

AUGUST 2006

# Fiji Islands Climate Summary

## July 2006

### FIJI METEOROLOGICAL SERVICE

#### IN BRIEF

July was significantly cooler than *normal*\* and coolest in the last five years. The passage of cold fronts and high pressure systems directed cooler south to south-east winds which resulted in both day and night-time temperatures being lower than usual. On a few occasions the night time temperatures fell below 14°C in some coastal and below 10°C in inland areas.

Rainfall was generally below average except for parts of the Lau Group, Eastern Vanua Levu, Tavuveni and Sigatoka which recorded average to well above average rainfall. Vatukoula in the Western Division and Matuku in the Eastern Division was the driest and wettest sites respectively during the month.

In the last three months, eight of the sites recorded below average, seven average and three above average rainfall out of eighteen sites that reported on time for publication. Notably several sites in the Western, Northern and Central divisions have been reporting below average rainfall since March 2007. The driest being around Northern Viti Levu.

#### WEATHER PATTERNS

July was cooler, compared to recent months as slightly longer periods of cool and dry southeast trade episodes persisted. Notably two cold fronts and a trough of low pressure affected Fiji during the month, causing rain over most places. Over the last week of the month, the weather over the country was influenced by persistent area of high pressure moving eastwards from the south of the country. It directed fresh to strong and gusty southeast flow over the group, which warranted strong wind warning for the entire Fiji Waters.

The first four days were mainly characterised by a cool and dry southerly flow driven by a ridge of high pressure that pushed over the country from the southwest. This pattern was broken by a front with associated cloud and rain, which moved onto Fiji on the 5<sup>th</sup>, and caused widespread rain. By late on the 6<sup>th</sup>, the front had cleared, allowing a ridge from the southwest. From the 10<sup>th</sup> to 13<sup>th</sup>, as the high continued to move eastwards, but remaining well south of Fiji, an onshore flow was set-up. The result was rain over the interior and south-eastern parts of the larger islands.

On the 14<sup>th</sup>, a trough approaching from the west moved across the group and brought generally light

The country experienced cooler than normal nights for most of month with some sites recording well below normal night time temperatures. Yasawa-I-Rara recorded its all time lowest minimum temperature of 14.1°C on the 01<sup>st</sup>. Despite the country experiencing cooler than average temperatures, there were a few sites that recorded new high daily minimum temperatures.

The overall ENSO status remains *neutral* and generally weak trends have been observed in the main Pacific climate indicators during the past few weeks thus the potential for an El Niño event to develop this year remains relatively low.

Based on model predictions and current ocean and atmospheric conditions the rainfall for the next three months (August-October) is likely to vary around average.

(A detailed ENSO and rainfall predictions can be obtained from *Fiji Islands Climate Outlook* bulletin which is issued in the middle of the every month).

rain to most places. By late on the 15<sup>th</sup>, the trough and associated rain had moved away from the country paving the way for yet another ridge from the southwest, accompanied by cooler and drier south-east trades which lasted till the 20<sup>th</sup>.

On the 21<sup>st</sup> and 22<sup>nd</sup>, a weak front steadily moved eastwards across Fiji with rain in a few places only. Following this front was an intense ridge of high pressure that pushed in southwest resulting in further cool and dry south to southeast winds. The surge also caused strong and gusty winds that warranted a *Strong Wind Warning* for all Fiji Waters, which was maintained till the end of the month. From the 25<sup>th</sup>, as the high pressure system progressed eastwards, the flow over Fiji subsequently enhanced moisture a little, as a consequence, rain was recorded particularly in the interior and the south-eastern parts of the larger islands.

Rotuma continued to receive rain in July, though in lesser number of days as well as in intensity, compared to previous months. Rain on the island was largely attributed to the SPCZ and northern tail-ends of eastward-moving fronts or troughs. There were only a couple of incidences of heavy rainfall in July, for Rotuma.

*Normal*\* - This represents the average from 1971 - 2000 period.

**TABLE 1: RAINFALL FROM MAY TO JULY 2006**

The Rainfall Outlook for the period May to July in the April Fiji Islands Weather Summary was for rainfall to vary around average across the country. The confidence level of the forecast was low to moderate.

Out of the eighteen sites that reported in time for this summary, eight sites reported below average rainfall, seven sites received average rainfall and three sites received above average rainfall in the past three months.

**Mean day time, night time air temperatures and relative humidity at 0900hours for the month of July**

Day-time air temperatures were mostly average to below average across the country. Greatest positive departure was recorded at Yasawa-I-Rara(0.6°C) with above *normal* respectively.

Negative departures were recorded at Nadi Airport

(1.6°C), Nacocolevu (1.0 °C), Lakeba (0.9°C) and Rarawai, Levuka and Nausori Airport recording (0.8°C) below *normal* respectively.

Night-time air temperatures were generally below average across the country. The notable departures were at Tokotoko (1.9°C), Nausori Airport (1.7°C) and Penang Mill (1.4 °C) below *Normal*.

Relative Humidity (RH) at 0900hrs were mostly below average across the country. The greatest negative departures were recorded at Yasawa-I-Rara (10.1°C), Lautoka (8.5°C), Labasa Airport (7.6°C) and Laucala Bay, Suva recorded (7.4°C). The sites that recorded the greatest positive departures were at Vatukoula (10.9°C), Levuka (9.2°C) and Nacocolevu (3.8°C).

<u>Station</u>	<u>Actual Rainfall (mm)</u>	<u>Rainfall in the last three months (Below average, average or above average)</u>	<u>No. of Rain days in May (% of total rain)</u>	<u>No. of Rain days in June (% of total rain)</u>	<u>No. of Rain days in July (% of total rain)</u>
Penang Mill	148.3	Below Average	9 (44)	9 (40)	4 (16)
Monasavu Dam	439.8	Below Average	20 (51)	15 (31)	14 (18)
Vatukoula Mine	93.1	Below Average	9 (59)	7 (26)	3 (15)
Rarawai Mill, Ba	166.8	Below Average	7 (57)	5 (32)	2 (11)
Yasawa-I-Rara	171.8	Average	12 (62)	8 (20)	4 (18)
Viwa Island	178.0	Below Average	8 (74)	5 (14)	3 (12)
Lautoka (FSC Res.)	175.2	Average	5 (60)	5 (23)	3 (17)
Nadi Airport	304.6	Above Average	7 (75)	6 (13)	2 (12)
Nacocolevu, Sigatoka	-		-	-	10
Data is missing from Nacocolevu (Sigatoka) in months of May and June.					
Tokotoko, Navua	553.8	Average	22 (58)	17 (22)	13 (20)
Laucala Bay, Suva	505.5	Average	26 (59)	19 (24)	16 (17)
Nausori Airport	515.5	Average	21 (66)	21 (18)	15 (16)
Nabouwalu	211.7	Below Average	17 (46)	14 (34)	16 (20)
Labasa Airport	168.2	Below Average	12 (52)	7 (34)	2 (14)
Savusavu Airport	294.0	Below Average	16 (48)	10 (32)	6 (20)
Udu Point	302.5	Average	16 (33)	13 (40)	13 (27)
Matei Airport	-		26	21	
Matei data is missing on 01st and 30th in July.					
Lakeba Is.	472.0	Above Average	17 (49)	13 (34)	9 (17)
Matuku Is.	387.8	Average	14 (28)	13 (29)	12 (43)
Ono-I-Lau Is.	402.7	Above Average	10 (19)	16 (65)	5 (16)
Vunisea, Kadavu	-		13	18	
Vunisea (Kadavu) data is missing from 11th to 18th July.					
Rotuma	912.0	Above Average	24 (35)	25 (44)	18 (21)

Figure A

Nadi Airport - Temperature & Rainfall Records for the last 13 Months  
(July 2005 - July 2006)

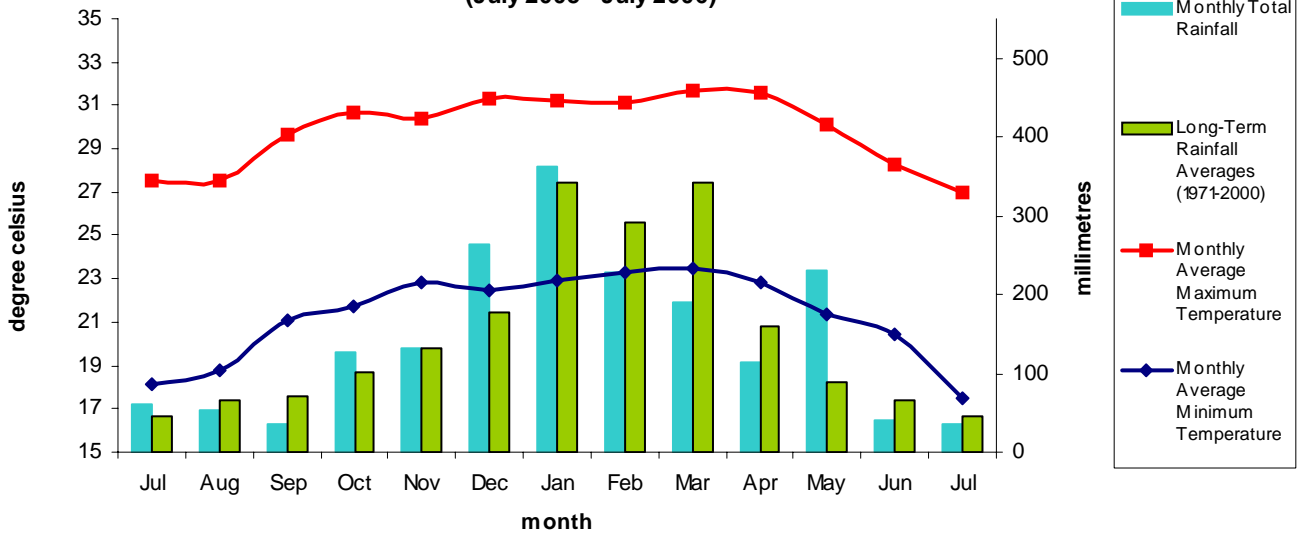


Figure B

Labasa Airfield - Temperature & Rainfall Records for the last 13 Months  
(July 2005 - July 2006)

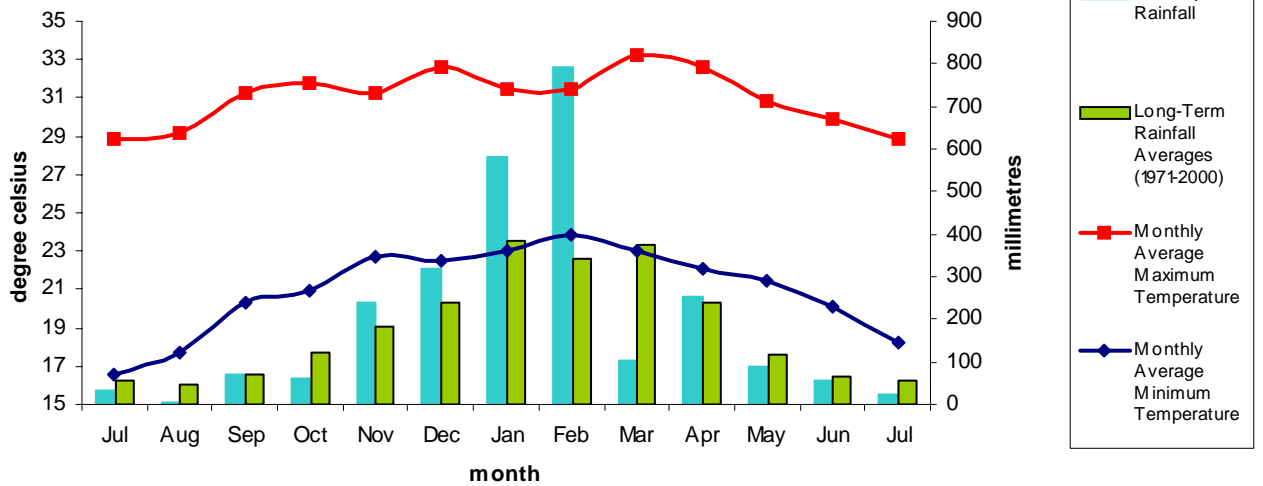
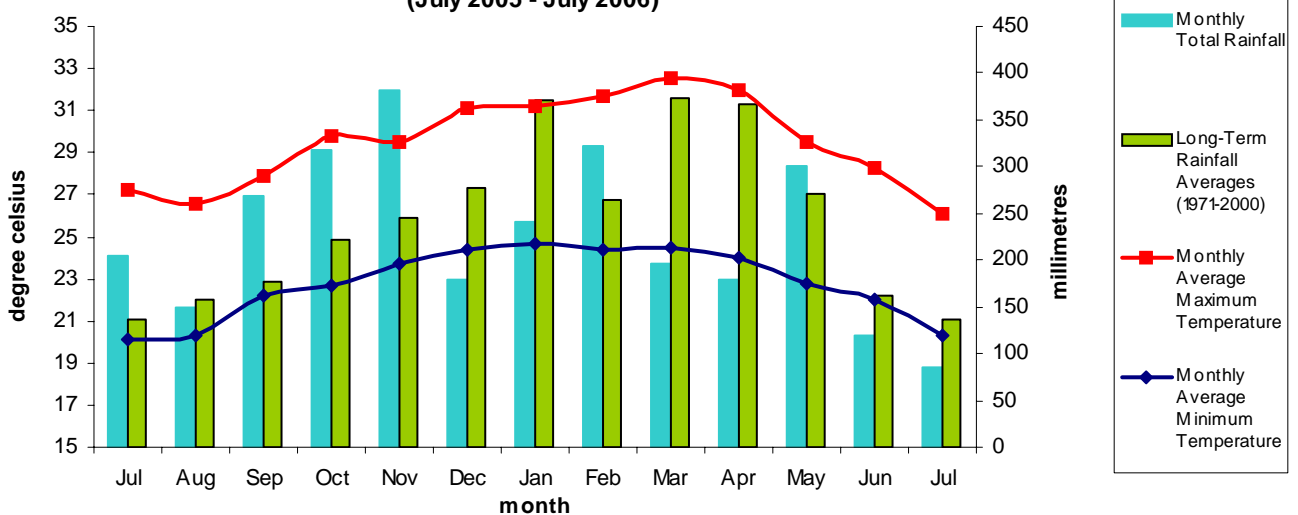


Figure C

Laucala Bay/Suva - Temperature & Rainfall Records for the last 13 Months  
(July 2005 - July 2006)



**PRELIMINARY CLIMATOLOGICAL SUMMARY FOR JULY 2006**

PRELIMINARY CLIMATOLOGICAL DATA FOR MONTH 7 , 2006 : SUMMARY FOR DAYS 1 TO 31

	RAINFALL					AIR TEMPERATURES								SUNSHINE	
	TOTAL MM	RAIN		MAX.		AVERAGE DAILY				EXTREME		TOTAL			
		%	+	MM	ON	MAX. C	#	MIN. C	#	MAX. C	MIN. C	ON	ON	HRS	*
NADI AIRPORT	35	78	2	33	5	27.0	-1.6	17.5	-0.9	30.6	5	13.9	1	207	94
SUVA/LAUCALA BAY	85	63	16	23	11	26.1	-0.7	20.3	-0.4	30.7	5	18.4	21	110	81
NACOCOLEVU	78	110	10	30	5	26.3	-1.0	16.6	-1.2	29.0	13	13.2	1	150	91
ROTUMA	190	81	18	62	21	29.0	-0.1	24.0	-0.1	31.6	5	22.5	3	202	102
VIWA	21	37	3	12	5	28.0	0.2	23.2	0.8	29.5	21	20.6	19		
UDU POINT	81	91	13	44	22	27.5	-0.5	22.2	-0.1	29.5	1	19.4	18		
LABASA AIRFIELD	23	43	2	14	22	28.9	-0.3	18.2	-0.0	31.2	14	12.3	18		
NABOUWALU	43	47	16	14	5	26.2	-0.1	21.3	-0.5	28.5	5	18.8	2		
SAVUSAVU AIRFIELD	60	62	6	17	21	26.5	-0.5	20.5	-0.5	30.6	5	17.5	21		
MATEI AIRFIELD	98	95	18	28	5	26.7	-0.4	21.2	-0.5	28.5	6	18.0	8		
YASAWA-I-RARA	30	70	4	11	14	28.4	0.6	21.3	-1.0	30.7	21	14.1	1		
VATUKOULA	14	28	3	7	5	28.8	-0.4	17.6	0.1	31.6	21	14.1	1		
MONASAVU	78	40	14	21	28	20.4	-0.5	14.3	-1.0	24.7	5	9.3	17		
NAUSORI AIRPORT	80	68	15	17	27	25.5	-0.8	17.9	-1.7	30.1	5	14.6	1		
NAVUA/TOKOTOKO	107	63	13	19	12	25.8	-0.2	17.8	-1.9	31.0	5	14.5	1		
ST. JOHNS COLLEGE	59	66	14	13	12	26.2	-0.8	20.2	-1.4	29.1	5	15.0	17		
LAKEBA	80	100	9	44	5	25.5	-0.9	20.4	-0.6	28.2	5	16.0	10		
MATUKU	166	200	12	40	14	27.1	1.1	21.8	1.0	29.2	4	20.4	15		
VUNISEA	60	55	10	18	5	25.3	-0.2	19.9	0.3	27.3	5	16.6	20		
ONO-I-LAU	65	70	5	38	5	24.5	-0.5	19.2	-1.0	27.6	22	17.7	2		
BA/RARAWAI MILL	19	48	2	17	5	28.8	-0.8	15.7	-1.3	31.3	8	11.0	1		
LAUTOKA AES	30	62	3	25	5	27.7	-0.6	18.6	-1.3	30.2	5	14.9	31		
PENANG MILL	24	44	4	18	5	27.4	0.0	19.0	-1.4	30.3	5	11.8	1		

**Rainfall Outlook for Fiji Islands August to October 2006**

With the current neutral state of ocean and atmospheric conditions rainfall is likely to vary around **average** across the country over the next three months.

**NOTE:**

The confidence level of this prediction is **moderate**.

*More detailed climate predictions are in the "Fiji Islands Climate Outlook".*

**NEW CLIMATE RECORDS**

<u>Element</u>	<u>Station</u>	<u>Observed (record)</u>	<u>On</u>	<u>Rank</u>	<u>Previous (record)</u>	<u>Year</u>	<u>Records Began</u>
Monthly rainfall (mm)	Tokotoko, Navua	107.1mm	-	New Low	110.9mm	1998	1992
Dly Min. Temp (°C)	Viwa Island	25.7	5th	New High	25.5	2000	1978
Dly Min. Temp (°C)	Levuka	23.0	5th	New High	21.5	1999	1984
Dly Min Temp (°C)	Yasawa-i-Rara	14.1	1st	New Low	14.4	1997	1950

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