Issue: 31

July, 2015

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.

Hydrometeorological Service of Guyana

Farmer's Monthly Weather Bulletin

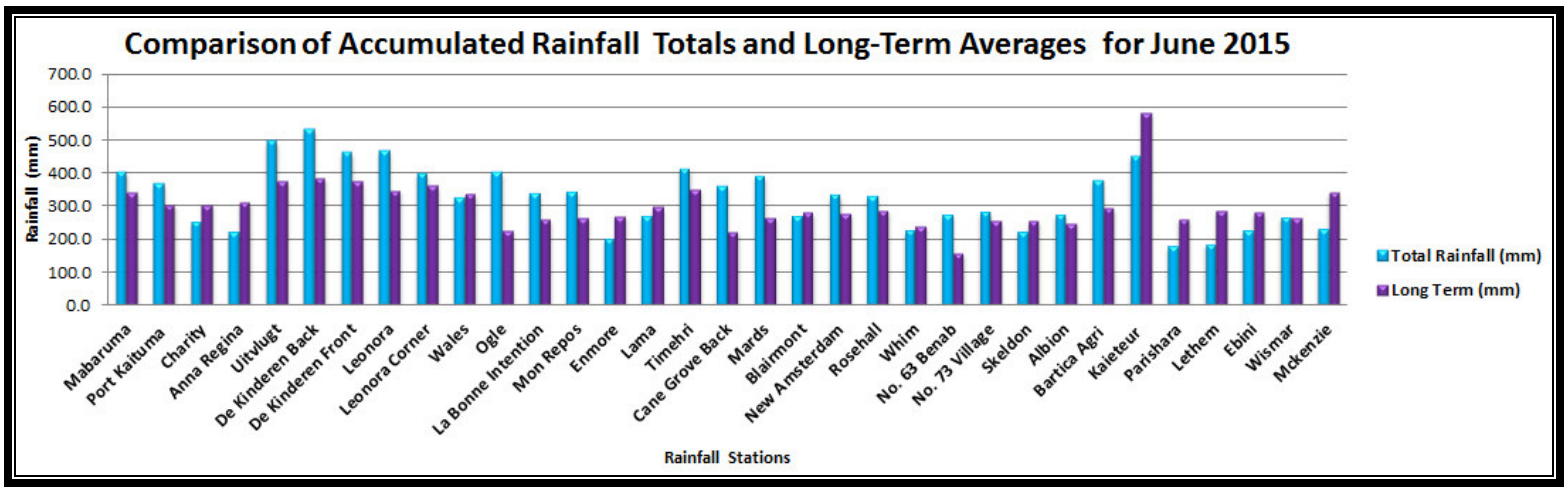
HIGHLIGHTS

- Guyana was classified as Exceedingly Wet (EeW) for the month of June 2015 with an average of 332.3mm of rainfall with 22 rain days.
- Dekinderen Back, Region #3 recorded the highest monthly average rainfall total for the month of June with a total of 530.9mm of rainfall with 27 rain days.
- The highest one day rainfall total was recorded at Wakenaam Region #3, with a total of 171.2mm of rainfall on the 18th of June, 2015.
- Storm caused by a squall line affected many communities on the 28th of June 2015.
- Climatological July marks the month of transition of Guyana from its Primary Wet Season to Secondary dry season.
- Below normal to normal rainfall conditions predicted for July through September.
- Above normal to normal temperature predicted for July through September.




Rainfall Overview for June, 2015

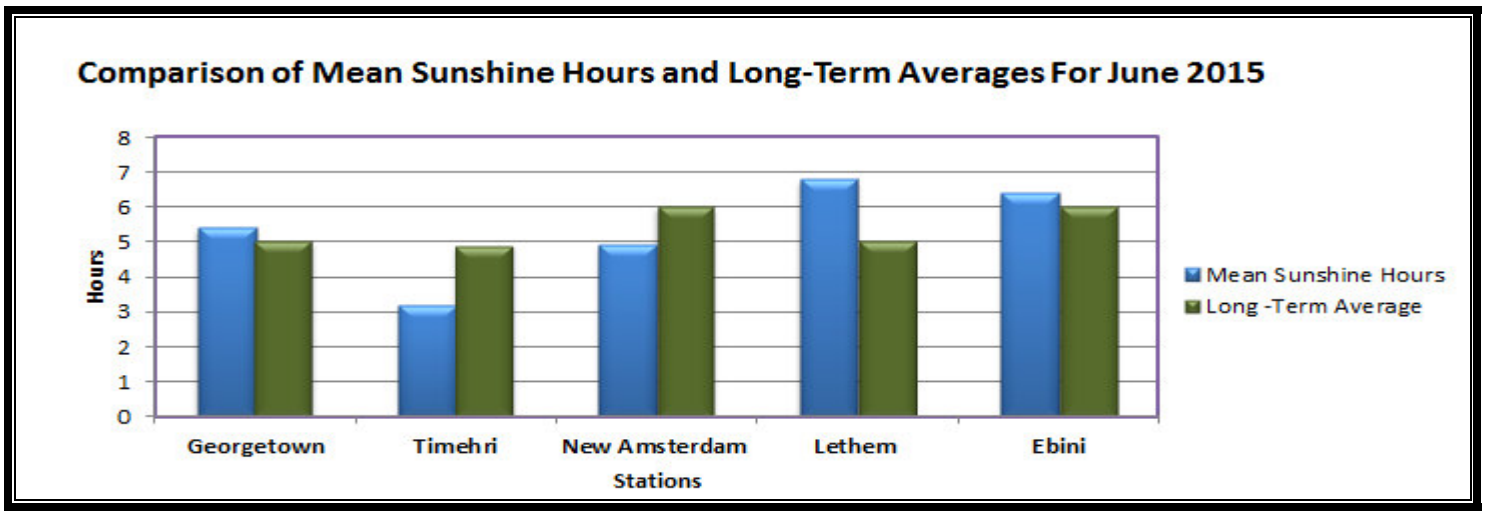
For the month regional classification showed that Region #3 recorded the highest monthly average rainfall total of 447.2mm with 22 rain days, while Region#9 recorded the lowest average monthly rainfall total with 213.2mm of rainfall with 15 rain days. Data analyzed thus far has revealed that most stations in Guyana recorded values above their long-term averages for the month. The graph below shows the comparison of accumulated rainfall and long-term averages for selected stations.



Fig#1: Comparison of the Accumulated Rainfall Totals and Long -term Averages of selected stations for June 2015.

Sunshine Hours Summary for June, 2015

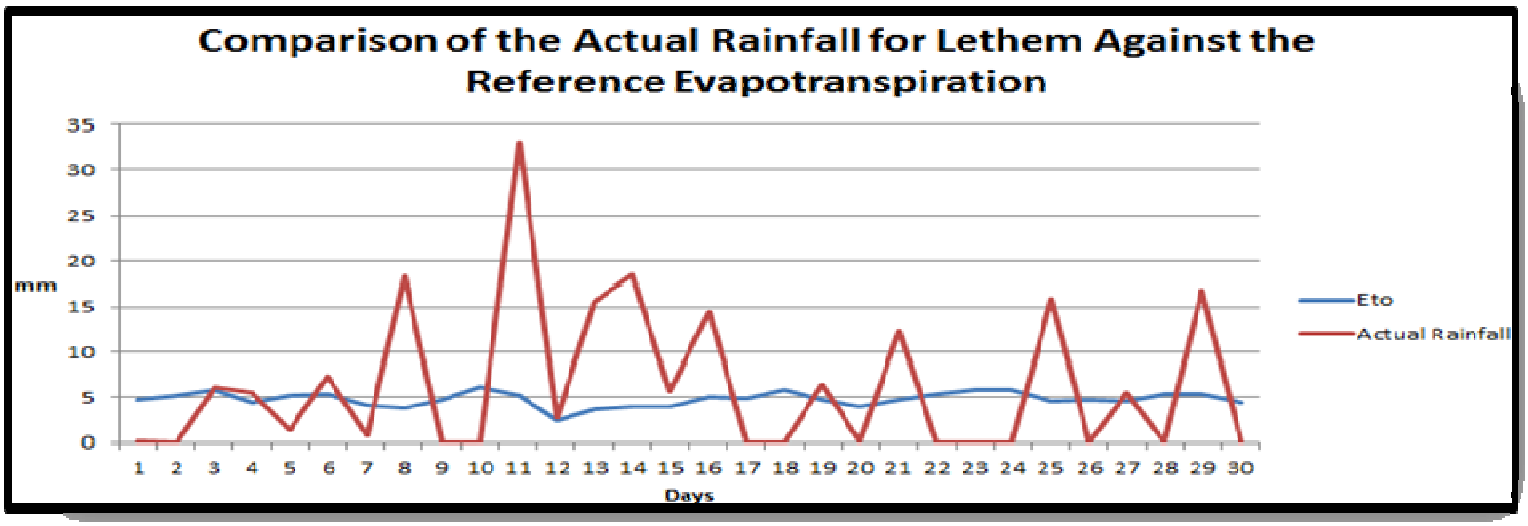
Lethem recorded the highest mean sunshine hour of 6.8 hours for the month while the highest one day total of 10.7 hours was recorded at New Amsterdam on the 3rd of June. Lethem, Georgetown and Ebini recorded mean sunshine hours values above their long-term averages. Whereas, Timehri recorded the lowest mean sunshine hours of 3.2 hours, which was below its climatological average by 1.7 hour.



Fig# 2: Comparison of the Mean Sunshine hours with the Long-term Averages for selected stations for June 2015.

Table #1:Comparison of the Reference Evapotranspiration (ETo) with the Daily rainfall for Lethem for the month of June

DATE	ETo (mm/day)	Daily Rainfall (mm)	DATE	ETo (mm/day)	Daily Rainfall (mm)
1	4.8	0.2	**16**	5.1	14.4
2	5.2	0	**17**	4.9	0
3	5.9	6.1	**18**	5.8	0
4	4.5	5.6	**19**	4.7	6.5
5	5.2	1.4	**20**	4	0.1
6	5.3	7.4	**21**	4.8	12.3
7	4.2	0.7	**22**	5.4	0
8	3.8	18.4	**23**	5.9	0
9	4.7	0	**24**	5.9	0
10	6.1	0	**25**	4.6	15.9
11	5.2	33.2	**26**	4.8	0
12	2.5	2.7	**27**	4.6	5.6
13	3.6	15.5	**28**	5.4	0
14	4	18.5	**29**	5.3	16.8
15	4	5.7	**30**	4.4	0



Fig# 3: Comparison of the Reference Evapotranspiration with the Daily rainfall for Lethem

Note: The calculated potential 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 reference Evapotranspiration was calculated for Lethem due to the fact that this station only experiences one rainy season, thus rain-fed agriculture is affected by rainfall deficiencies.

Table #2: Classification of Regional Rainfall Data for the Month of June, 2015

Region	Average Rainfall (mm)	Average Rain day	Classification	Remarks
1	397.1	26 days	Exceedingly Wet (EeW)	Arakaka recorded 435.3 mm of rainfall with 25 rain days.
2	290.9	23 days	Very Wet (VW)	Kabakaburi recorded 347.6mm of rainfall with 24 rain days.
3	447.2	22 days	Exceedingly Wet (EeW)	De kinderen Front recorded 461.7 mm of rainfall with 19 rain days.
4	339.9	23 days	Exceedingly Wet (EeW)	Friendship E.B.D recorded 363.0 mm of rainfall with 28 rain days.
5	310.6	20 days	Very Wet (VW)	Bushlot recorded 146.4 mm of rainfall with 13 rain days.
6	279.4	19 days	Very Wet (VW)	Springland Forestry recorded 212.0mm of rainfall with 15 rain days.
7	357.9	24 days	Exceedingly Wet (EeW)	Imbaimadi recorded 383.9mm of rainfall with 28 rain days.
8	Kaieteur recorded 451.9mm of rainfall with 30 rain days. Excessively Wet(EsW)			
9	213.2	15 days	Wet (W)	Karaudarnaua recorded 122.4 mm of rainfall with 10 rain day.
10	248.8	21 days	Very Wet (VW)	Wismar recorded 266.6mm of rainfall with 22 rain days.

Temperature Overview for June 2015

In the month of June the highest mean maximum temperature was recorded at Lethem Region 9 with a value of 32.1^{0}C; Lethem also recorded the highest mean minimum temperature of 23.9^{0}C.The highest daily maximum temperature of 33.6^{0}C was recorded on the 8^{th,} of June at this station. Kamarang recorded the lowest mean maximum temperature of 28.0 ^{0}C and the lowest daily minimum temperature of 18.3^{0}C on June, 12th 2015. However, the lowest mean minimum temperature was recorded at Ebini Region 10; with 20.8^{0}C.All stations analyzed recorded values above their long-term averages.

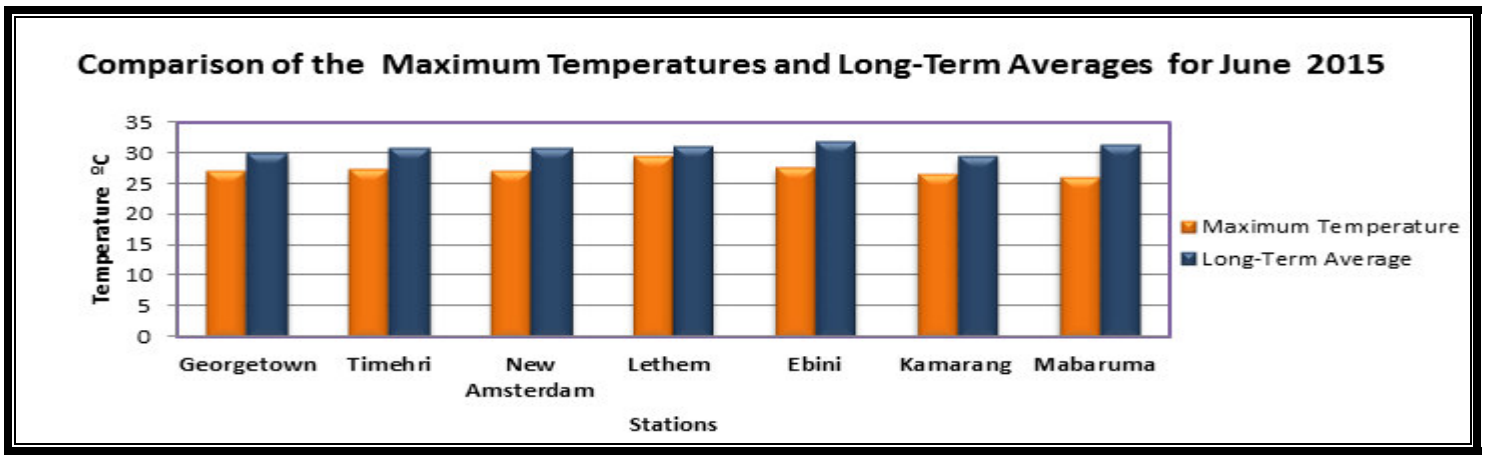


Fig # 4: Comparison of the Average Maximum temperatures and Long-term Averages for selected stations for June 2015.

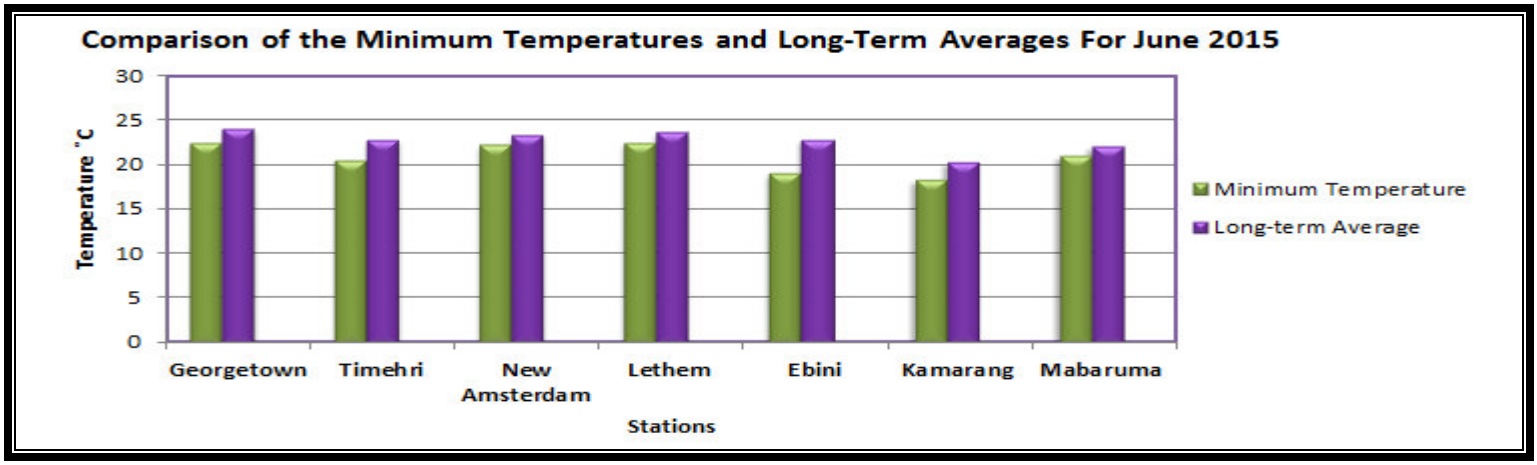


Fig # 5: Comparison of the Average Minimum temperatures and Long-term Averages for selected stations for June 2015.

Agricultural Review for June, 2015

Generally no major effect of the weather on agricultural production was reported. However, in some areas there were reports of flooding. On a visit to farms in the Buxton/Friendship area, many farmers were happy with the rains since most of their crops are rain-fed. A rain gauge was installed also in Buxton farmlands, farmers in the area were taught to read and record the rainfall value. This exercise was done in keeping with Hydromet's mandate of expanding its network of manual rain gauges.

Images of the Rain gauge installed at Buxton Farmlands

Farmer's Note for July, 2015

The primary rainy season of 2015 is nearing conclusion. For the July to September period below normal to normal rainfall conditions are expected over most parts of Guyana. Farmers are encouraged to make use of this opportunity to carry out, harvesting of crops, drying of produce, and spraying for pests and other agronomic activities. However, downpours of rainfall is still expected thus it is important that farmers tune into the Hydrometeorological Service daily forecast via the radio on 56.0 AM and visit our website at www.hydromet.gov.gy for the three days extended forecast , which can be a useful tool to assist them in the planning of their agricultural activities. It is important that farmers listen to the advisories of their regional agriculturists or extension officers.

Seasonal Forecast for July – September, 2015

Climatologically, July marks the transition of Guyana from its primary rainfall season into its secondary dry season. For the forecast period, below normal to normal rainfall is expected over most parts of the country. Further, showery downpours are still expected. Above normal to normal temperature conditions is also expected.

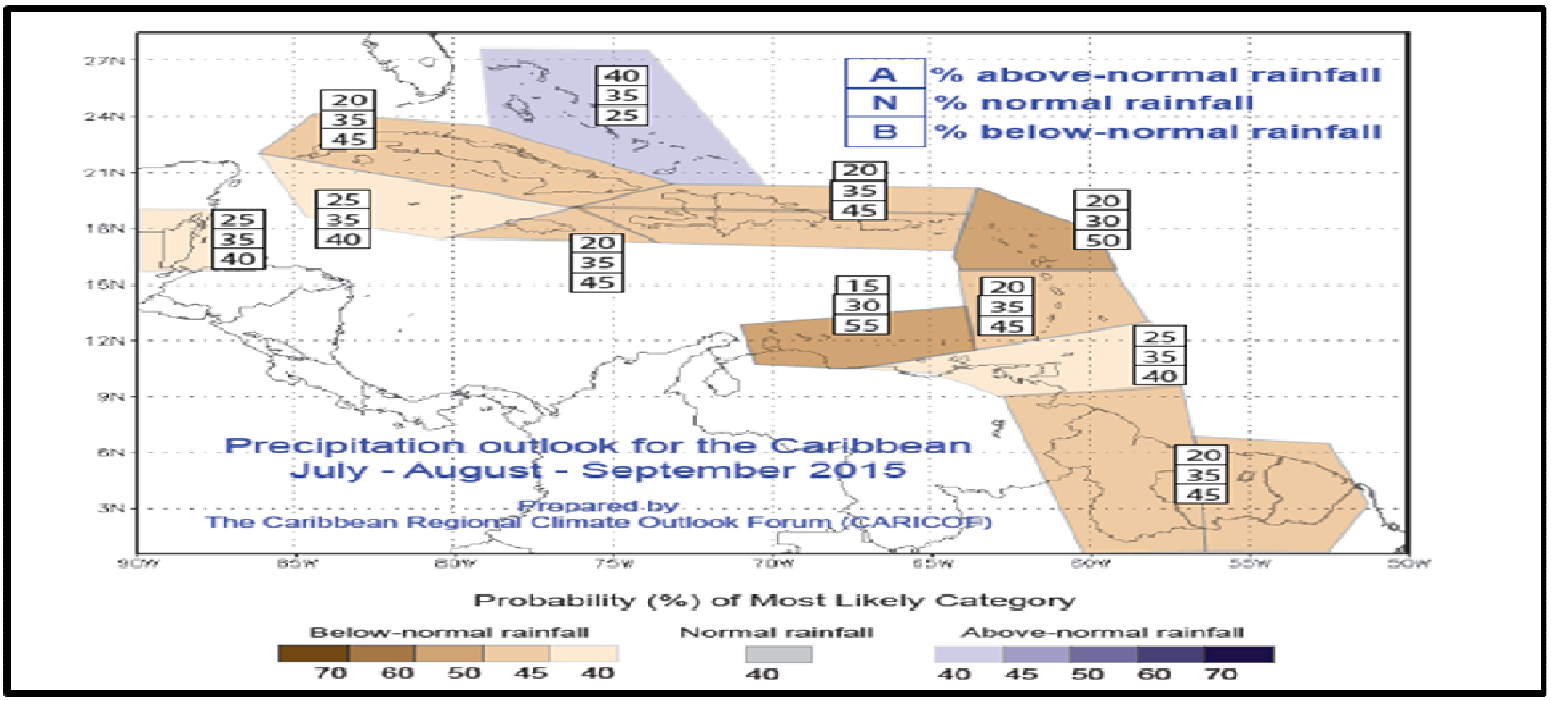


Figure 6: Indicating the Percentages of above Normal (A), Normal (N) and Below Normal (B) rainfall conditions for Guyana and the Caribbean.

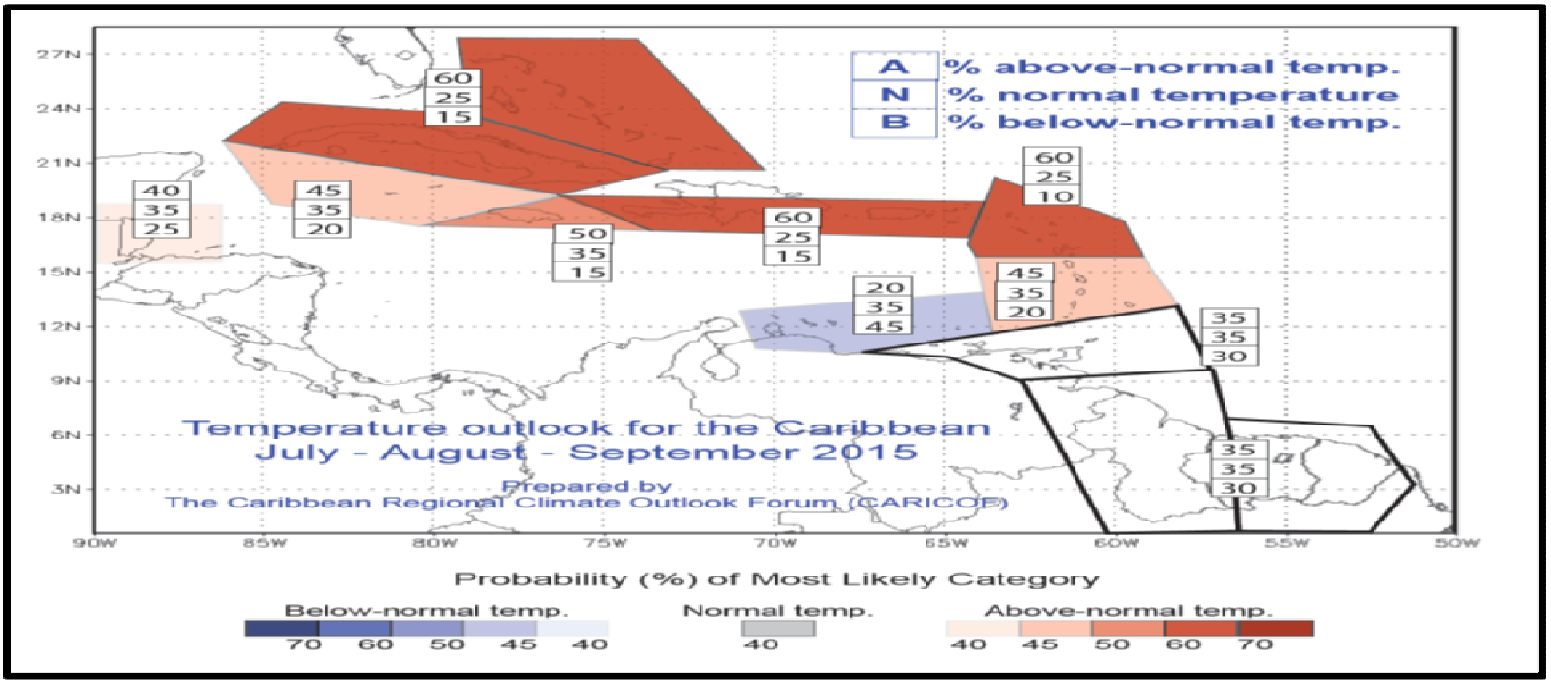


Figure 7: Indicating the Percentages of above Normal (A), Normal (N) and Below Normal (B) temperature conditions for Guyana and the Caribbean.

Table#3: Rainfall Normals and Averages of selected rainfall stations

Regions	Station Names	July	August	September	Regions	Station Names	July	August	September
1	MABARUMA *	232.4	210.4	137.8	5	BLAIRMONT	241.6	162.2	80.1
	WAUNA	288.6	237.6	185.8		MARDS	251.6	159.2	73.6
	PORT KAITUMA	261.1	189.7	173.5	6	ALBION	212.1	162.1	74.7
2	ANNA REGINA*	249.0	123.6	86.7		SKELDON	256.0	139.9	105
	CHARITY	251.7	158.0	102.2		CRABWOOD CREEK*	146.4	97.3	46.2
	Mc NABB	255.1	157.6	98.3		ROSE HALL	218.3	176.4	80.2
	WAKAPOW	320.4	199.1	136.9		NIGG 58	208.8	149.6	74.6
	ONDERNEEMING	177.7	111.4	80.0		ALBION 33	109.5	157.4	60.2
3	BOERSARIE	357.5	198.4	121.5		#73 VILLAGE	191.7	155.7	58.5
	DeKENDEREN B	315.4	183.4	110		# 54 VILLAGE*	156.1	125.5	45.8
	DeKENDEREN F	304.1	188.9	93.2		ANKERVILLE	218.5	147.5	57.7
	LEORNORA F	296.4	198.5	90		MIBIKURI	214.3	151.9	73.3
	LEORNORA B	318.5	199.2	112.7		MARA LAND DEV. SCHEME*	206.2	212.9	85.6
	WALES	315.7	185.4	125.2		NEW AMSTERDAM	231.2	157.1	86.9
	UITVLUGT B	307.2	188.6	102.3	7	APAIKWA	266.2	225.8	124.3
	La BAGATELLE LEGUAN*	190.5	120.8	62.1		MAZARUNI	310.1	170	147.9
4	BOTANIC GARDENS	266.2	179.6	89.9		BARTICA DEM. STATION*	224.2	194.4	174.3
	TIMEHRI	298.0	225.7	152.5		JAWALLA	268.6	209	106.6
	CANE GROVE B	197.1	121.9	52.8	8	KAIETEUR FALLS *	473.1	267.6	127.6
	CANE GROVE F	214.8	159.7	52.3	9	LETHEM	256.7	145.7	86.3
	L.B.I FRONT	225.4	123.8	62.1		KARASABAI	168.7	86.9	26.3
	OGLE FRONT	216.0	125.0	56.8		DADANAWA	296.5	187.1	83.5
	ENMORE FRONT	256.6	183.7	72.8	10	GREAT FALLS	339.5	225.1	126.9
	KAIRUNI*	240.9	156.2	109.3		WISMAR*	245.6	168.5	107.5

NOTE = The normals for various stations were calculated by the use of rainfall data from the year 1981- 2010 (30 years).
* = Rainfall Averages (less than 30 years of data).

Table # 4: Average rain days for the months July-September for selected stations

Station Name	July	August	September
Georgetown Botanical Gardens	20 days	14 days	7 days
Timehri Meteorological Station	23 days	17 days	12 days
Ogle	19 days	12 days	6 days
Lethem	20 days	14 days	8 days
Anna Regina	14 days	9 days	6 days
New Amsterdam	18 days	13 days	6 days

NOTE: Rain day = More than 1 mm of rainfall within a 24 hrs period.

TABLE # 5: TIDE TABLE FOR JULY, 2015

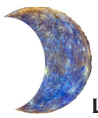
DATE	HIGH WATER	
	TIME	HEIGHT
	Hr. Min	Meter
1st	03 17	2.96
	15 51	2.78
2nd	04 00	3.05
	16 33	2.89
3rd	04 45	3.10
	17 15	2.96
4th	05 30	3.11
	17 57	3.00
5th	06 17	3.07
	18 40	2.98
6th	07 06	2.97
	19 26	2.91
7th	08 01	2.83
	20 17	2.82
12th	00 44	2.75
13th	01 37	2.82
14th	02 24	2.89
	15 29	2.77
15th	03 06	2.94
	16 11	2.82
16th	03 46	2.97
	16 50	2.85
17th	04 24	2.98
	17 26	2.85
18th	05 00	2.96
19th	18 00	2.82
	05 35	2.92
20th	18 31	2.76
	06 10	2.85
21st	06 48	2.74
29th	02 09	2.86
30th	02 55	3.02
	15 29	2.87
31st	03 42	3.15
	16 12	3.02

Tides Tables are provided by the Maritime Administration Department


New moon 15th PM


First quarter 24th Am


Full moon 01st & 29th am


Last quarter 8th AM

Lunar calendar for July 2015

Crop Of The Month: Papaya | July ,2015

Common Name: Papaya

Scientific Name: Carica papaya

Plant Type: Fruit

Soil pH: 7

Introduction

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

Description

Papaya tree bears many spherical or pear-shaped fruits clumped near its top end of the trunk. They come in a variety of sizes ranging 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 ripen when it yields to gentle thumb pressure, and its skin turned amber to orange hue.

Inside, the fruit features numerous black peppercorns like seeds, encased in a mucin coat, at its hollow central cavity as in melons. The flesh is orange in color with either yellow or pink hues, soft in consistency and has deliciously sweet, musky taste with rich flavor.

Climate

The plant grows best under warm and 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.

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.

Recommended Varieties

- Red Lady
- Sunrise
- Tainung No. 1

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 minerals, and vitamins.
- Papaya seeds have been proven natural remedy for many ailments in the traditional medicines. The seeds can be used as an application for anti-inflammatory, anti-parasitic, and analgesic, and used to treat stomachache, and ringworm infections

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 7^0 C for about 3 weeks.

Fun Facts About Papaya

- Papaya is also called "Fruit of the Angels".
- 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.

Insect Pests

- Fruit fly
- Mites
- Slugs
- Aphids
- Mealy bugs

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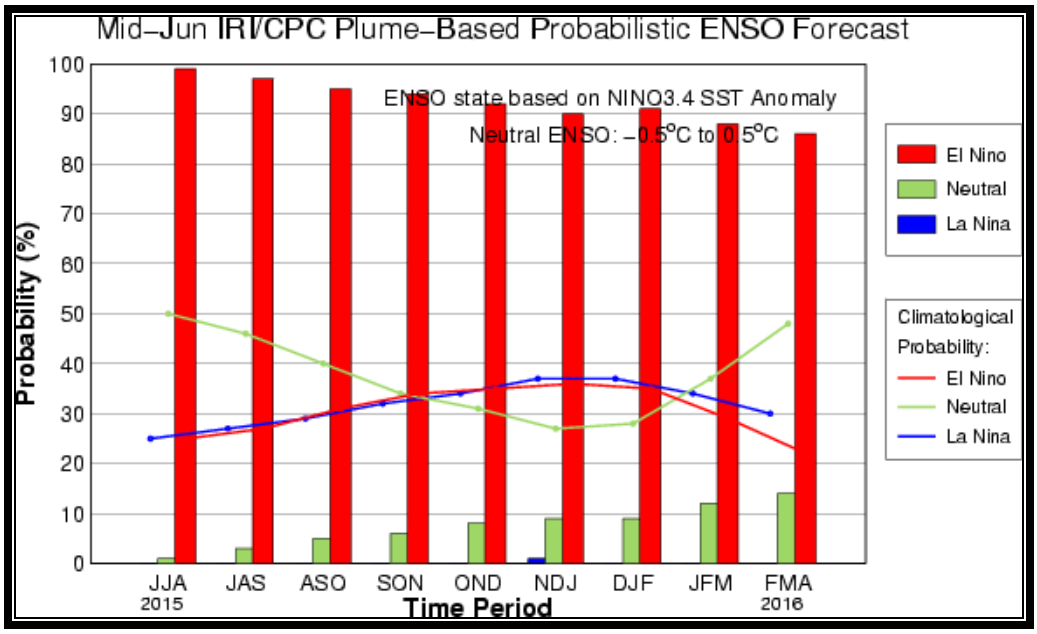
El Niño Update

ENSO Alert System Status: El Niño Advisory

- **El Niño conditions are present.***
- Positive equatorial sea surface temperature (SST) anomalies continue across most of the Pacific Ocean.
- There is a greater than 90% chance that El Niño will continue through Northern Hemisphere fall 2015, and around an 85% chance it will last through the 2015-16 winter.

Table #6: CPC/IRI Early-Month Consensus ENSO Forecast Probabilities



El Niño Facts

- El Niño is associated with a drier wet season.
- If El Niño manifests, less water will be stored during the wet season.
- By consequence, less water would be available for use in the dry season.