature of 19.6^{0}C on May 26, 2017 (Figure 4 & 5).

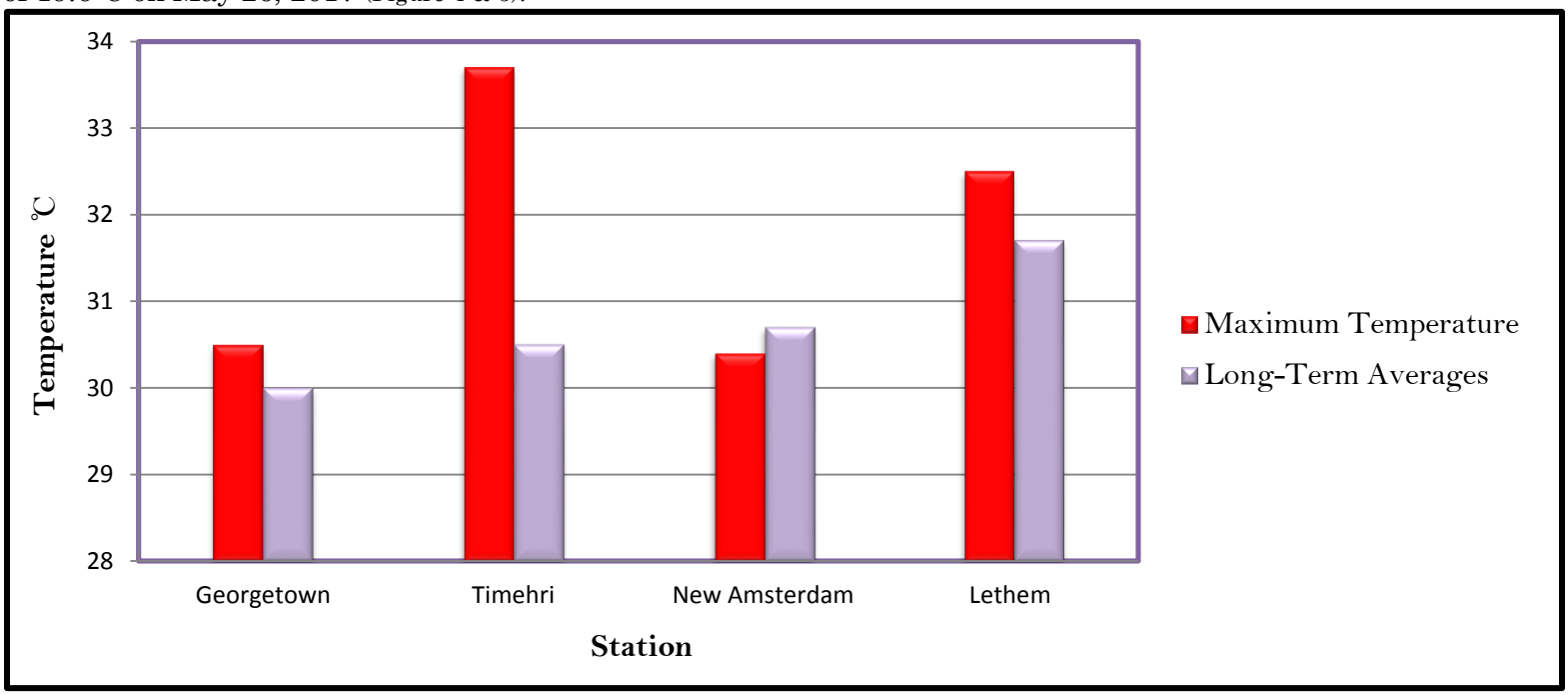

Figure 4: Comparison of the long-term averages and mean maximum temperatures for selected stations for May, 2017.

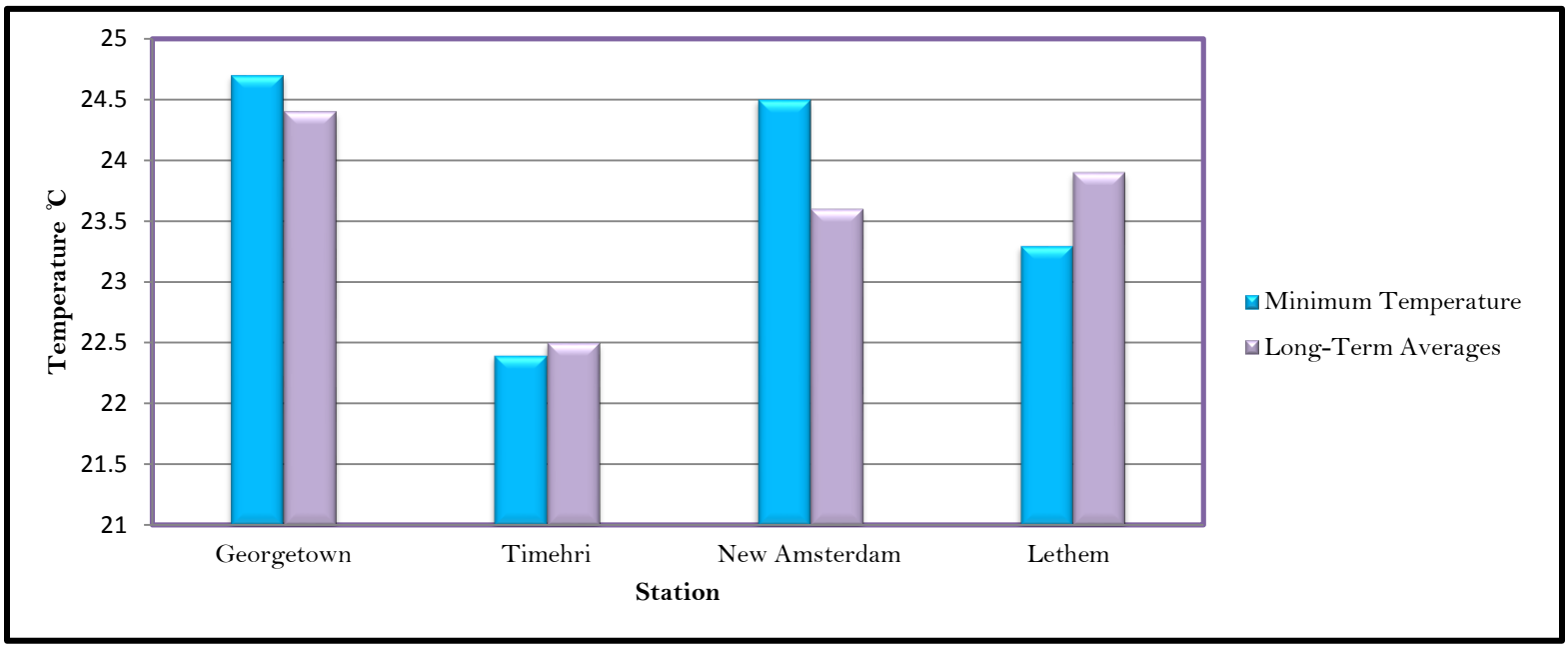

Figure 5: Comparison of the long-term averages and mean minimum temperatures for selected stations for May, 2017.

Comparison of Evapotranspiration (ET_O) Totals for selected stations May, 2017

Lethem, Region 9 recorded the highest average daily evapotranspiration of 8.2 mm along with the highest one day evapotranspiration of 12.5 mm on May 23, 2017. Timehri, Region 4 recorded the lowest daily average evapotranspiration of 5.0 mm and the lowest one day evapotranspiration with a value of 1.4 mm on May 28, 2017. A comparison can be seen in figure 6.

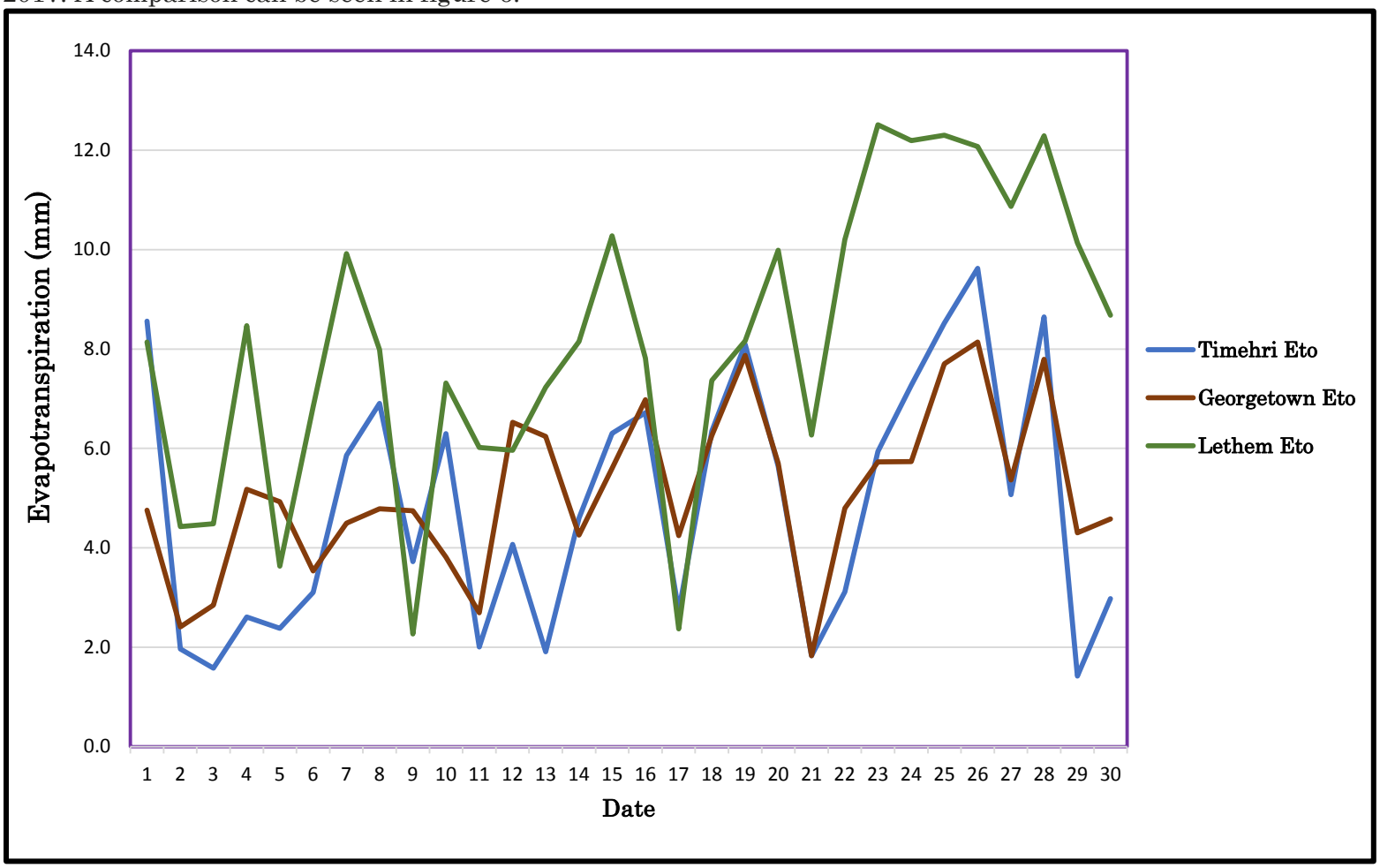

Figure 6: Comparison of the Reference Evapotranspiration of selected stations for May, 2017.

Note: The calculated reference evapotranspiration method of Penman - Monteith, which assumes an unlimited water supply, depends on temperature, relative humidity, wind, and generally provides a better representation of crop-water losses and requirements.

The Standardized Precipitation Index

Table 2: The Standardized Precipitation Index for selected stations

Station Name	3 Months SPI Value (March, April, May)
Georgetown	4.9
Uitvlugt	3.7
Wales	4.1
Enmore	5.0
Timehri	4.0
Rose Hall	4.7
Albion	4.6
Skeldon	5.0
Blairmont	4.6

Table 3: The Standardized Precipitation Index Classification

SPI Values	Categories
0 to -0.4	Near Normal
-0.5 to -0.7	Abnormally Dry
-0.8 to -1.2	Moderately Dry
-1.3 to -1.5	Severely Dry
-1.6 to -1.9	Extremely Dry
-2.0 or less	Exceptionally Dry
0 to 0.4	Near Normal
0.5 to 0.7	Abnormally Wet
0.8 to 1.2	Moderately Wet
1.3 to 1.5	Severely Wet
1.6 to 1.9	Extremely Wet
2.0 or more	Exceptionally Wet

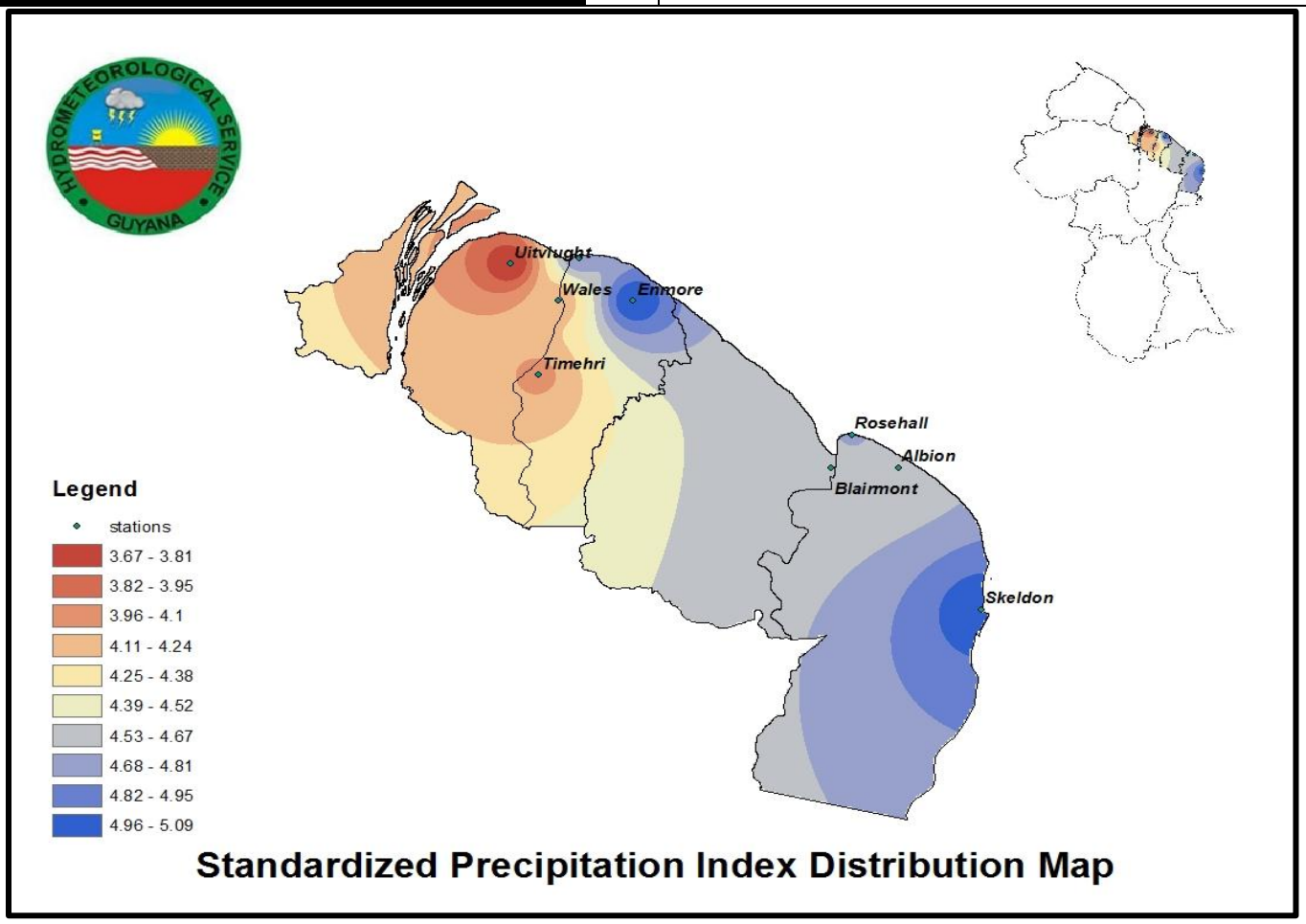

Figure 7: The Standardized Precipitation Index for selected stations for March through May, 2017.

Note: The Standardized Precipitation Index (SPI) is based only on precipitation. One unique feature is that the SPI can be used to monitor conditions on a variety of time scales namely 1- month, 3-month, 6-month, 9-month and 12-month periods. This temporal flexibility allows the SPI to be useful in both short-term agricultural and long-term hydrological applications. Tables 2 and 3 above show the 3-month generated SPI values and categories for stations along the Coastal Plain of Guyana. An interpolated map of these SPI values can be seen in Fig.7 .The SPI is based entirely on monthly precipitation accumulations and its values can be compared across different climatic and geographic regions. A drought event is defined when the SPI is continuously negative and reaches a value of -1.0 or less, and

Seasonal Outlook for Guyana and the Caribbean for June-August, 2017

Climatologically Coastal Guyana has transition out of its Secondary Dry season (the short dry season) of 2017 into its Primary Wet season of 2017 (the long wet season). Latest forecast based on statistical models indicates wetter than to pretty much like usual rainfall for this period, with a confidence of 75%, along with moderate chance for extremely wet conditions.With this, Coastal Guyana will experience generally wet conditions over most parts of the country up until ending of ending July, 2017. There are still indications that some heavy downpours will be observed, with a real potential for flash floods and flooding. Heat wise, initially it will still feel hot, with mostly above-normal to near-normal temperatures, but those temperatures may cool down to more comfortable values.

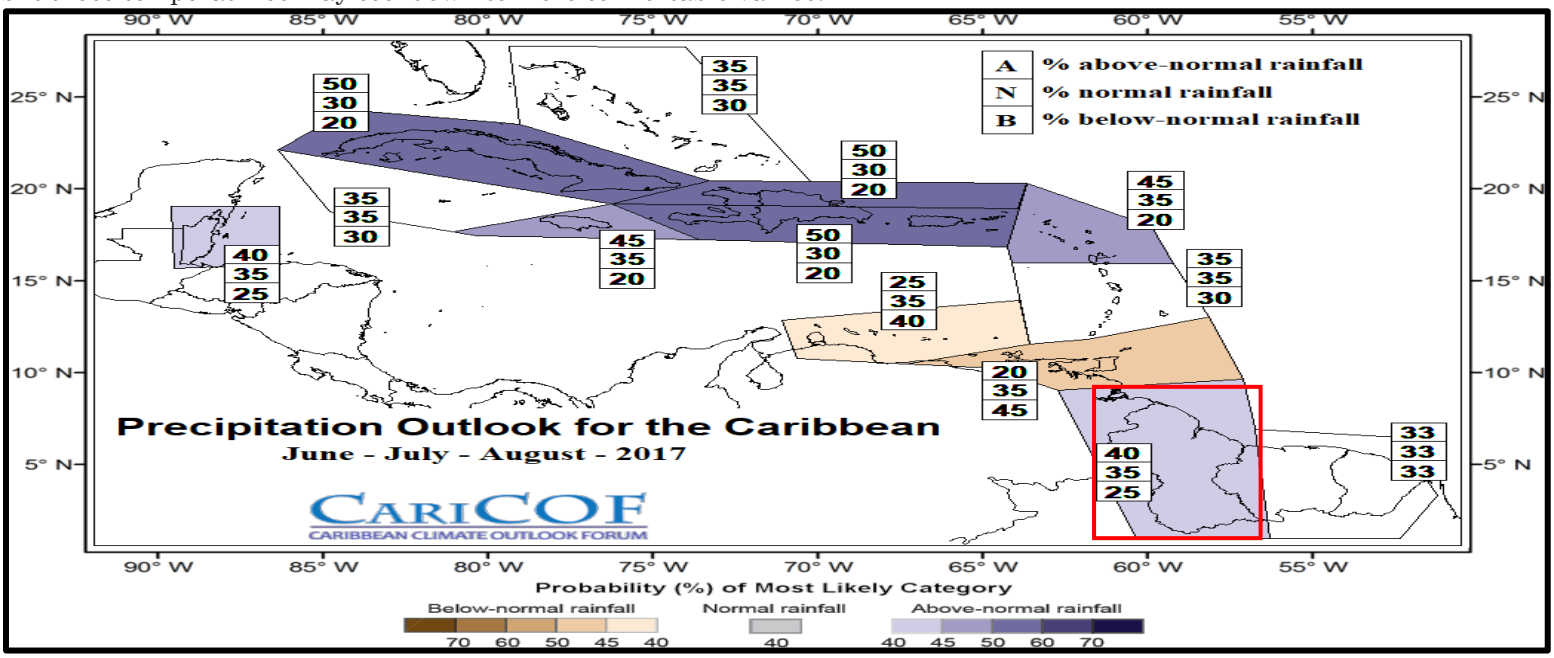

Figure 8: Precipitation forecast map for June-August, 2017 showing the probalities of above Normal (A), Normal (N) and Below Normal (B) rainfall for Guyana within the context of the Caribbean.

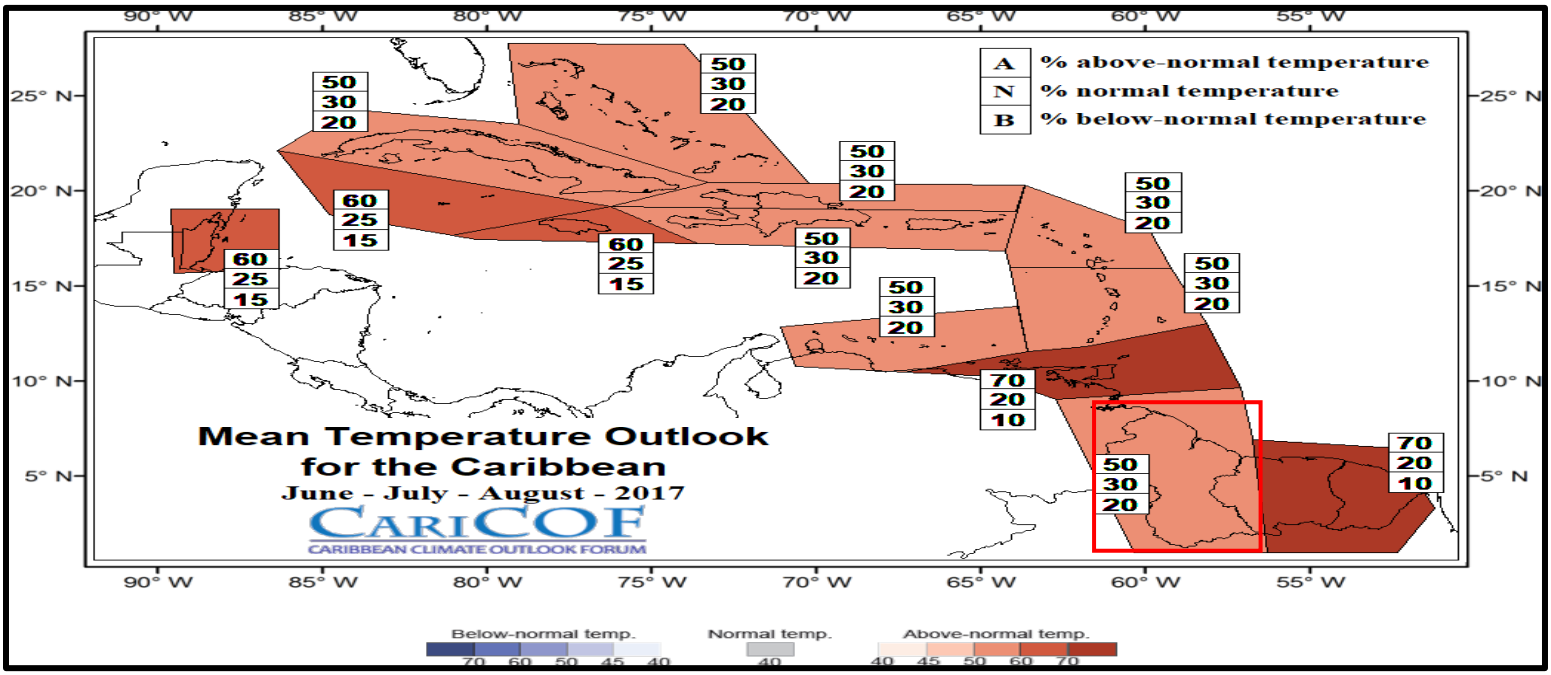

Figure 9: Mean temperature forecast map for June-August, 2017 showing the probabilities of Above-Normal (A), Near-Normal (N) and Below-Normal (B) temperature for Guyana within the context of the Caribbean.

Table 4: Historical Average rainfall for selected rainfall stations

Regions	Station Names	June	July	August	Regions	Station Names	June	July	August
1	MABARUMA *	342.7	232.4	210.4	5	BLAIRMONT	280.9	241.6	162.2
	WAUNA	315.9	288.6	237.6		MARDS	265	251.6	159.2
	PORT KAITUMA	305.3	261.1	189.7	6	ALBION	249.2	212.1	162.1
2	ANNA REGINA*	310.5	249.0	123.6		SKELDON	256	256.0	139.9
	CHARITY	305.8	251.7	158.0		CRABWOOD CREEK*	157.7	146.4	97.3
	Mc NABB	306.6	255.1	157.6		ROSE HALL	287.6	218.3	176.4
	WAKAPOW	334.8	320.4	199.1		NIGG 58	260.3	208.8	149.6
	ONDERNEEMING	263.2	177.7	111.4		ALBION 33	222.3	109.5	157.4
3	BOERSARIE	415.4	357.5	198.4		#73 VILLAGE	254.5	191.7	155.7
	DeKENDEREN B	385.1	315.4	183.4		# 54 VILLAGE*	184.9	156.1	125.5
	DeKENDEREN F	376.5	304.1	188.9		ANKERVILLE	253.4	218.5	147.5
	LEONORA F	348.3	296.4	198.5		MIBIKURI	248.3	214.3	151.9
	LEONORA B	392.9	318.5	199.2		MARA LAND DEV. SCHEME*	284.8	206.2	212.9
	WALES	338.5	315.7	185.4		NEW AMSTERDAM	276.4	231.2	157.1
	UITVLUGT B	260.8	307.2	188.6	7	APAIKWA	351.7	266.2	225.8
	La BAGATELLE LEGUAN*	240.2	190.5	120.8		MAZARUNI	309.5	310.1	170
4	BOTANIC GARDENS	315	266.2	179.6		BARTICA DEM. STATION*	293.1	224.2	194.4
	TIMEHRI	350.4	298.0	225.7		JAWALLA	303.9	268.6	209
	CANE GROVE B	223.9	197.1	121.9	8	KAIETEUR FALLS *	584.9	473.1	267.6
	CANE GROVE F	269.4	214.8	159.7	9	LETHEM	288.5	256.7	145.7
	L.B.I FRONT	259.8	225.4	123.8		KARASABAI	150.6	168.7	86.9
	OGLE FRONT	227.6	216.0	125.0		DADANAWA	307.4	296.5	187.1
	ENMORE FRONT	270.9	256.6	183.7	10	GREAT FALLS	369.7	339.5	225.1
	KAIRUNI*	228.5	240.9	156.2		WISMAR*	291.1	245.6	168.5

NOTE: The historical averages for various stations were calculated by the use of rainfall data from the year 1981- 2010 (climatological normals) except where less than 30 years of observations are available (stations denoted with *).

Table 5: Average rain days for the months June-August, 2017 for selected stations

Station Name	June	July	August
Georgetown Botanical Gardens	22 days	20 days	14 days
Timehri Meteorological Station	22 days	23 days	17 days
Ogle	20 days	19 days	12 days
Lethem	20 days	20 days	14 days
Anna Regina	16 days	14 days	9 days
New Amsterdam	20 days	18 days	13 days

NOTE: Rain day = A 24 hour period with at least 1 mm of rainfall

Table 6: HIGH TIDE* TABLE FOR JUNE, 2017

Dates	HIGH TIDE ≥ 2.74(m)	
	Time	Height(m)
2017/06/05	01:36	2.77
2017/06/06	02:14	2.82
2017/06/07	02:49	2.84
2017/06/08	03:21	2.85
2017/06/09	03:53	2.85
2017/06/10	04:25	2.84
2017/06/11	04:57	2.81
2017/06/12	05:32	2.77
2017/06/20	00:12	2.77
	01:07	2.93
2017/06/21	14:09	2.75
	01:59	3.07
2017/06/22	15:04	2.88
2017/05/23	02:49	2.18
	15:56	2.98
2017/05/24	03:39	3.24
	16:45	3.04
2017/06/25	04:27	3.25
	17:34	3.06
2017/06/26	05:15	3.20
	18:21	3.02
2017/06/27	06:03	3.10
	19:09	2.93
2017/06/28	06:52	2.94
	07:32	2.76

*The term high tide refers to when tides are above or equal to 2.74 (m) above sea level

Spring Tides Tables are provided by the Maritime Administration Department

 23rd New moon  01st/30th First quarter  09h Full moon  17th Last Quarter

Lunar calendar for June, 2017

Agricultural Review for May, 2017

Regionally, Very Wet (VW) conditions were experienced for the month of May. Climatologically Coastal Guyana has transitioned out of its Secondary Dry season (the short dry season) of 2017 into its Primary Wet season of 2017 (the long wet season). There were reports of significant effects on agricultural production particularly in Region 8. Residents of numerous villages had commenced harvesting several crops in anticipation of high water levels due to two weeks of continuous rains. Water levels in several rivers and creeks in the Potaro/Siparuni area rose due to overnight rains on May 21, 2017.
Communities affected most included Kaibarupai, Sand Hill, Chenapau and Waipa. It was reported that a total of 90 farms were completely destroyed and were under flood water. In the Kopinang Village, 47 farms were destroyed in Itabac and 6 farms were under flood water, while in Kaibarupai 85% of Waipa was said to be under water as a result of the overtapping of several rivers including the Ireng River in the area.

Images showing effects of flooding in Region 8

***Aurticle taken from*:** Guyana Chronicle and Guyana Times News Papers.

Farmer's Note for June, 2017

Climatologically Coastal Guyana has transition out of its Secondary Dry season (the short dry season) of 2017 into its Primary Wet season of 2017 (the long wet season). Latest forecast based on statistical models indicates wetter than to pretty much like usual rainfall for this period, with a confidence of 75%, along with moderate chance for extremely wet conditions.With this, Coastal Guyana will experience generally wet conditions over most parts of the country up until ending of July, 2017. In addition, above-normal to near-normal temperatures are forecast for most parts of the country. Hence farmers are encouraged to take heed of the advisories of their regional agriculturists or extension officers, and to be vigilant and follow the Hydromet's daily and three day forecasts via the radio on 56.0 AM and on our website at www.hydromet.gov.gy.

Farmers are also advised to:

- Maintain drains around crop beds. This helps water to drain off the land easily thereby reducing the effects of floods.
- Cultivate seedlings by transplanting indoor or under a shaded area- seedlings can be cultivated separately to facilitate easy transplant after a flood or event after the flood water recedes.
- Change timing of farm operations- adjust sowing and harvesting period to avoid negative effects of very wet periods.
- Maintain embankments around fields to protect crops against flooding. Empoulder low lying areas and creeks. Plant grass/crops on damns to reduce soil lost
- Cultivate new, resistant varieties crops- plant new crop varieties that can grow well in the wet conditions and that are not easily affected by pests and diseases.
- Plant crops on raised beds. This helps to reduce the effects of floods on plants
- House animals on high ground and on raised pens during the wet season.
- Store fertilizers on shelves, in an enclosed, dry area away from moisture and water sources.
- Develop an efficient, protective and curative spraying programme for crops. This helps prevents the spread of fungi during the wet periods.
- Avoid Applications of chemicals and fertilizer during wet days. This helps prevent contamination of the water table and leaching of nutrients.

Crop Of The Month: Chives | June, 2017

Common Name: *Chives*

Scientific Name: *Allium schoenoprasum*

Temperature: *16-22°C*

Soil pH: 6-8

Introduction

Chives are small perennial herbs growing in clumps, probably originated in Siberian highlands. The herb grows best in full sun and well-drained soil. Its saplings can be grown from seed or divisions of 2 to 3 bulbs. The completely grown plant reaches about 8-12 inches in height. The flower stems, which rise directly from the base, grow slightly taller than leaves and bear small clusters of mauve or purple flower heads.

Description

Sweet, mild-onion flavored chives are fresh top greens in the onion family of bulb vegetables. Its stiff, hollow, tubular leaves appear similar to that of onions, but smaller in diameter, and look somewhat like grass from a distance. They should not be confused to green-onions, which are top greens of young, immature onion plants and to scallions, which are top greens of *A. fistulosum*. Along with chervil, parsley, and tarragon, chive makes the perfectly "balanced quartet" of classic French fines herbes (fine herbs).

Climate

They grow well in full sunlight.

Regular watering is necessary for their growth; however, they can also survive in dry conditions if required. Temperate climates are ideal for their growth.

Insect Pests

- Leaf Miners
- Crickets
- Onion Fly
- Thrips

Planting

Chives prefer full sun. Soil needs to be moist, fertile, rich, and well-draining. Before planting, incorporate 4 to 6 inches of well-composted organic matter. Apply 2 to 3 tablespoons of fertilizer (16-16-8) per square foot of planting area. Work compost and fertilizer into the soil to a depth of 6 to 8 inches. Transplants need good growth before being set in the garden. Plant seeds ¼ inch deep and final plant spacing should be 4 to 6 inches apart in all directions.

Health Benefits of Chives

- Boosts the immune system.
- Helps to detoxify the body.
- Helps in easing digestive discomfort.
- Aids in maintaining good health during pregnancy.
- Beneficial for preventing various types of cancer.

Recommended Varieties

- Giant Siberian (*A. ledebourianum*)
- Chinese/ garlic chives (*A. tuberosum*)
- Siberian garlic (*A. nutans*)

Fun Facts About Chives

- Rumanian Gypsies used chives as part of their fortune telling rituals and when dried bunches of chives were hung in the house it was believed to drive away disease and evil influences.
- Chives are not actually classified as an herb. Additionally, even though most people say 'chives', chive is actually both the singular and plural version for this tasty plant.
- Chives are absent of the typical onion bulb. Clumps put off shoots of purple flowers and are used as decorative boarders in formal English gardens.

Harvesting/Storage

The whole plant can be cut down to 4cm (2") from the ground. Use scissors and take as much as needed. Chives don't dehydrate well, so use fresh portions regularly. The flowers can be used in salads or to flavor vinegars.

Harvest chives six- eight weeks after planting. Be sure to cut the leaves down to the base when harvesting (within 1 to 2 inches of the soil).Harvest 3 to 4 times during the first year. In subsequent years, cut plants back monthly. Use chives when they're fresh or frozen (freeze the leaves in an airtight bag). Dried chives lose their flavor. Store chives in a cool place in a resealable container.

Fertilizer Recommendation

A soil test should be done to determine the nutrient status of the soil. In the absence of a soil test, the following recommendations could be used as a guide; Soil needs to be moist, fertile, rich, and well-draining. Before planting, incorporate 4 to 6 inches of well-composted organic matter. Apply 2 to 3 tablespoons of all-purpose fertilizer (16-16-8) per square foot of planting area. Work compost and fertilizer into the soil to a depth of 6 to 8 inches.

Avoid high nitrogen fertilizers, and fertilize lightly when you do so. Heavy fertilizer applications will affect the taste of the chives in a negative fashion.

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www.hydromet.gov.gy

El Niño and La Niña Update

ENSO Alert System Status: Not Active

- ENSO-neutral conditions are present.
- Equatorial sea surface temperatures (SSTs) are near to above average across most of the Pacific Ocean.
- ENSO-neutral and El Niño are nearly equally favored during the Northern Hemisphere summer (August-September) and (September-December) fall.

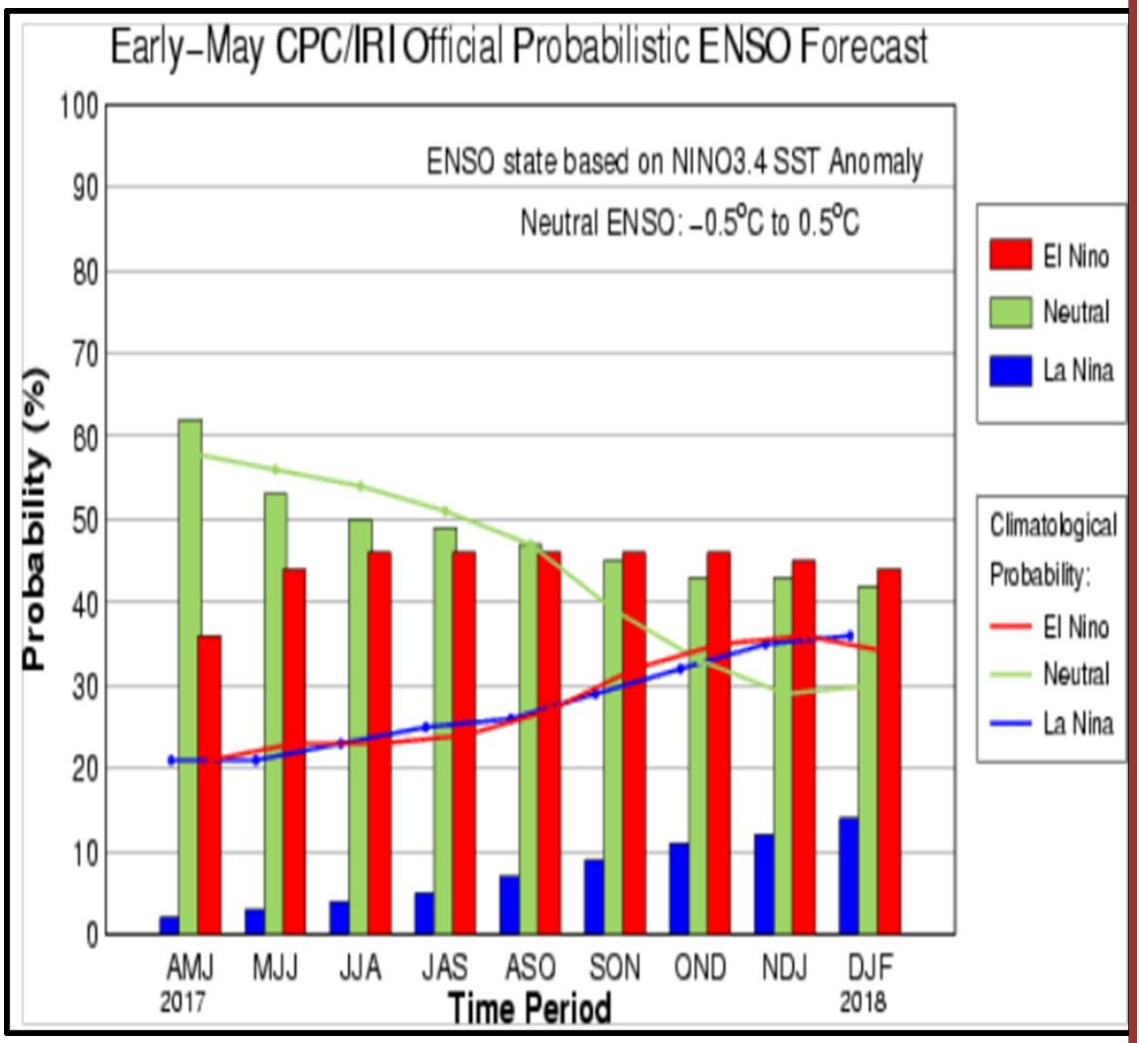

Figure 12: CPC/IRI Early-Month Consensus ENSO Forecast Probabilities