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Fiji Islands Sugar Cane Rainfall Outlook from August 2008 Harvesting and Crushing Season

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Introduction

This document contains a three and six month rainfall outlook for the Fiji Islands sugar cane belt. The chances of *drier than normal*, *normal* and *wetter than normal* conditions are given as probabilities and presented in tables on pages 2 to 4. The Fiji Meteorological Service currently uses a statistical climate prediction model known as SCOPIC (Seasonal Climate Outlook for Pacific Island Countries) for seasonal rainfall guidance. For the Fiji region, the model uses recent monthly anomalies of sea surface temperature from parts of the Pacific Ocean (Central - Eastern and South - Western Pacific regions) as predictors of Fiji Islands rainfall.

Summary Statement

- *Wetter than normal* conditions were experienced in most parts of the sugar cane belt in June; *Above average* rainfall was recorded in the Viti Levu and Vanua Levu sugar cane belts, over April to June 2008 period;
- Mean monthly maximum air temperatures (day-time) in the last three months have been generally *average to above average* except in May when the mean monthly maximum air temperatures were *average to below average*. Mean monthly minimum air temperatures (night-time) were *average to above average* in June, *average to below average* in May and *near average* in April;
- The 2007/08 La Nina event has ended and Neutral conditions exist in the tropical Pacific at the current time. Neutral conditions are favored to continue through December 2008;
- For the 3-month period (August to October 2008), *normal or wetter than normal* conditions are favored in the sugar cane belt. The confidence level of this prediction is *low to moderate*;
- For the 6-month period (August 2008 to January 2009), *wetter than normal* conditions are favored in the sugar cane belt. The confidence level of this prediction is *moderate to high*;
- Air temperatures over the coming 3-month and 6-month periods are predicted to be *near normal to warmer than normal*. The confidence in these predictions are generally *moderate to high*.

Statement from the Sugar Research Institute of Fiji - Advice to Farmers

“Since the chances of receiving above average rainfall are higher in the cane belt areas during this replanting season, farmers should carry out land preparation and use quality seed cane (7-9 months old) to obtain good germination when the weather allows to do so”.

“It is important to harvest all cane in the difficult areas during this period or harvesting bulk of the crop before the wet season. Farmer's should also try to practice trash blanketing to control weeds.”

Source: Sugar Research Institute of Fiji.

Explanatory Notes - El Niño and La Nina

El Niño Southern Oscillation (ENSO) is an irregular cycle of persistent warming and cooling of sea surface temperatures in the tropical Pacific Ocean. The warm extreme is known as **El Niño** and cold extreme, **La Niña**.

The term **El Niño** is given to a local warming of the ocean near the Peruvian coast in South America that appeared around Christmas. Scientists now refer to an **El Niño event** as sustained warming over a large part of central and eastern tropical Pacific Ocean. These events occur on a three to seven year basis and are characterized by shifts in normal weather and climate patterns.

La Nina is sustained cooling of the central and equatorial tropical Pacific Ocean. The cooling is usually accompanied by persistent positive values of SOI, an increase in strength of the equatorial Trade Winds and higher than normal rainfall for most of the Fiji Islands (not immediate effects as there is a lag period).

La Niña events are usually associated with the South Pacific Convergence Zone (SPCZ) being more active than normal and displacement to the southwest of normal position resulting in *above average* amounts of rainfall, with frequent and sometimes severe flooding. The Southeast trade winds become more easterly than normal bringing moist and warm equatorial wind flow over the country and wet season thunderstorm activity is more pronounced.

Rainfall Outlook: Rainfall Probabilities - 'dry', 'wet' and 'normal' conditions

The rainfall outlook probability presents three monthly rainfall in three different categories. The **drier than normal** range is one where rainfall is less than the 33rd percentile. That is, rainfall for the period (in this case three months) which is in the lowest one third of occurrences. Here, three-month rainfall is arranged for a particular period from the highest on record to lowest on record. Rainfall below the one-third point would be considered **drier than normal**. Rainfall in the middle third would be considered **normal** and upper third **wetter than normal**. A rainfall prediction of 48:31:21, for example, has the highest probability of rainfall in the **drier than normal** category (48%). This means that rainfall is most likely to be **drier than normal** for the oncoming three months. However there is still a 31% chance of **normal** rainfall and 21% chance of **wetter than normal** rainfall. Similarly, with a prediction of 20:40:40, means **normal to wetter than normal** rainfall would be expected. In the case of 33:33:34 there are **equal chances** of receiving **drier than normal, normal or wetter than normal** rainfall (climatology).

The success or hit rate of the predictions is highest during the **wet season** and lowest during the **dry season** and **transition** months (dry to wet and wet to dry). The success rate is also high during **El Niño** events and **La Niña** events. Predictions during neutral period especially during the **dry season** and **transition** are the least successful.

Three Month (Aug to Oct 08) and Six Month (Aug 08 to Jan 09) Rainfall Outlooks

Sigatoka District	Dry	33%	Normal	67%	Wet
Olosara (3-months)	20	214.3	37	313.8	43
Olosara (6-months)	11	626.3	38	866.6	51
Cuvu (3-months)	24	209.3	35	314.5	41
Cuvu (6-months)	19	567.0	34	836.8	47
Lomawai (3-months)	30	160.1	36	247.3	34
Lomawai (6-months)	21	592.9	30	873.8	49

Normal or wetter than normal conditions are favored in the Sigatoka region over the coming 3 months and wetter than normal conditions are favored over the coming 6 months. The confidence in the prediction is low for the 3-month period and high for the 6-month period.

Three Month (Aug to Oct 08) and Six Month (Aug 08 to Jan 09) Rainfall Outlooks

Nadi District	Dry	33%	Normal	67%	Wet
Airport (3-months)	25	175.6	32	286.0	43
Airport (6-months)	24	674.6	29	987.3	47
Malolo (3-months)	23	159.7	37	258.7	40
Malolo (6-months)	19	549.1	33	875.2	48
Navo (3-months)	25	170.0	31	263.7	44
Navo (6-months)	20	559.8	29	880.6	51
Meiguynah (3-mths)	20	167.7	37	250.3	43
Meiguynah (3-mths)	16	649.2	29	958.4	55
Natova (3-months)	26	182.0	34	263.7	40
Natova (6-months)	23	706.0	26	1012.0	51

Normal or wetter than normal conditions are favored in the Nadi region over the coming 3 months and wetter than normal conditions are favored over the coming 6 months. Low to moderate confidence for the 3 month period and high confidence for the 6 month period.

Lautoka District	Dry	33%	Normal	67%	Wet
Mill (3-months)	18	174.8	40	258.0	42
Mill (6-months)	20	637.8	24	906.9	56
Lovu (3-months)	21	139.9	34	231.5	45
Lovu (6-months)	18	592.6	32	908.3	50
Drasa (3-months)	25	159.0	30	266.0	45
Drasa (6-months)	13	712.5	35	958.7	52

Normal or wetter than normal conditions are favored in the Lautoka region over the coming 3 months and wetter than normal conditions are favored over the coming 6 months. Moderate confidence for the 3 month period and high confidence for the 6 month period.

Rarawai District	Dry	3%	Normal	67%	Wet
Mill (3-months)	26	173.3	30	289.2	44
Mill (6-months)	21	748.2	30	1105.4	49
Koronubu (3-mths)	22	177.3	36	300.0	42
Koronubu (6-mths)	14	794.0	33	1171.4	53
Mota (3-months)	27	193.0	34	297.4	39
Mota (6-months)	16	854.3	33	1234.9	51
Navatu (3-months)	28	152.7	34	258.7	38
Navatu (6-months)	14	665.8	36	1011.3	50

Normal or wetter than normal conditions are favored in the Rarawai region over the coming 3 months and wetter than normal conditions are favored over the coming 6 months. Low to moderate confidence for the 3 month period and high confidence for the 6 month period.

Tavua District	Dry	33%	Normal	67%	Wet
Tavua (3-months)	31	134.0	27	230.0	42
Tavua (6-months)	19	521.7	32	938.2	49
Tagitagi (3-months)	29	141.9	27	237.9	44
Tagitagi (6-months)	22	550.0	31	911.9	47
Vatukoula (3-mths)	29	162.8	23	269.2	48
Vatukoula (6-mths)	20	735.6	27	1201.2	53

Wetter than normal conditions are favored in the Tavua region over the 3 and 6 month periods. Low to moderate confidence for the 3 month period and high confidence for the 6 month period.

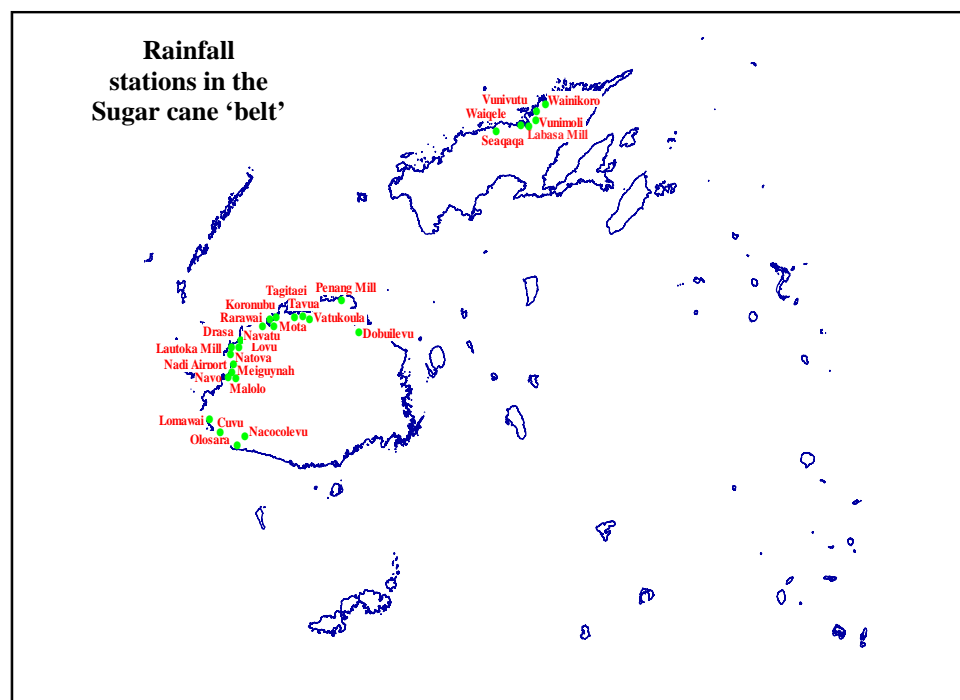
Three Month (Aug to Oct 08) and Six Month (Aug 08 to Jan 09) Rainfall Outlooks

Penang District	Dry	33%	Normal	67%	Wet
Mill (3-months)	25	178.4	33	274.0	42
Mill (6-months)	30	757.3	25	107.5	45
Dobulevu (3-months)	28	271.8	34	389.0	38
Dobulevu (6-months)	29	1006.4	25	1308.9	46

Normal or wetter than normal conditions are favored in the Penang region over the coming 3 months and wetter than normal conditions over the coming 6 months. Low to moderate confidence.

Labasa District	Dry	33%	Normal	67%	Wet
Seaqaqa (3-months)	22	179.3	41	291.9	37
Seaqaqa (6-months)	26	974.2	32	1233.6	42
Waiqeale (3-months)	18	197.6	36	286.7	46
Waiqeale (6-months)	18	837.5	35	1224.2	47
Vunimoli (3-months)	18	184.0	36	279.5	46
Vunimoli (6-months)	19	890.7	35	1295.7	46
Mill (3-months)	25	172.2	35	245.5	40
Mill (6-months)	22	805.7	28	1140.1	50
Vunivutu (3-months)	33	183.0	30	348.7	37
Vunivutu (6-months)	26	786.9	27	1429.5	47
Wainikoro (3-months)	24	154.0	37	244.5	39
Wainikoro (6-months)	23	711.7	30	1048.9	47

Normal or wetter than normal conditions are favored in the Labasa region over the coming 3 months and wetter than normal conditions over the coming 6 months. Moderate to high confidence.



Disclaimer: The seasonal rainfall predictions provided in this document is presented for the sugar sector and should be used as a guide only. While FMS takes all measures to provide accurate information and data, it does not guarantee 100% accuracy of the forecast presented in this summary. The department should be sought for expert advice, clarifications and additional information as and when necessary. The user assumes all risk resulting directly or indirectly from the use of the rainfall prediction information.