FIJI METEOROLOGICAL SERVICE
Private Mail Bag (NAP0351)
Nadi Airport, Fiji Islands

Ph: +679 6724888, Fax: +679 6736047
Email: climate@met.gov.fj
See online version at http://www.met.gov.fj

Fiji Islands Climate Summary November 2007

Since: August 1980*

IN BRIEF

The country experienced yet another month of wetter than normal conditions as the South Pacific Convergence Zone (SPCZ), frontal systems, troughs of low pressure, tropical depressions and moist easterly wind flow significantly influenced November's weather. These systems brought widespread substantial rainfall that resulted in *average* to *above average* rainfall across most of the Fiji Group.

Several sites recorded more than 200% of total monthly rainfall in November, these include Nadi Airport, Viwa Island, Nacocolevu in Sigatoka, Labasa Airport, Tokotoko in Navua, St. Johns College in Levuka and Ono-I-Lau. At three sites namely Nadi Airport, Viwa and Tokotoko new monthly records were established. Nadi Airport experienced it's wettest November since 1955 while Viwa and Tokotoko in Navua registered their wettest month since 1990 and 1996 respectively.

Day and night-time air temperatures were *average* to *above average* at most sites. The positive air temperature anomalies in November were lower than what was recorded in October.

Observations show the La Niña event has strengthened across the central and eastern equatorial Pacific. Based on the latest observations and forecasts, there is 97% chance of La Nina conditions continuing into early 2008. The Southern Oscillation Index (SOI) has increased in November (+9.8), showing ocean–atmosphere coupling.

Based on the current El Niño Southern Oscillation (ENSO) pattern in the Pacific, generally *above average* rainfall is favoured across the Western Division, Northern Division and the southern Lau Group. *Average* rainfall is likely in the Central Division, Rotuma and northern Lau Group from December 2007 to February 2008. The confidence level of this prediction is *moderate to high*.

Near average (1-2) tropical cyclones are expected to affect Fiji this season. There is a *higher than normal* chance of tropical cyclones passing through the western and southern parts of Fiji's Waters and *near-normal* risk of tropical cyclones passing through the northern and eastern part of Fiji's Waters this season.

WEATHER PATTERNS

The SPCZ, frontal systems and troughs of low pressure significantly influenced Fiji's weather in November. A tropical depression to the west of the Group brought widespread rain, a brief period of fresh to strong and gusty winds and squally conditions.

During the first three days of the month, the SPCZ drifted over the country whilst a frontal system remained slow-moving over the southern parts of the country. Rain occurred over most places with isolated heavy falls. By November 11, a ridge developed to the south pushing the SPCZ to the north of the country. Moist trade wind flow set in and brought showers especially over the larger islands with some substantial falls.

On November 12, an active trough of low pressure drifted across Fiji from the west, causing widespread rain with isolated heavy falls which continued until November 16. The SPCZ to the north of the country drifted onto the Group bringing further widespread rain on November 17. However, from the November 18 to 20, an intense ridge from the southwest displaced the SPCZ to the north of the country and maintained a fresh to strong southeast wind-flow across the Group.

Late on November 20, a tropical depression to the northwest of Fiji moved southwards. The depression was embedded along the SPCZ north of the Group. As it continued moving southwards and remaining to the west of the country, it dragged the SPCZ over the country, causing yet another episode of widespread rain with some significant falls. The depression also brought fresh to strong and squally northerly winds over Fiji from November 22 to 23.

On November 25, a second but weaker tropical depression was located to the northwest of the country, heading south-eastwards. The associated trough moved onto the Group on November 27 with the depression itself moving southeast across Fiji on the next day. Rain was recorded over most places between November 26 to 28, with some heavy falls. Towards the end of the month, a ridge from the southwest brought more settled weather, except for brief showers about the larger islands and fresh to strong winds over the Fiji waters.

Rotuma received rain for most of the month, especially from the SPCZ.

RAINFALL IN LAST THREE MONTHS, TEMPERATURES AND RELATIVE HUMIDITY

Wetter than normal conditions continued in November as the SPCZ and slow moving troughs of low pressure had a dominant effect on the country. *Average to above average* rainfall was received across most of Fiji.

New monthly rainfall records were established at Nadi Airport, Viwa Island and Tokotoko in Navua during the month. (Table 1). More than 200% of normal rainfall was experienced at Viwa Island (381%), Ono-I-Lau (264%), Nadi Airport (246%) St. John's College in Levuka (231%), Labasa Airport (215%), Tokotoko in Navua (217%) and Penang Mill in Rakiraki (212%). Nadi Airport experienced its wettest November since 1955.

Rainfall from September to November 2007 period was predicted to be *average to above average* across the country. All the twenty-three climate monitoring sites that reported in time for this summary recorded *above average* rainfall during this period. (Table 2).

Maximum Air Temperatures were *average* to *above average* in November at most sites. The greatest positive departures were recorded at Lakeba Island (2.4ºC), St. Johns College in Levuka (1.6ºC) and Nabouwalu (1.4ºC) with negative departures recorded at Nadi Airport (-0.6˚C) and Tokotoko in Navua (-0.3˚C).

Minimum Air Temperatures were also *average* to *above average* across the country. The highest positive departures were recorded at Tokotoko in Navua (2.3ºC), Lakeba Island (1.5ºC) and Koronivia Research (1.3˚C). Two new records were established this month (Table 1).

It is noted that the day and night-time air temperature anomalies were lower in November than those observed in August to October period.

Relative Humidity at 0900hrs *average* to *above average* at most sites. The greatest positive anomaly was recorded at Lakeba Island (9.7%),

* Previously known as the Fiji Islands Weather Summary and Monthly Weather Summary

TABLE 2 : THREE MONTH RAINFALL : SEPTEMBER TO NOVEMBER 2007

Station	Actual Rainfall (mm)	Rainfall in the last three months (Below average, average or above average)	No. of Rain days in September 07 (% of total rain)	No. of Rain days in October 07 (% of total rain)	No. of Rain days in November 07 (% of total rain)
Penang Mill, Rakiraki	600.0	Above Average	16 (34)	12 (09)	18 (57)
*Monasavu Dam	1808.5	Above Average	26(51)	25 (19)	26 (30)
Rarawai Mill, Ba	654.8	Above Average	14 (39)	13 (21)	18 (40)
*Nacocolevu	821.4	Above Average	16 (46)	12 (18)	17 (36)
Viwa, Mamanuca Group	766.2	Above Average	12 (25)	10 (23)	16 (52)
Lautoka (FSC Res.)	582.9	Above Average	16 (35)	11 (19)	16 (46)
Nadi Airport	628.7	Above Average	15 (35)	13 (14)	18 (32)
*"Data missing" [Nacocolevu - October 10, 19, 20 & 25].					
Tokotoko, Navua	1540.0	Above Average	26 (20)	21 (37)	26 (43)
Laucala Bay, Suva	997.2	Above Average	29 (26)	24 (39)	26 (35)
Nausori Airport	1178.4	Above Average	27 (26)	23 (40)	23 (34)
Nabouwalu	1198.1	Above Average	26 (35)	25 (42)	21 (23)
Labasa Airport	914.9	Above Average	17 (38)	17 (19)	16 (43)
Savusavu Airport	765.4	Above Average	21 (24)	18 (31)	17 (45)
Udu Point	1010.5	Above Average	24 (33)	21 (34)	19 (33)
Matei Airport	1033.6	Above Average	30 (46)	27 (27)	24 (27)
*"Data missing" [Levuka - October 31] and [Ono-I-Lau - November 30].					
Lakeba, Lau	495.8	Above Average	20 (25)	16 (46)	15 (29)
Matuku, Lau	509.3	Above Average	13 (27)	16 (57)	07 (16)
*Ono-I-Lau, Lau	739.2	Above Average	13 (28)	14 (31)	11 (41)
*Levuka, Ovalau	1137.7	Above Average	23 (34)	19 (36)	16 (30)
Vunisea, Kadavu	819.3	Above Average	26 (25)	22 (46)	47 (29)
Rotuma	953.7	Above Average	24 (17)	26 (37)	20 (46)

TABLE 1 : CLIMATE RECORDS ESTABLISHED IN NOVEMBER 2007

Element	Station	Observed (record)	On (date)	Rank	Previous (record)	Year	Records Began
Total Monthly Rainfall	Nadi Airport	325.2mm	-	New High	322.8mm	1955	1942
Total Monthly Rainfall	Viwa Island	399.7mm	-	New High	278.4mm	1990	1978
Total Monthly Rainfall	Tokotoko, Navua	666.4mm	-	New High	467.8mm	1996	1992
Daily Min Temp	St. Johns College	25.0ºC	12th	New High	22.0ºC	1985	1984
Mean Monthly Min Temp	Vunisea, Kadavu	23.6ºC	-	New High	23.4ºC	1974	1947

Figure 1

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

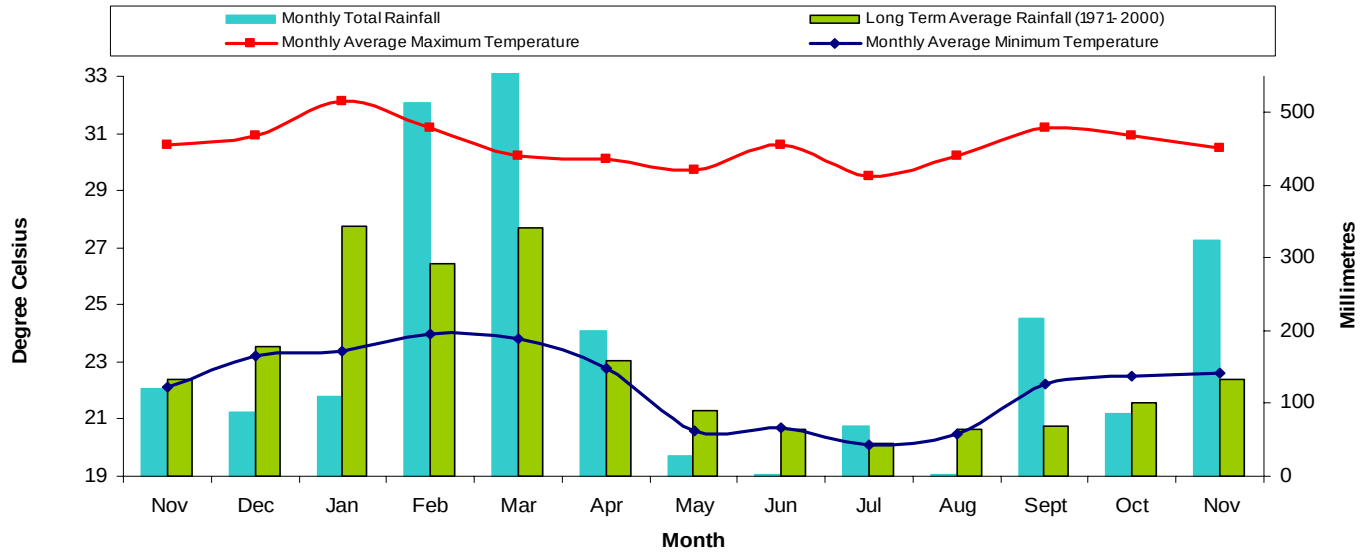


Figure 2

Labasa Airfield - Temperature & Rainfall Records for the last 13 Months (November 2006 - November2007)

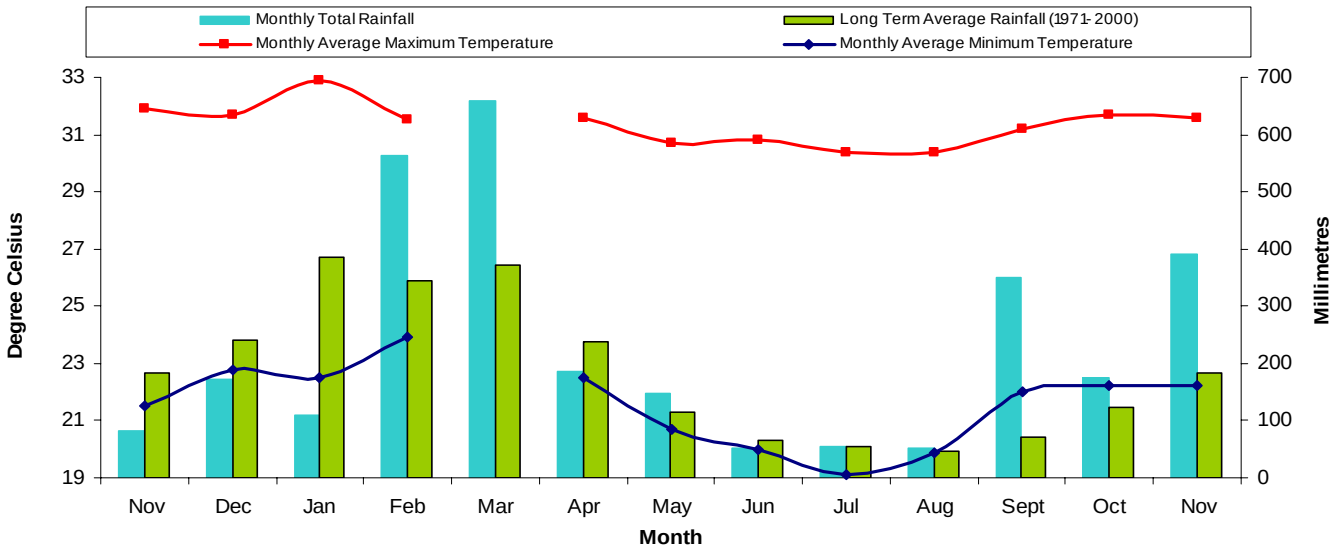
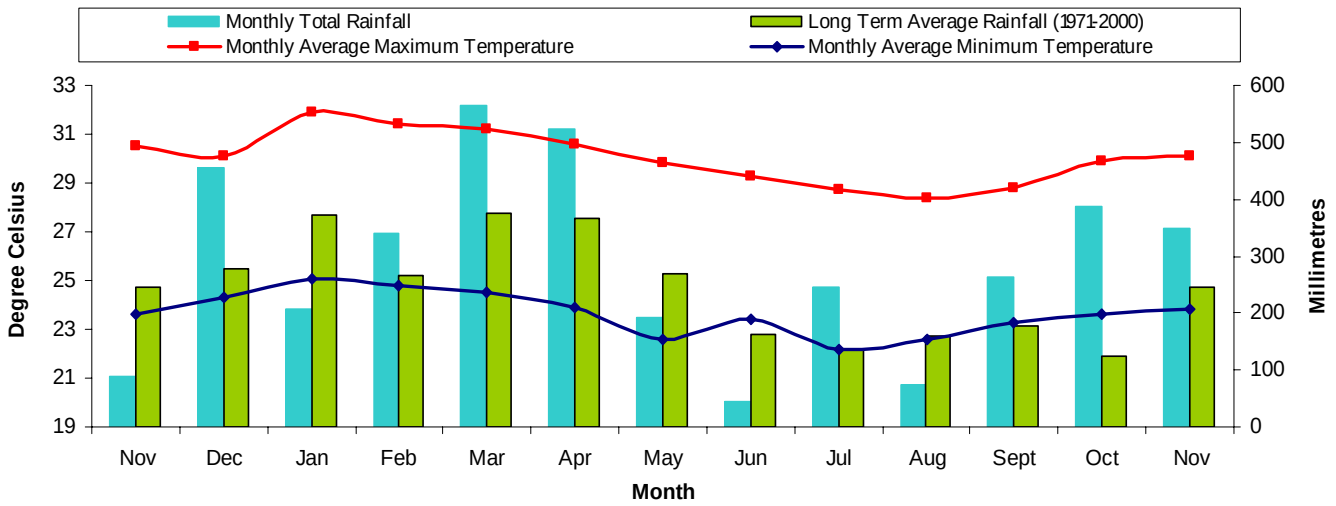


Figure 3

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



PRELIMINARY CLIMATOLOGICAL SUMMARY FOR NOVEMBER 2007

FIJI METEOROLOGICAL SERVICE DATE 04/12/2007

PRELIMINARY CLIMATOLOGICAL DATA FOR MONTH 11 , 2007 : SUMMARY FOR DAYS 1 TO 30

	RAINFALL					AIR TEMPERATURES								SUNSHINE	
	TOTAL	*	RAIN DAYS	+	MAX. FALL	AVERAGE DAILY MAX.	#	MIN.	#	EXTREME MAX.	ON	MIN.	ON	TOTAL HRS	*
	MM	%			MM	C		C		C		C		HRS	%
NADI AIRPORT	325	246	18		59	30.5	-0.6	22.6	0.8	32.2	24	19.8	2	193	87
SUVA/LAUCALA BAY	348	142	26		49	30.1	0.8	23.8	1.0	33.2	24	20.6	2	117	70
NACOCOLEVU	297	227	17		100	30.6	0.2			33.0	6			137	73
ROTUMA	435	154	20		55	30.3	-0.0	24.3	-0.2	31.8	1	21.8	23	124	63
VIWA	400	381	16		126	31.2	0.9	24.5	0.1	34.5	30	22.1	3		
UDU POINT	334	165	19		98	30.8	0.7	24.2	0.5	32.0	1	20.5	3		
SAVUSAVU AIRFIELD	346	184	17		78	30.0	0.6	23.0	0.4	32.5	3	20.5	20		
LABASA AIRFIELD	391	215	16		118	31.6	0.2	22.2	1.0	33.5	4	20.4	12		
NABOUWALU	281	162	21		59	30.3	1.4	24.0	0.6	32.7	2	22.7	11		
KORONIVIA	415	165	23		65	29.8	0.9	22.9	1.3	32.6	24	20.4	2		
NAUSORI AIRPORT	403	164	23		77	29.6	0.8	22.6	0.6	32.2	24	20.0	2		
NAVUA/TOKOTOKO	666	217	26		137	29.0	-0.3	21.9	1.6	31.5	9	19.0	2		
MONASAVU	537	121	26		82	25.5	1.3	18.3	0.8	28.0	25	16.0	2		
LAUTOKA AES	268	196	16		69	30.7	0.2	23.0	0.3	31.9	18	20.6	3		
BA/RARAWAI MILL	260	181	18		72	31.8	-0.1	21.6	0.8	33.6	7	20.0	2		
PENANG MILL	340	212	18		110	31.0	1.3	23.2	0.2	33.0	5	20.0	2		
MATEI AIRFIELD	279	116	24		66	29.9	1.0	23.8	0.9	31.5	23	21.8	30		
VANUABALAVU	146	112	15		40	30.1	1.1	24.6	0.7	31.7	24	22.3	14		
LAKEBA	143	101	15		39	30.1	2.4	23.6	1.5	31.5	28	20.1	30		
ST. JOHNS COLLEGE	344	231	16		78	30.4	1.6	23.1	-0.2	31.5	1	22.0	1		
VUNISEA	238	163	17		50	29.0	0.6	23.5	1.6	31.5	23	21.1	30		
MATUKU	81	63	7		26	29.7	1.0	23.6	0.7	31.8	9	19.5	14		
ONO-I-LAU	303	264	11		147	28.2	0.6	22.6	0.0	31.1	25	20.0	20		

RAINFALL OUTLOOK FOR FIJI ISLANDS - DECEMBER 2007 TO FEBRUARY 2008

The La Niña event have strengthened in the central and eastern Equatorial Pacific in the past month. Cooler than average ocean temperatures exist in the central and eastern Pacific along the equator both at the surface and at depth. Also the equatorial Trade Winds are stronger than normal with reduced cloudiness in the central and eastern equatorial Pacific. The Southern Oscillation Index has increased in November (+9.8), showing ocean-atmosphere coupling. Most computer models forecast that the La Niña to ease sometime between March to May 2008.

Based on the current and predicted ocean and atmospheric conditions in the Equatorial Pacific, generally *above average* rainfall is favoured across the Western Division, Northern Division and the southern Lau Group. *Average* rainfall is likely in the Central Division, Rotuma and the northern Lau Group from December 2007 to February 2008. The confidence level of the prediction is *moderate to high*. ***(More detailed climate predictions will follow in the 'Fiji Islands Climate Outlook' to be released around mid December)***

2007/2008 TROPICAL CYCLONE SEASON

The 2007/08 Southwest Pacific Tropical Cyclone season began on November 1, 2007 and will continue until April 30, 2008. On average, 9 to 10 tropical cyclones develop in the Southwest Pacific a season. This season, there is a lower risk of tropical cyclones affecting countries in the eastern Southwest Pacific, near normal risk near the Date Line and slightly higher than normal risk in the western Southwest Pacific. Countries in the eastern Southwest Pacific should, however, remain vigilant. Tropical cyclones are associated with destructive winds, prolonged heavy rainfall, severe flooding and storm surge. The period when highest numbers of tropical cyclones form in the Southwest Pacific is January to March although tropical cyclones have developed in December and April.

Specifically for Fiji, near average (1-2) tropical cyclones are expected this season. Of the six months of the tropical cyclone season the period with the highest chance of a tropical cyclone developing is January to March. *There is higher than normal chance of tropical cyclones passing through the western and southern parts of Fiji Waters and near-normal risk of tropical cyclones passing through the northern and eastern part of Fiji's Waters this season.*

Normal *- Long term average from 1971 to 2000.*

Average *- Rainfall between 80 to 119%.*

Well Below Average *- Rainfall less than 39%.*

Above Average *- Rainfall between 120 to 199%.*

Below Average *- Rainfall between 40 to 79%.*

Well Above Average *- Rainfall more than 200%.*