

Issue: 52
May, 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 Dry (D) for the month of April, 2017 with an average of 116.8 mm of rainfall with 7 rain days.
- The highest one day rainfall was recorded in Hog Island, Region 3 with a value of 181.9 mm of rainfall on April 28, 2017 after 22 years.
- Regional Classification for the month showed that Region 5 recorded the highest mean rainfall of 142.7mm with 6 rain days.
- Lethem, Region 9 recorded the highest daily temperature of 34.8 °C on April 26 and 28, 2017.
- Kamarang, Region 7 recorded the lowest daily temperature of 18.2°C on April 10, 2017.
- Above-normal to Near-normal rainfall conditions predicted for May through July, 2017.
- Above-normal to Near-normal temperature conditions predicted for May through July, 2017.
- ENSO-neutral conditions are present.



Rainfall Overview for April, 2017

Guyana was classified as Dry (D) for the month of April, with a monthly average rainfall of 116.8mm across the country with 7 rain days. The highest monthly rainfall total was recorded at Bush Lot, Region 5 with a total of 313.2mm of rainfall and 4 rain days, while lowest monthly rainfall total was recorded at Santa Mission, Region 3 with a total of 3.0mm of rainfall with 1 rain day. Since its establishment in the month of January, 1995 after 22 years Hog Island station, Region 3 recorded its highest one (1) day rainfall with a value 181.9mm also the highest one day rainfall for the month on April 28, 2017. Most of the stations recorded below normal rainfall conditions, stations in Region 9, and 10 recorded rainfall totals above their long-Term Averages (Figure 1).

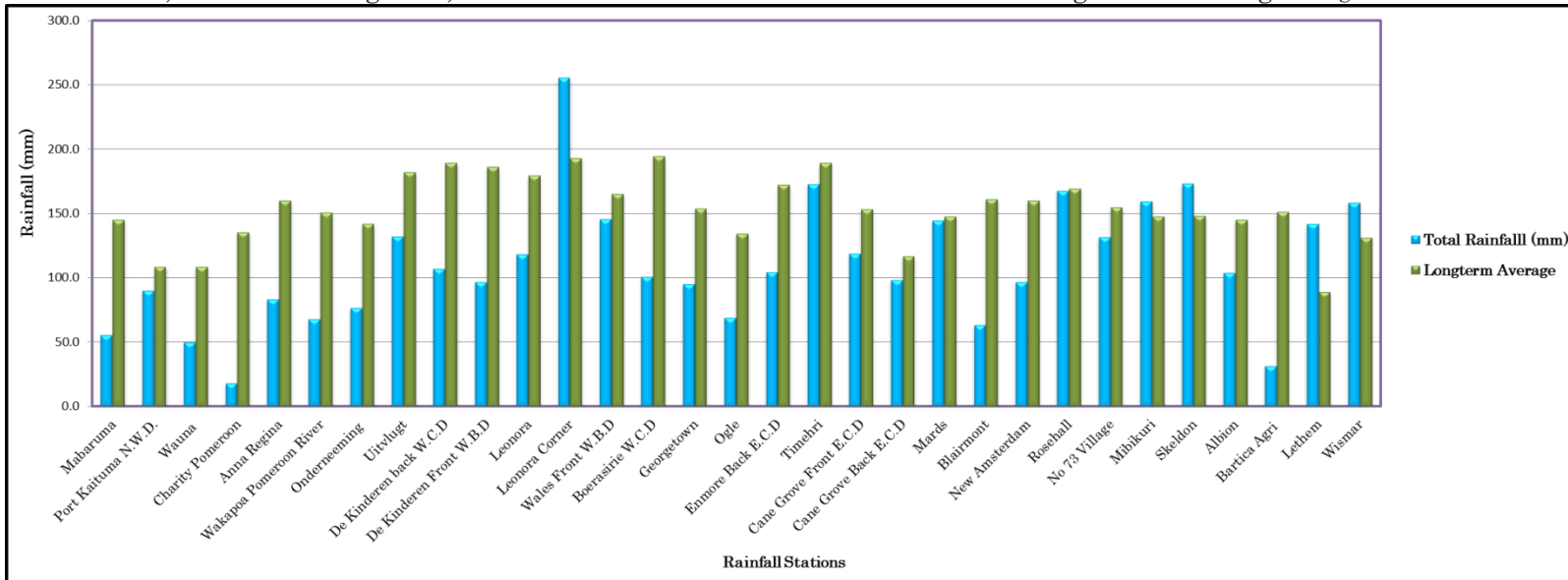


Figure1: Comparison of the accumulated rainfall and the long-term averages for selected stations for April, 2017

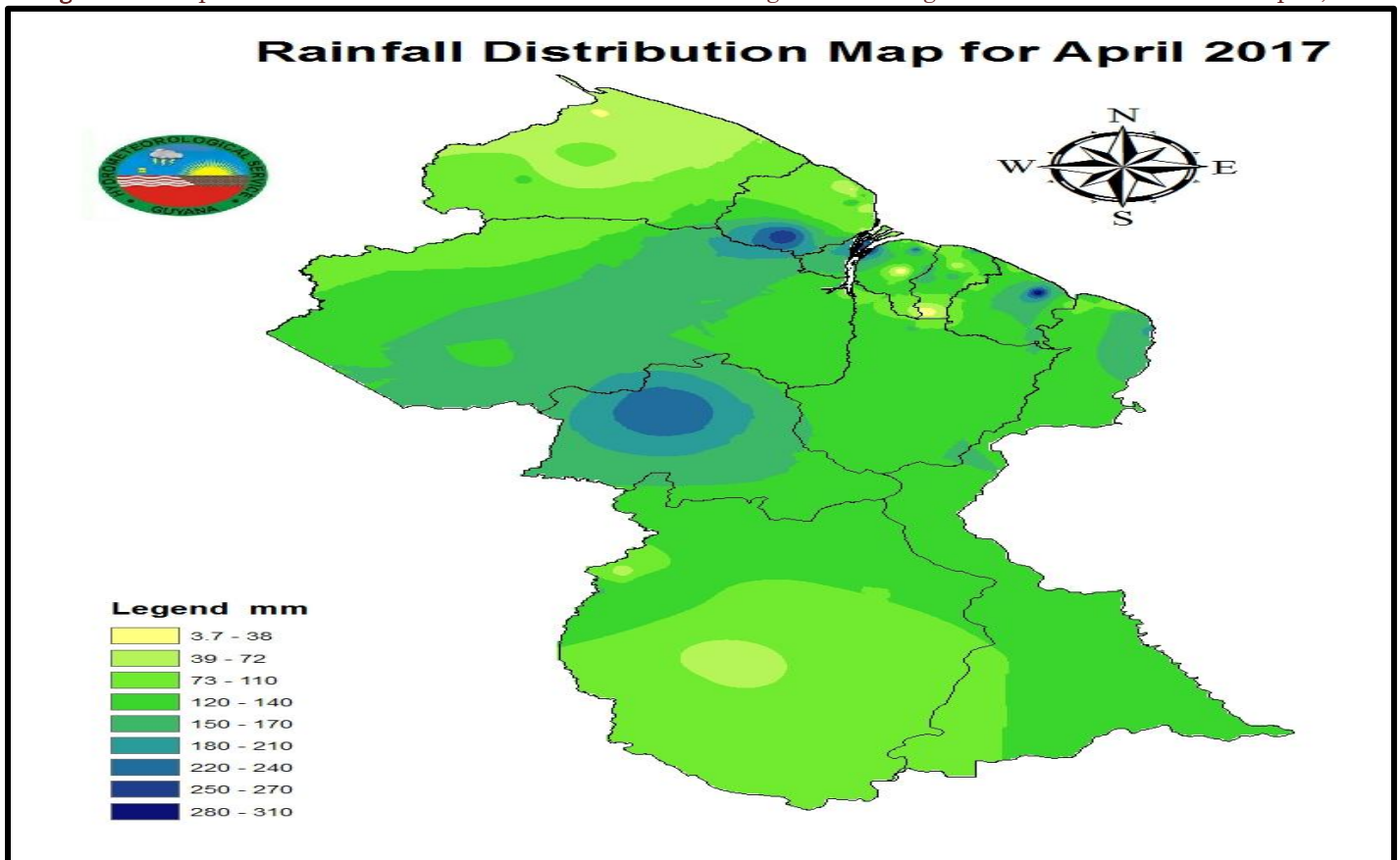


Figure 2: Rainfall Distribution for April, 2017

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

Regions	Regional Average (mm)	Average Rain days	Classification	Remarks
1	73.5	6 days	Dry (D)	Arakaka recorded 156.1 mm of rainfall with 9 rain days.
2	73.9	7 days	Dry (D)	Kabakaburi recorded 154.9 mm of rainfall with 6 rain days.
3	120.6	8 days	Moderately Dry (MD)	Fort Island Essequibo River recorded 295.4 mm of rainfall with 14 rain days.
4	121.6	7 days	Moderately Dry (MD)	Enterprise E.C.D recorded 291.0 mm of rainfall with 10 rain days.
5	142.7	6 days	Moderately Dry (MD)	Bush Lot recorded 313.2 mm of rainfall with 4 rain days.
6	137.8	8 days	Moderately Dry (MD)	Springland Forestry recorded 208.5 mm of rainfall with 12 rain days.
7	103.5	7 days	Dry (D)	Kamarang recorded 141.9 mm of rainfall with 10 rain days.
8	239.7	19 days	Wet (W)	Kaieteur recorded 239.7 mm rainfall with 19 rain days.
9	127.9	9 days	Moderately Dry (MD)	Awarewaunau Rupununi recorded 213.7 mm rainfall with 15 rain days.
10	121.9	10 days	Moderately Dry (MD)	Wismar 158.1 recorded mm of rainfall with 11 rain days.

Sunshine Hours Summary for April, 2017

Georgetown, Region 4 recorded the highest monthly mean sunshine hour of 8.2 hours. The highest one day sunshine of 11.3 hours was recorded at Ogle Synoptic Station, Region 4 on April 23, 2017. New Amsterdam, Region 6 recorded the lowest mean sunshine hour of 6.2 hours. All of the stations recorded mean sunshine hours above their long-term averages (figure 3).

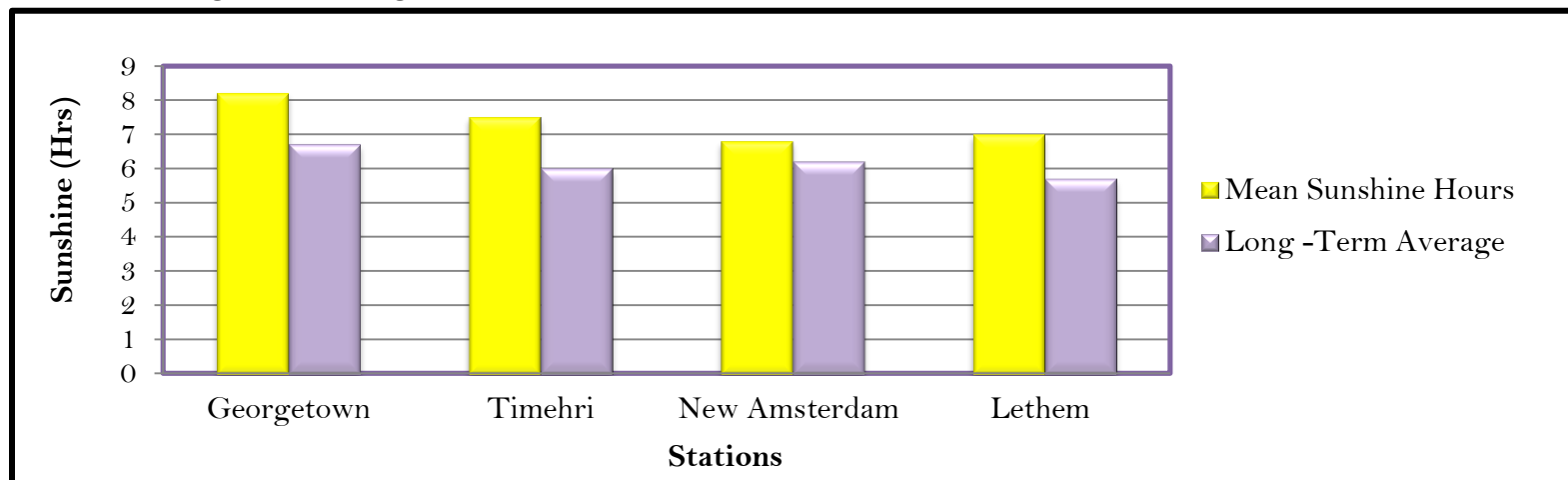


Figure 3: Comparison of the mean sunshine hours and the long-term averages for selected stations for April, 2017

Temperature Overview for April, 2017

For the month of April, the highest one day temperature was recorded at Lethem, Region 9 with a value of 34.8°C on April 26 and 28, 2017. Lethem also recorded the highest mean maximum temperature of 33.1°C. While Georgetown, Region 4 recorded the highest one day minimum temperature of 26.6°C on April 7, 2017 along with the highest mean minimum temperature of 25.4°C. Kamarang, Region 7 recorded the lowest daily temperature of 18.2°C on April 10, 2017 (Figure 4 & 5).

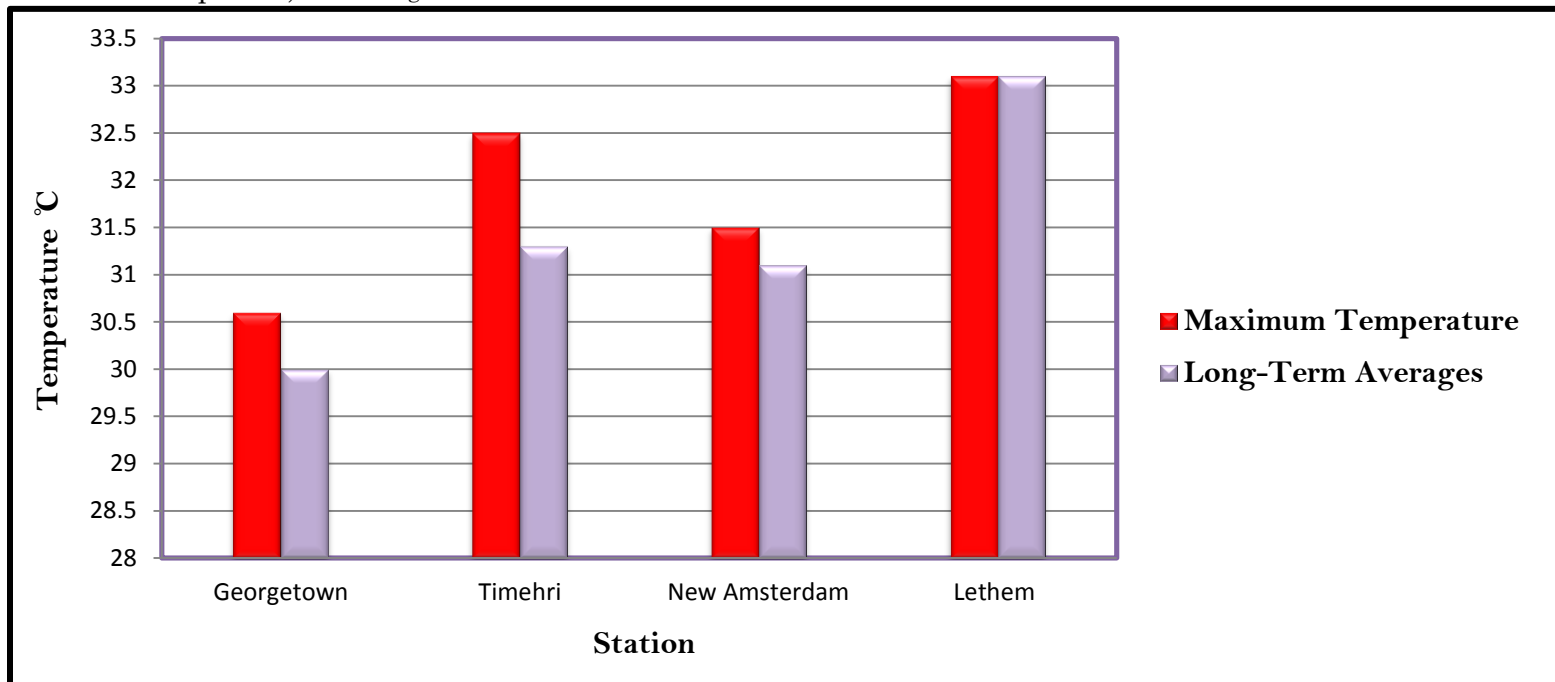


Figure 4: Comparison of the long-term averages and mean maximum temperatures for selected stations for April, 2017.

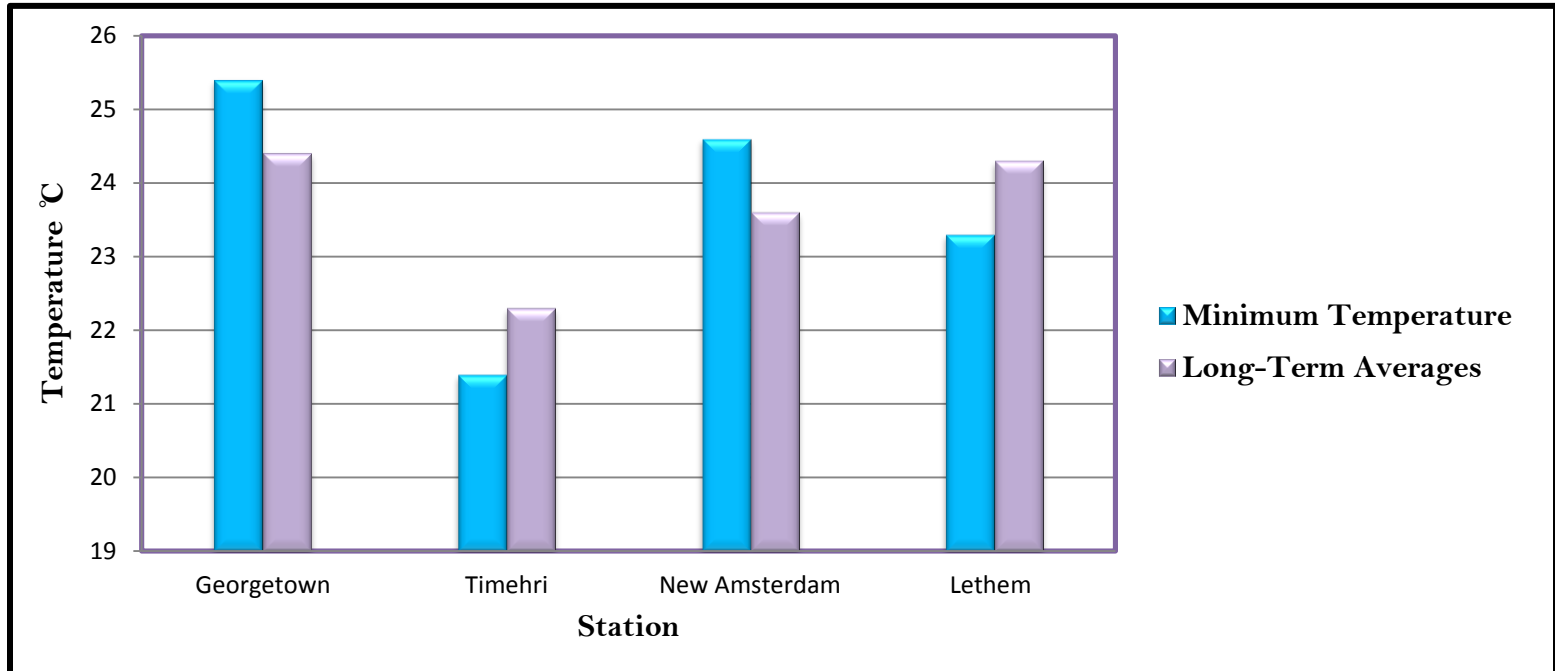


Figure 5: Comparison of the long-term averages and mean minimum temperatures for selected stations for April, 2017.

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

Lethem, Region 9 recorded the highest average daily evapotranspiration of 12.7 mm along with the highest one day evapotranspiration of 16.9 mm on April 04, 2017. Georgetown, Region 4 recorded the lowest daily average evapotranspiration of 7.7 mm and the lowest one day evapotranspiration with a value of 1.06 mm on April 01, 2017. A comparison can be seen in figure 6.

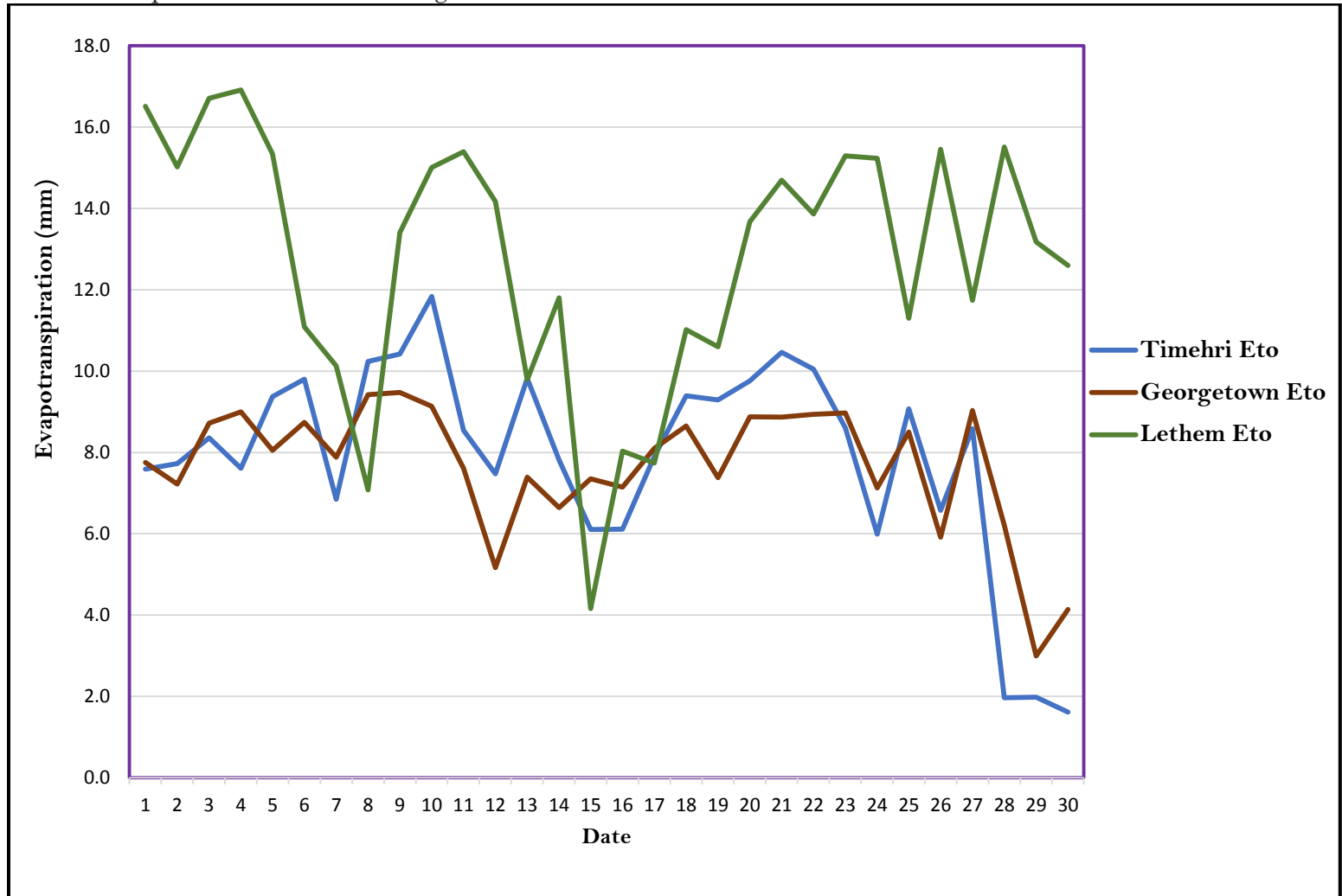


Figure 6: Comparison of the Reference Evapotranspiration of selected stations for April, 2017.

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 (February, March, April)
Georgetown	4.2
Uitvlugt	3.6
Wales	4.0
Enmore	4.4
Timehri	3.9
Rose Hall	4.3
Albion	4.5
Skeldon	1.5
Blairmont	3.9

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

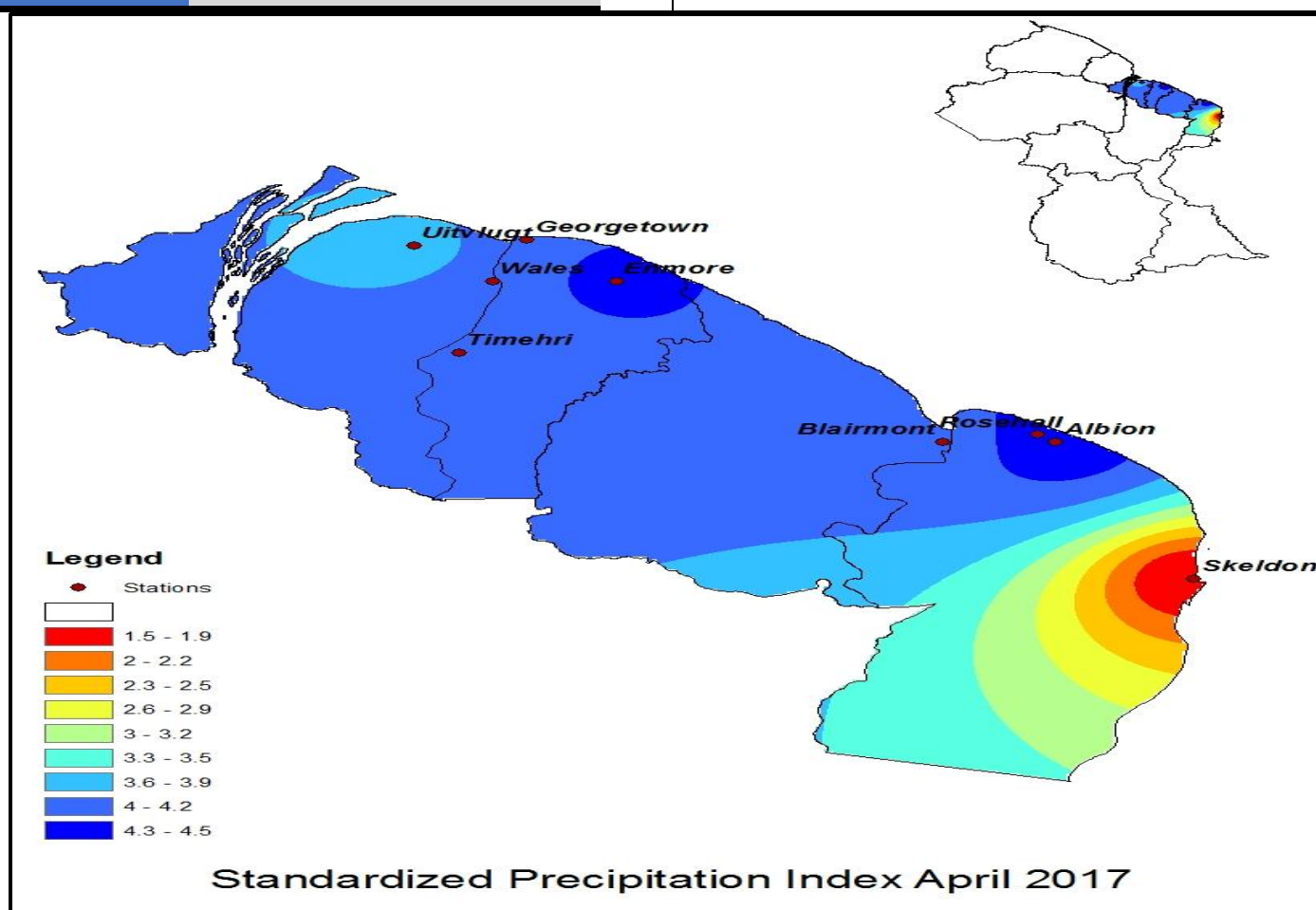


Figure 7: The Standardized Precipitation Index for selected stations for February through April, 2017.

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 May-July, 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 90%, 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 near-normal to above-normal temperatures, but those temperatures may cool down to more comfortable values.

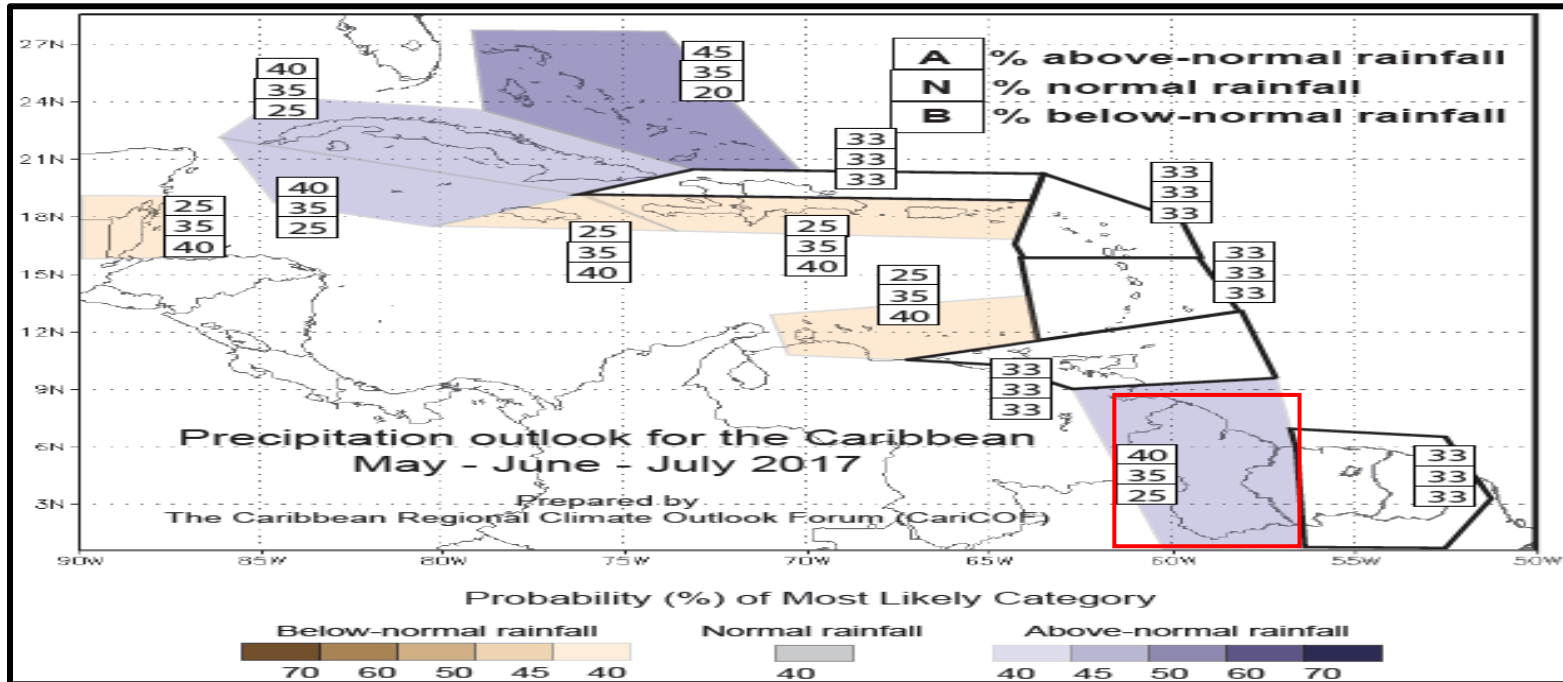


Figure 8: Precipitation forecast map for May- July, 2017 showing the probabilities of above Normal (A), Normal (N) and Below Normal (B) rainfall for Guyana within the context of the Caribbean.

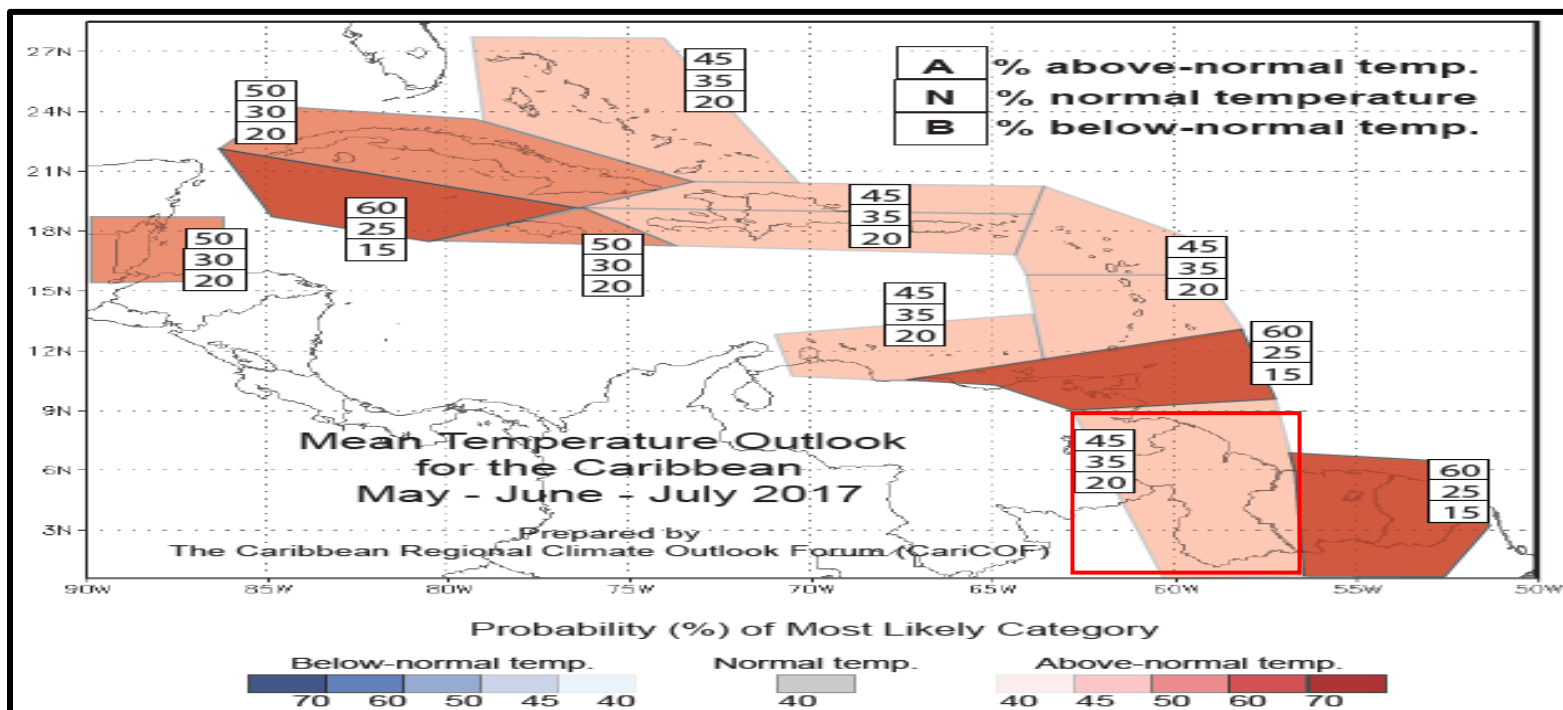


Figure 9: Maximum temperature forecast map for May - July, 2017 showing the probabilities of Above-Normal (A), Near-Normal (N) and Below-Normal (B) temperature for Guyana within the context of the Caribbean.

Table 4: Historical Average rainfall for selected rainfall stations

Regions	Station Names	May	June	July	Regions	Station Names	May	June	July
1	MABARUMA *	327	342.7	232.4	5	BLAIRMONT	257.5	280.9	241.6
	WAUNA	223.1	315.9	288.6		MARDS	241.7	265	251.6
2	PORT KAITUMA	251.0	305.3	261.1	6	ALBION	225.9	249.2	212.1
	ANNA REGINA*	333.2	310.5	249.0		SKELDON	250.4	256	256.0
3	CHARITY	295.6	305.8	251.7		CRABWOOD CREEK*	182	157.7	146.4
	Mc NABB	278.2	306.6	255.1		ROSE HALL	275.2	287.6	218.3
4	WAKAPOW	321.5	334.8	320.4		NIGG 58	238.4	260.3	208.8
	ONDERNEEMING	264.4	263.2	177.7		ALBION 33	214	222.3	109.5
5	BOERSARIE	382.6	415.4	357.5		#73 VILLAGE	255.3	254.5	191.7
	DeKENDEREN B	346				# 54 VILLAGE*			
6	DeKENDEREN F	345.2	376.5	304.1			206.3	184.9	156.1
	LEONORA F	309	348.3	296.4		ANKERVILLE	247.7	253.4	218.5
7	LEONORA B	360.5	392.9	318.5		MIBIKURI	238.3	248.3	214.3
	WALES	343	338.5	315.7		MARA LAND DEV. SCHEME*	221.6	284.8	206.2
8	UITVLUGT B	335.4	260.8	307.2		NEW AMSTERDAM	259.8	276.4	231.2
	La BAGATELLE LEGUAN*	234.2	240.2	190.5	7	APAIKWA	342.9	351.7	266.2
9	BOTANIC GARDENS	277.4	315	266.2		MAZARUNI	294.4	309.5	310.1
	TIMEHRI	318.4	350.4	298.0		BARTICA DEM. STATION*	270.3	293.1	224.2
10	CANE GROVE B	206.9	223.9	197.1	8	JAWALLA	295.5	303.9	268.6
	CANE GROVE F	234.7	269.4	214.8		KAIETEUR FALLS *	610.1	584.9	473.1
11	L.B.I FRONT	247.6	259.8	225.4	9	LETHEM	305.7	288.5	256.7
	OGLE FRONT	224.9	227.6	216.0		KARASABAI	131.4	150.6	168.7
12	ENMORE FRONT	278.9	270.9	256.6		DADANAWA	298.4	307.4	296.5
	KAIRUNI*	194.7	228.5	240.9	10	GREAT FALLS	364.4	369.7	339.5
						WISMAR*	267.9	291.1	245.6

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 May-July, 2017 for selected stations

Station Name	May	June	July
Georgetown Botanical Gardens	20 days	22 days	20days
Timehri Meteorological Station	21 days	22 days	23days
Ogle	19 days	20 days	19days
Lethem	18 days	20 days	20days
Anna Regina	15 days	16 days	14days
New Amsterdam	18 days	20 days	18days

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

Table 6: HIGH TIDE* TABLE FOR MAY, 2017

Dates	HIGH TIDE $\geq 2.74(\text{m})$	
	Time	Height(m)
2017/05/01	7:23	2.81
2017/05/06	1:24	2.78
2017/05/07	2:06	2.87
	2:43	2.93
2017/05/08	14:49	2.73
	03:16	2.95
2017/05/09	15:26	2.76
	03:48	2.94
2017/05/10	16:01	2.78
	04:17	2.91
2017/05/11	16:36	2.77
	04:46	2.86
2017/05/12	17:09	2.75
2017/05/13	05:15	2.79
	00:52	2.78
2017/05/22	13:36	2.74
	01:39	2.97
2017/05/23	14:28	2.88
	02:25	3.13
2017/05/24	15:19	2.99
	3:10	3.24
2017/05/25	16:09	3.06
	03:55	3.28
2017/05/26	16:58	3.08
	04:42	3.26
2017/05/27	17:48	3.05
	05:29	3.18
2017/05/28	18:38	2.97
	06:18	3.04
2017/05/29	19:31	2.85
2017/05/30	07:11	2.87

*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



25th New moon



02nd First quarter



10th Full moon



18th Last Quarter

Lunar calendar for May, 2017

Agricultural Review for April, 2017

Regionally, Dry (D) condition was experienced for the month of April. 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).

There were no reports of significant effects caused by the weather on Agricultural production.

Farmer's Note for May, 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 90%, 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
- Cultivate seedlings indoor or under shaded area.
- 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.

Common Name: Papaya

Scientific Name: *Carica papaya*

Temperature: 15-32°C

Soil pH: 5.5 to 7.0

Introduction

Papaya, also known as 'pawpaw' is a quick growing perennial tree like plant, with many medicinal properties. Papaya is extensively grown all over tropical regions, cultivated for its fruit as well as for latex, and also famous papain enzyme that has wide found applications in the food industry.



Description

Papaya tree bears many spherical or pear-shaped fruits clumped near its top portion of the trunk. They come in a variety of sizes from, 6-20 inches in length and 4-12 inches in diameter. An average-sized papaya weighs about a pound. The fruit is said to be ripen when it yields a pleasant ethylene papaya associated sent when exposed to oxygen, this accompanied by a change of color from green to a yellowish orange. For a simple test place gentle thumb pressure to leave a pericarp indentation.

Climate

The plant grows best in warm, humid conditions, but not in areas with strong, hot or dry winds. This is because they have very short roots and they get heavier as they grow older. Therefore, they get blown over easily. Papaya trees can be grown in shade, but it will not be as sweet as the one that grows in the sunlight. Regular rainfall is good for plant growth and fruit production. Temperatures below -0.6C (31F) will damage or kill the papaya plant.

Insect Pests

- Fruit fly
- Mites
- Aphids
- Mealy bugs

Planting

When planting, carefully select a site which isn't low, if the land is low, ridges should be placed to a height of 45-60cm high and 60-90cm wide to avoid the accumulation of water. Papaya plants grow in three sexes: male, female, hermaphrodite. The male produces only pollen, never fruit. The female will produce small, inedible fruits unless pollinated. The hermaphrodite can self-pollinate since its flowers contain both male stamens and female ovaries. Almost all commercial papaya orchards contain only hermaphrodites

Health Benefits of Papaya

- The papaya fruit is very low in calories (just 39 calories/100 g) and contains no cholesterol; however, it is a rich source of minerals, and vitamins.
- The seeds can be used as an application for anti-inflammatory, anti-parasitic, and analgesic, and used to treat stomachaches, and ring

Recommended Varieties

- Red Lady
- Sunrise
- Tainung No. 1
- Tainung No. 2

Fun Facts About Papaya

- Papaya is also called "Fruit of the Angels".
- September is national papaya month in southern Mexico
- Papaya seeds that resemble edible pepper can be ground and used as a substitute for black pepper.
- Papaya tree bark is often used to make rope.
- Teas made from papaya leaves are used as a protection against malaria.
- In many parts of the world, young papaya has been used for centuries by women as a natural contraceptive and to induce abortion.

Harvesting/Storage

Papayas are ready to harvest when most of the skin is yellow-green. After several days of ripening at room temperature, they will be almost fully yellow and slightly soft to the touch. Dark green fruit will not ripen properly off the tree, even though it may turn yellow on the outside. Mature fruit can be stored at 7° C for about 3 weeks.



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; a complete fertilizer includes nitrogen, phosphate, potash and magnesium. If you're using an organic fertilizer, spread a layer of compost and supplement with nitrogen-rich sources of organic matter like fish emulsion or manure. The best course of action in feeding is to observe how the papaya reacts. If leaves take on a purplish or reddish cast, then the tree is potentially low on phosphorous. Young papaya plants should be fertilized with a slow-release, nitrogen-rich fertilizer every 14 days and a 1/4-lb. of complete fertilizer. As trees grow larger, the fertilizer portion should be increased to 1 to 2 lbs. every other month. Adjust the amount based on the tree's response.



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Watch Centre numbers)**

Or

Visit our Website:

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-average across the central and east-central Pacific. They are above average in the eastern Pacific Ocean.
- ENSO-neutral conditions are favored to continue through at least the Northern Hemisphere spring (March-June) 2017, with increasing chances for El Niño development by late summer (August-September) and (September-December) fall.

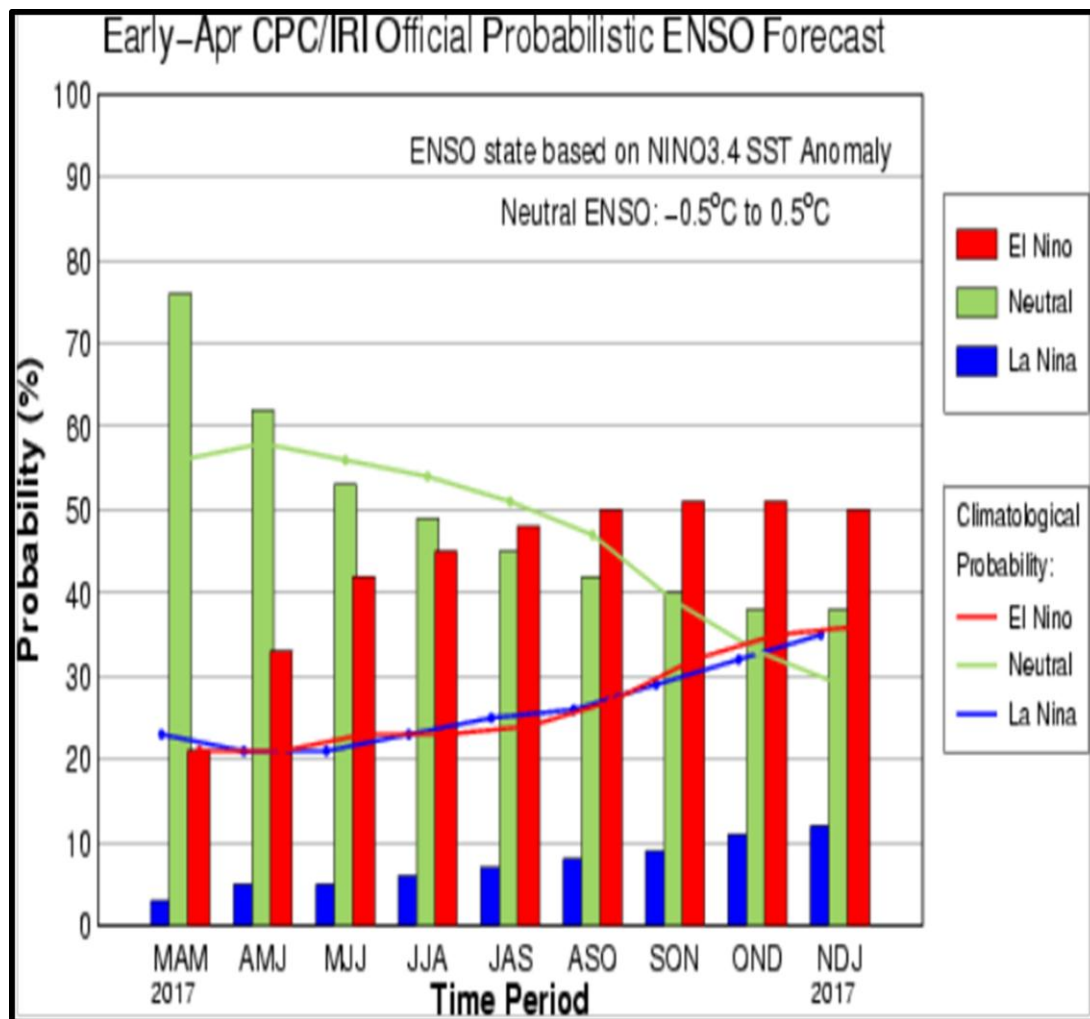


Figure 12: CPC/IRI Early-Month Consensus ENSO Forecast Probabilities