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2007

Fiji Islands Climate Summary

August 2007

FIJI METEOROLOGICAL SERVICE

IN BRIEF

A large number of air temperatures records were broken for a second consecutive month. Eleven daily and 12 monthly average records were established across the country in August. Adding to the extreme conditions was the significantly well below average rainfall and above average sunshine hours received in parts of the Western and Eastern Divisions. This is in total contrast to the *above average* rainfall received in parts of central Viti Levu, Vanua Levu and Rotuma.

For the period, July to September *below average* rainfall was experienced in western Viti Levu, Levuka and Vunisea. *Average* rainfall was experienced elsewhere (Table 1). Rainfall analyses show that a drought on an agricultural time-scale currently exists in the western and northwestern Viti Levu and central Kadavu regions. The northern Viti Levu region, parts of Vanua Levu and Ono-i-Lau may also be experiencing below average surface and subsurface water levels.

Sea surface temperatures (SSTs) in Fiji's EEZ were above average

WEATHER PATTERNS

The country experienced a contrasting weather pattern during August with the Eastern and Northern Divisions affected by a broad moist easterly flow and southward displacement of the South Pacific Convergence Zone whereas Western Division and southern parts of the country were affected by the drier trade wind flow. There was an apparent absence of rain bearing systems associated with the upper troughs that are common at this time of the year.

During the first week, a cold front moved across Fiji causing rain mainly over the Northern and Eastern Divisions with heavy falls in the Savusavu and Matei region. After the passage of this front, a ridge of high pressure affected the Group until the August 6. Through August 7 and 8, a weak cold front moved over the Group causing light showers in some parts of the country. Fine weather subsequently prevailed until August 13 under the influence of a ridge of high pressure from the south that also caused strong winds over waters for a couple of days.

From August 14 to 18, a trough of low pressure lying just north of the country and an intensifying ridge from the south maintained moist trades across Fiji. Showers were recorded in many areas with a few moderate falls over the main islands. Easterly winds set by August 20 as

RAINFALL IN LAST THREE MONTHS, TEMPERATURES AND RELATIVE HUMIDITY

Rainfall varied considerably across the country in August. Total monthly rainfall ranged from *well below average* to *above average*. Most of the Northern Division received *average to above average* rainfall while most of the Western and Central Division received below rainfall except in the central part of Viti Levu. Here, Monasavu received almost twice its August mean rainfall. Below average rainfall was also received in the Eastern Division except at Rotuma where rainfall was 172% of normal.

For the two month period from July to August, *below average* rainfall had been experienced in western Viti Levu and in parts of the Eastern Division. Rainfall from June to August 2007 was predicted to *vary around average*. Actual rainfall over this period ranged from *average to below average*. Nine of the 21 recording sites received *below average* rainfall and the remaining 12 sites *average* rainfall (Table 1).

(0.5-1.5°C) during the month.

A borderline La Niña event exists at the current time. There is a 60% of chance of a La Niña developing in the coming months. The Trade Winds in the Equatorial Pacific were weaker than normal and the SPCZ was south of its normal position in August. The Southern Oscillation Index was +2.7 in August. The five-month running mean centred on July is 0.

Based on current ENSO patterns in the Pacific, Fiji's rainfall is likely to be *average to above average* (moderate confidence) from September to November 2007.

the trough gave way to another intense ridge of high pressure that pushed over the country from the southwest. Showers were experienced especially about the south-eastern parts and interior of the larger islands until August 27. During this period a strong wind warning was issued for all Fiji waters.

Over the last few days of the month, a slow-moving front drifted onto Fiji from the west. A moist east to northeast wind flow set in and caused showers over most places. Isolated heavy falls were experienced in parts of the country with Monasavu receiving 107mm of rainfall. A relatively active trough moved across Fiji from August 30 to 31 resulting in showers over most places accompanied by fresh and gusty winds over land areas and strong winds over the coastal waters.

Rotuma received rainfall on 23 days of the month, largely from the SPCZ, with some markedly substantial falls e.g. 75.8mm on August 2.

Maximum Air Temperatures were *above average* (0.7-2.5°C) across the country with the Western Division generally recording the greatest departures from normal. The highest positive departures were recorded at Viwa Island (2.5°C) and Matuku (2.2°C). Eleven new records were established in August (Table 2).

Minimum Air Temperatures were also *above average* (0.7-2.9°C) across the country. The highest positive departures were recorded at Vunisea (2.9°C), Matuku (2.5°C) and Savusavu Airport (2.0°C). Twelve new records were set in August (Table 2).

Relative Humidity at 0900hrs varied from *below average* in the Western Division and near average to above average elsewhere. The greatest positive anomalies were recorded at Viwa Island (8.4%) and Matuku Island (3.4%). The greatest negative departures were recorded at Penang (7.9%), Rarawai Mill (6.4%) and Tokotoko, Navua (4.1%).

TABLE 1 : THREE MONTH RAINFALL : MAY TO JULY 2007

Station	Actual Rainfall (mm)	Rainfall in the last three months (Below average, average or above average)	No. of Rain days in June 07 (% of total rain)	No. of Rain days in July 07 (% of total rain)	No. of Rain days in August 07 (% of total rain)
Penang Mill, Rakiraki	91.4	Below Average	04 (27)	05 (39)	10 (34)
Monasavu Dam	676.3	Average	18 (26)	12 (16)	20 (58)
Rarawai Mill, Ba	107.0	Below Average	02 (07)	05 (62)	07 (31)
*Nacocolevu	178.1	Average	04 (08)	07 (77)	05 (15)
Viwa, Mamanuca Group	152.0	Average	03 (02)	07 (92)	14 (06)
*Lautoka (FSC Res.)	53.9	Below Average	01 (01)	06 (90)	04 (09)
Nadi Airport	72.1	Below Average	02 (02)	06 (96)	02 (02)
Data missing [Nacocolevu– June 22,23 and 25], [Levuka - August 29, 30 and 31], [Matuku - August 29] and [Lautoka Mill - August 31].					
Tokotoko, Navua	445.0	Below Average	18 (23)	13 (38)	19 (39)
Laucala Bay, Suva	366.0	Average	18 (12)	12 (67)	18 (21)
Nausori Airport	309.1	Below Average	18 (25)	12 (52)	16 (23)
Nabouwalu	281.5	Average	20 (27)	20 (29)	18 (44)
Labasa Airport	160.1	Average	11 (32)	07 (35)	09 (33)
Savusavu Airport	261.8	Average	12 (21)	07 (15)	10 (64)
Udu Point	296.0	Average	12 (23)	09 (42)	14 (35)
Matei Airport	297.2	Average	18 (30)	24 (25)	25 (45)
Lakeba, Lau	242.4	Below Average	09 (58)	08 (20)	09 (22)
*Matuku, Lau	270.3	Average	08 (49)	11 (43)	05 (08)
Ono-I-Lau, Lau	238.6	Average	05 (20)	10 (65)	04 (15)
*Levuka, Ovalau	170.8	Below Average	12 (18)	16 (52)	12 (30)
Vunisea, Kadavu	206.4	Below Average	10 (22)	12 (42)	15 (36)
Rotuma	685.7	Average	19 (17)	23 (30)	23 (53)

TABLE 2 : NEW CLIMATE RECORDS IN AUGUST 2007

Element	Station	Observed (record)	On (date)	Rank	Previous (record)	Year	Records Began
Daily Max Temp	Nacocolevu	33.8°C	27th	New High	33.6°C	2001	1938
Daily Max Temp	Monasavu Dam	27.0°C	28th	New High	26.5°C	1981	1980
Daily Max Temp	Lakeba Island	31.5°C	20th	New High	30.3°C	1990	1955
Daily Min Temp	Viwa Island	26.0°C	19th	New High	25.9°C	2006	1978
Daily Min Temp	Monasavu Dam	19.8°C	18th	New High	19.6°C	1981	1980
Daily Min Temp	Nausori Airport	24.7°C	28th	New High	24.5°C	1957	1956
Daily Min Temp	Levuka, Ovalau	25.0°C	28th	New High	24.0°C	2006	1984
Daily Min Temp	Vunisea, Kadavu	25.5°C	28th	New High	24.5°C	1973	1947
Daily Min Temp	Tokotoko, Navua	25.5°C	20th	New High	24.0°C	2000	1992
Mean Monthly Max Temp	Nadi Airport	30.2°C	-	New High	30.1°C	1988	1942
Mean Monthly Max Temp	Laucala Bay, Suva	28.4°C	-	New High	28.1°C	2001	1942
Mean Monthly Max Temp	Viwa Island	30.3°C	-	New High	29.4°C	1998	1978
Mean Monthly Max Temp	Matei Airport	28.3°C	-	New High	28.2°C	1974	1956
Mean Monthly Max Temp	Tokotoko, Navua	27.2°C	-	New High	26.6°C	2001	1992
Mean Monthly Max Temp	Lakeba Island	28.0°C	-	New High	27.6°C	1973	1955
Mean Monthly Max Temp	Matuku Island	28.0 °C	-	New High	27.5°C	1998	1955
Mean Monthly Max Temp	Ono-I-Lau Island	26.6°C	-	New High	26.1°C	1991	1943
Mean Monthly Min Temp	Laucala Bay, Suva	22.6°C	-	New High	21.6°C	1942	1942
Mean Monthly Min Temp	Savusavu Airport	22.8°C	-	New High	22.1°C	2000	1956
Mean Monthly Min Temp	Monasavu Dam	16.8°C	-	New High	16.6°C	1999	1980
Mean Monthly Min Temp	Nausori Airport	21.1°C	-	New High	20.9°C	1999	1956
Mean Monthly Min Temp	Tokotoko, Navua	20.7°C	-	New High	20.5°C	1999	1992
Mean Monthly Min Temp	Lakeba Island	22.7°C	-	New High	22.3°C	1999	1955
Mean Monthly Min Temp	Matuku Island	23.0°C	-	New High	21.8°C	1998	1955
Mean Monthly Min Temp	Vunisea, Kadavu	22.3°C	-	New High	21.3°C	1973	1947

Figure A Nadi Airport - Temperature & Rainfall Records for the last 13 Months
(August 2006 - August 2007)

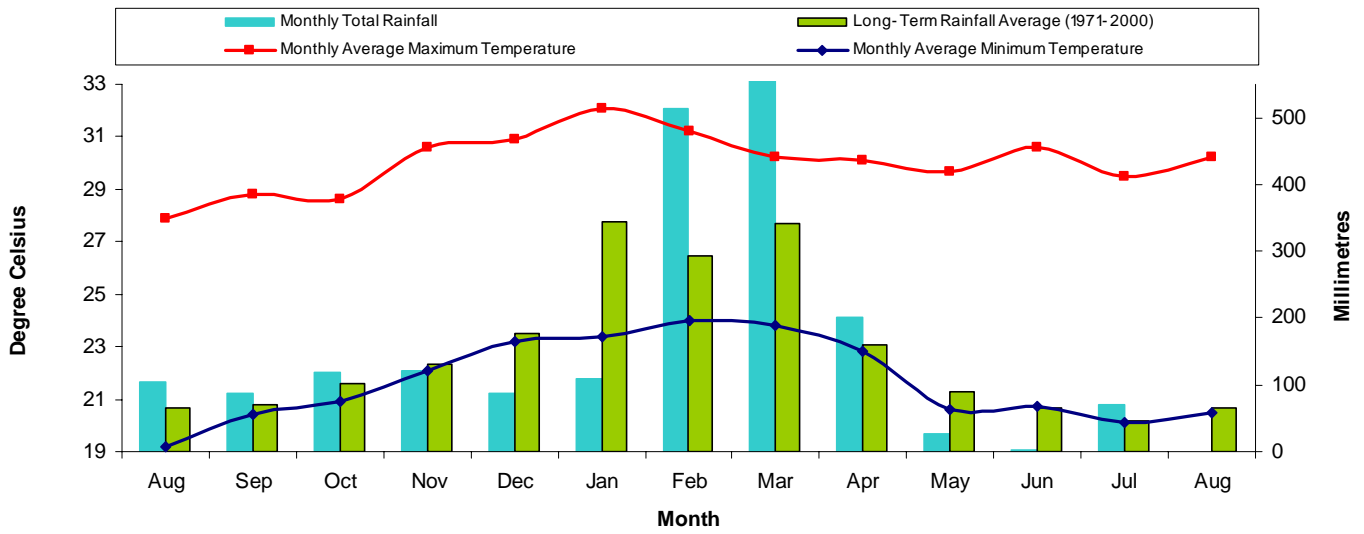


Figure B Labasa Airfield - Temperature & Rainfall Records for the last 13 Months
(August 2006 - August 2007)

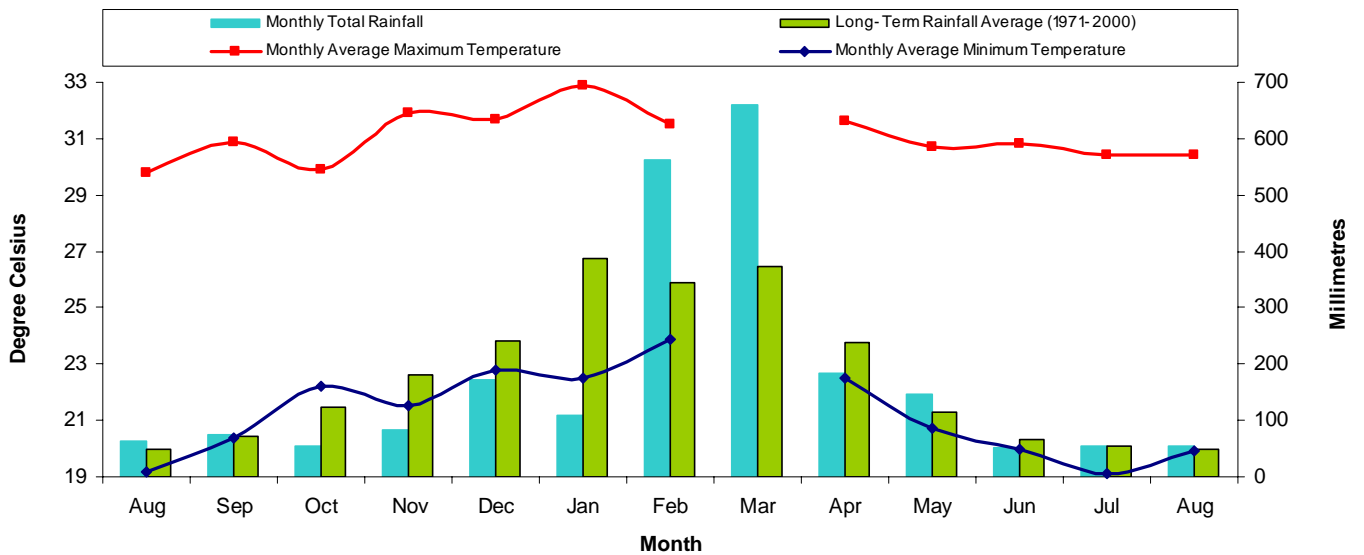
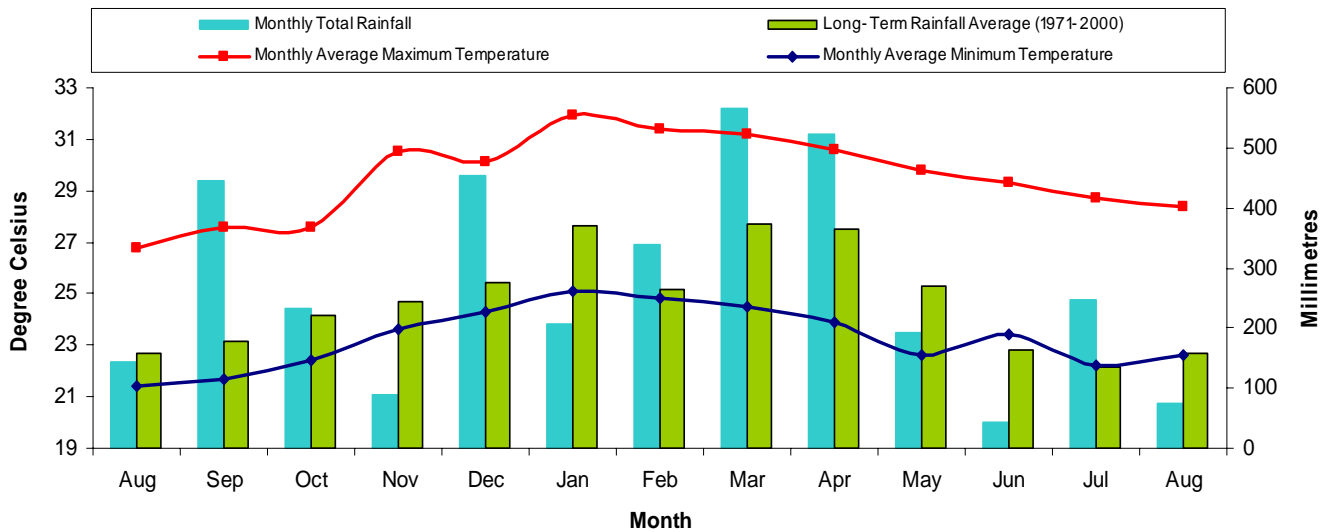


Figure C Laucala Bay/Suva - Temperature & Rainfall Records for the last 13 Months
(August 2006 - August 2007)



PRELIMINARY CLIMATOLOGICAL SUMMARY FOR AUGUST 2007

PRELIMINARY CLIMATOLOGICAL DATA FOR MONTH 8 , 2007 : SUMMARY FOR DAYS 1 TO 31

	RAINFALL					AIR TEMPERATURES								SUNSHINE				
	TOTAL	RAIN		MAX.		AVERAGE DAILY				EXTREME				TOTAL				
	MM	%	* DAYS	FALL	MM	ON	MAX.	#	MIN.	#	MAX.	C	ON	MIN.	C	ON	HRS	*
NADI AIRPORT	1	2	2	1	1	30.2	1.5	20.5	1.9	34.4	27	17.0	5	245	106			
SUVA/LAUCALA BAY	75	48	18	13	17	28.4	1.7	22.6	1.9	31.8	28	20.0	5	155	107			
NACOCOLEVU	28	33	5	15	1	29.2	1.7	18.6	0.7	33.8	27	14.7	11	197	107			
ROTUMA	362	172	23	76	2	30.2	1.1	24.8	0.8	31.5	28	23.0	31	163	78			
VIWA	10	16	3	5	1	30.3	2.5	23.6	1.2	31.6	22	21.2	2					
UDU POINT	104	123	14	29	1	28.8	0.7	23.6	1.4	30.5	1	21.9	2					
LABASA AIRFIELD	53	111	9	20	1	30.4	1.0	19.9	1.2	33.0	29	16.4	22					
NABOUWALU	124	118	18	35	1	27.1	0.8	22.9	1.3	29.6	27	21.0	2					
SAVUSAVU AIRFIELD	167	144	10	73	1	27.8	0.7	22.8	2.0	31.5	27	20.4	7					
MATEI AIRFIELD	134	105	25	49	1	28.3	1.3	23.1	1.4	30.0	28	20.5	2					
YASAWA-I -RARA	NO DATA																	
VATUKOULA	NO DATA																	
MONASAVU	430	182	20	107	28	22.0	0.9	16.8	1.7	27.0	28	14.0	5					
NAUSORI AIRPORT	72	49	16	23	31	27.2	1.0	21.1	1.5	31.0	28	16.5	14					
NAVUA/TOKOTOKO	174	75	19	58	28	27.2	1.6	20.7	1.3	30.5	7	17.0	5					
LEVUKA	52	55	12	15	26	27.5	0.8	22.2	0.9	30.0	27	19.5	9					
LAKEBA	53	52	9	35	1	28.0	1.6	22.7	1.7	31.5	20	18.7	6					
MATUKU	23	20	5	8	1	28.0	2.2	23.0	2.5	29.7	11	20.0	1					
VUNI SEA	75	61	15	14	28	26.8	1.0	22.3	2.9	30.4	28	19.8	6					
ONO-I -LAU	35	30	4	17	1	26.6	1.7	21.3	1.3	30.5	28	19.1	8					
BA/RARAWAI MILL	33	51	7	7	10	31.3	1.5	18.5	1.1	33.9	27	14.0	5					
LAUTOKA AES	5	7	4	3	1	30.0	1.7	20.9	0.9	32.0	27	17.3	4					
PENANG MILL	31	42	10	17	1	29.1	1.7	22.0	1.3	32.1	28	18.1	14					

RAINFALL OUTLOOK FOR FIJI ISLANDS - SEPTEMBER TO NOVEMBER 2007

The current ENSO state is neutral-borderline La Niña. Present equatorial Pacific conditions and ENSO Predictions models suggest further development of *La Nina* conditions in the coming months. The chance of a *La Nina* event developing in the next few months is around 60%. As such rainfall in Fiji is predicted to be *average to above average* in most parts of the country from September to November 2007. The confidence level of the prediction is *moderate*.

(More detailed climate predictions will follow in the 'Fiji Islands Climate Outlook' to be released around mid August)

Normal - Long term average from 1971 to 2000.

Well Below Average - Rainfall less than 39%.

Below Average - Rainfall between 40 to 79%.

Average - Rainfall between 80 to 119%.

Above Average - Rainfall between 120 to 199%.

Well Above Average - Rainfall more than 200%.

For further information please contact: The Director, Fiji Meteorological Service, Private Mail Bag, NAP0351, Nadi Airport, Fiji Islands. Email: climate@met.gov.fj.

This summary is prepared as soon as possible following the end of the month, once climate data is received from various recording stations around Fiji and ENSO information is received from various Meteorological Agencies around the World. Delays in data collection, communication and processing occasionally arise. While every effort is made to verify observational data, the Fiji Meteorological Service does not guarantee the accuracy and reliability of the analysis and rainfall predictions presented, and accepts no liability for any losses incurred through the use of this summary and its contents. The contents of the summary may be freely disseminated provided the source is acknowledged. All requests for data should be directed to the Fiji Meteorological Service HQ in Namaka, Nadi.