

March
2007

Fiji Islands Climate Summary February 2007

FIJI METEOROLOGICAL SERVICE

IN BRIEF

Rainfall was average to above average in February due to the passage of a Tropical Depression, and active troughs of low pressure over Fiji. Torrential rain from the first trough and associated depression resulted in landslides and severe flooding in the greater Labasa region on the island of Vanua Levu. Flood damage is quoted in preliminary reports as exceeding F\$15 Million. During the passage of the second trough, significant flooding was experienced in Nadi town. Roads in both ends of the town were reported to have been under water for several hours. Flash flooding was also experienced in other parts of the western Viti Levu. Significant one-day falls of more than 100mm were recorded during the two events. At Labasa Airport and Nacocolevu, new one-day high rainfall records were established.

With reference to total rainfall for December 06 to February 07, the northern parts of Viti Levu, Mamanua Group, southern parts of Vanua Levu and parts of the Lau Group received below aver-

age rainfall. Average to above average rainfall was recorded elsewhere.

Cloudy and rainy conditions for most of the month maintained day-time temperatures near average to below average around the country. However, night time temperatures were generally near average to above average with two locations recording new high minimum temperatures. These were Nausori Airport (26.6°C), and Levuka (26.5°C).

The moderate 2006 El Niño event that was weakening in recent months has undergone rapid dissipation and ended as of mid-February 2007. Rainfall is likely to vary around average in the on-coming three months. Some parts of the country may continue to experience below average rainfall.

(A detailed report on the ENSO status and rainfall predictions can be obtained from the *Fiji Islands Climate Outlook Bulletin*).

WEATHER PATTERNS

Due to the passage of three active troughs of low pressure across Fiji, February 2007 was a very wet month. In the first instance the situation was exacerbated by a Tropical Depression moving through the Fiji Group, bringing strong and gusty winds and torrential rainfall to the Northern and Eastern Divisions. Severe flooding was experienced in northern Vanua Levu.

At the beginning of the month, a Tropical Depression moving south-west was identified immediately north of Rotuma. Also at this time, an associated active trough of low pressure with extensive cloud and rain east of Fiji moved towards the Group. The Depression later turned southeast, and on the 4th passed over Vanua Levu and the Lau Group. During its passage, Labasa Airport recorded maximum sustained winds of 25 knots, maximum gusts of 40 knots (at 3pm) and 24hr rainfall of 272.2mm.

The trough lingered in a weaker state across the northern parts of the Group for the next few days, then re-intensified and

drifted south on the 8th. Widespread heavy and often squally rainfall was received until the 13th resulting in flash flooding in the Western Division. Strong and gusty winds prevailed over Fiji waters till the 15th.

Rain eased slightly between the 14th and 16th as an intense ridge of high pressure from the south pushed the trough northward. However, on the 17th, the trough drifted back over the Group causing widespread rainfall until the 20th. From the 20-25th, a moist easterly flow was experienced resulting in showers largely in the interior and eastern parts of the larger islands. Late on the 25th, an active trough developed to the south of Fiji. Associated rainfall and squally thunderstorms occurred mainly over the interior and south-eastern parts of the main islands.

Rotuma received heavy rainfall when the tropical depression and SPCZ lay close to the island. Also, particularly strong and gusty winds associated with the Tropical Depression affected Rotuma from the 1-3rd.

RAINFALL IN LAST THREE MONTHS, TEMPERATURES AND HUMIDITY

Rainfall in Fiji was average to above average in February. Most sites received above average rainfall. Regions that received average rainfall were southwest Vanua Levu, Yasawa and Mamanuca Groups, northern and parts of eastern Viti Levu and parts of the central and southern Lau Group.

In the **Rainfall Outlook from December 06 to February 07** the Fiji Meteorological Service stated that it expected rainfall be average to below average across the country. The confidence level of this prediction was *moderate to high*. Of 20 sites, 13 received average rainfall and 7 received below average rainfall over the three month period. For a majority of the 20 sites, most of the December to February rainfall was received in February.

Cloudy conditions and days with rainfall resulted in **Maximum Air Temperature** being *average to below average* at most sites during the month. The highest positive mean monthly departures were recorded at Penang Mill (0.7°C) and Ono-I-Lau and Viwa (0.4°C).

Minimum Air Temperatures were near average to above average across the country except at Matuku and Ono-I-Lau, where below average monthly mean temperatures (-0.8°C and -0.7°C) were experienced.

Relative Humidity at 0900hrs was generally below average at most recording sites. The greatest positive departures from *normal* were recorded at Matuku (5.6%) and Penang Mill (4.6%) and greatest negative departures were recorded at Lakeba (-7.1%), Nadi Airport (-5.8%) and Ono-I-Lau (-5.1%).

TABLE 1 : SHOWING RAINFALL FROM DECEMBER 2006 TO FEBRUARY 2007

<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 December, 06 (% of total rain)</u>	<u>No. of Rain days in January, 06 (% of total rain)</u>	<u>No. of Rain days in February, 07 (% of total rain)</u>
Penang Mill	561.4	Below Average	11 (29)	13 (11)	22(60)
Monasavu Dam	1664.2	Above Average	26 (39)	25 (16)	25(45)
Rarawai Mill, Ba	1018.1	Average	17 (32)	11 (11)	18(57)
Nacocolevu*	646.9	Most likely Average	10 (14)	9 (32)	14 (54)
Viwa Island	430.6	Below Average	08 (15)	07 (20)	18(65)
Lautoka (FSC Res.)	614.1	Below Average	13 (19)	11 (10)	17(71)
Nadi Airport	712.0	Average	12 (12)	13 (15)	16(73)
*Six days of rainfall is missing for the Jan-Mar 2007 period.					
Tokotoko, Navua	972.9	Average	22 (28)	21 (24)	23(48)
Laulala Bay, Suva	918.7	Average	22 (49)	26 (14)	25(37)
Nausori Airport	804.5	Average	20 (50)	23 (13)	23(37)
Nabouwalu	508.0	Below Average	19 (21)	19 (18)	24(61)
Labasa Airport	847.0	Average	13 (20)	09 (13)	22(67)
Savusavu Airport	588.7	Below Average	14 (20)	08 (15)	19(65)
Udu Point	684.0	Average	21 (33)	15 (19)	21(48)
Matei Airport	894.9	Average	23 (35)	26 (18)	28(47)
Lakeba Is.	422.2	Below Average	10 (32)	12 (15)	17(53)
Matuku Is.	561.7	Average	10 (29)	15 (33)	18(38)
Ono-I-Lau Is.	369.5	Below Average	07 (22)	10 (17)	12(61)
Vunisea, Kadavu	617.1	Average	19 (10)	19 (29)	22(61)
Rotuma	1077.2	Average	20(41)	21(18)	23(41)

TABLE 2 : 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>
Daily Rainfall	Nacocolevu	172.5mm	11	New High	165.9mm	1965	1926
Daily Rainfall	Labasa Airfield	272.2mm	4	New High	245.4mm	1965	1956
Daily Min Temp	Nausori Airport	26.8°C	5	New High	26.6°C	1992	1956
Daily Min Temp	Levuka	26.5°C	8	New High	23.9°C	2001	1984

Figure A

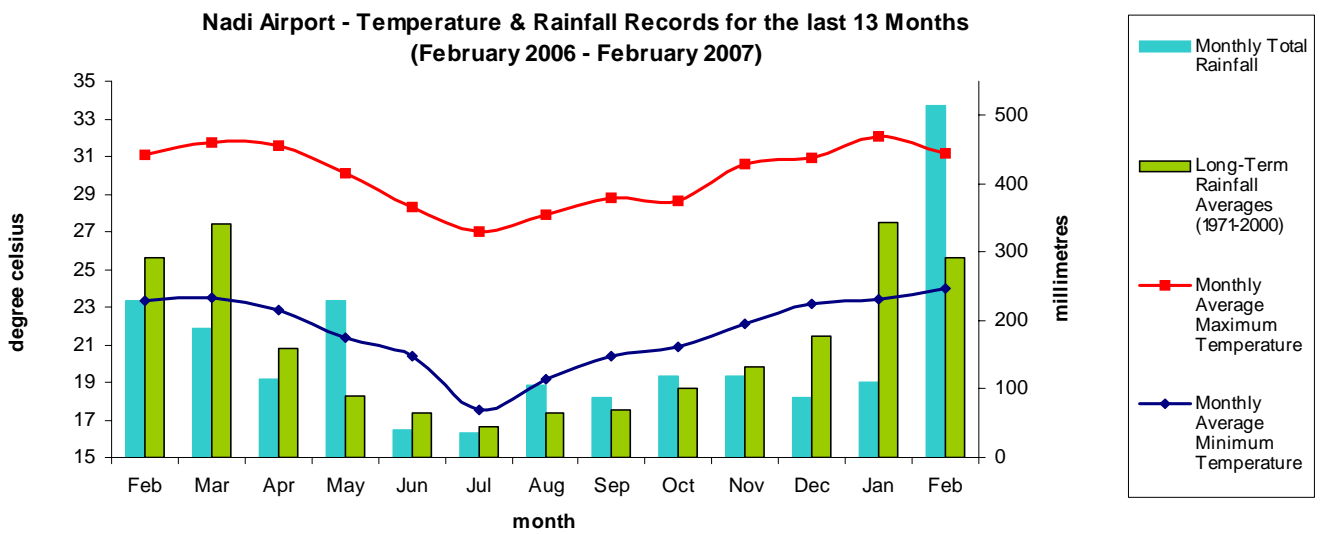


Figure B

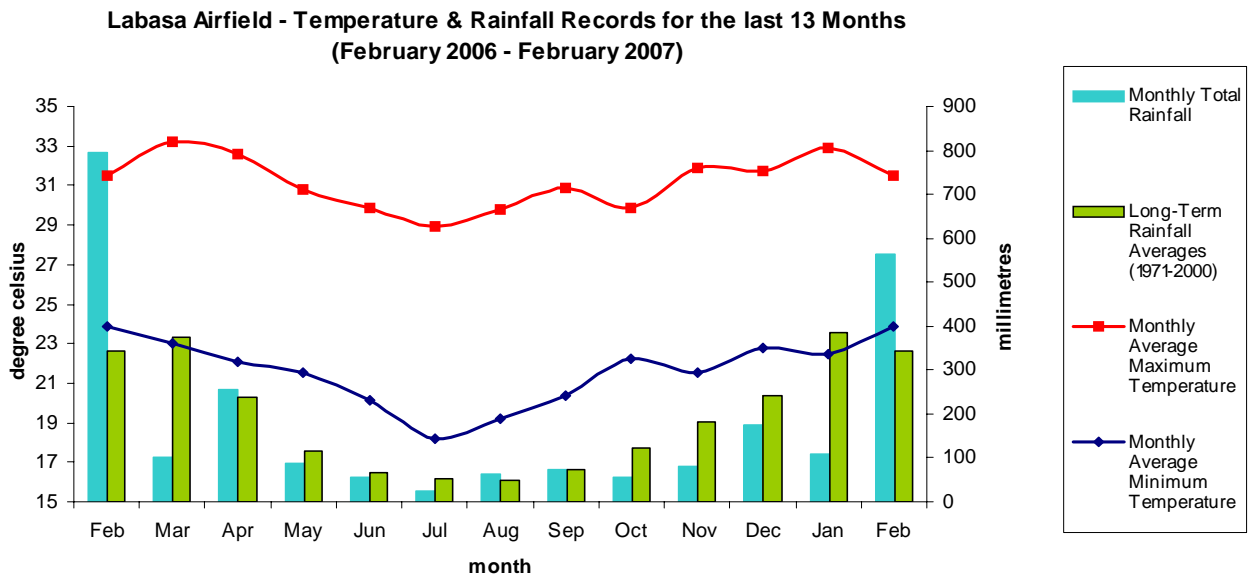
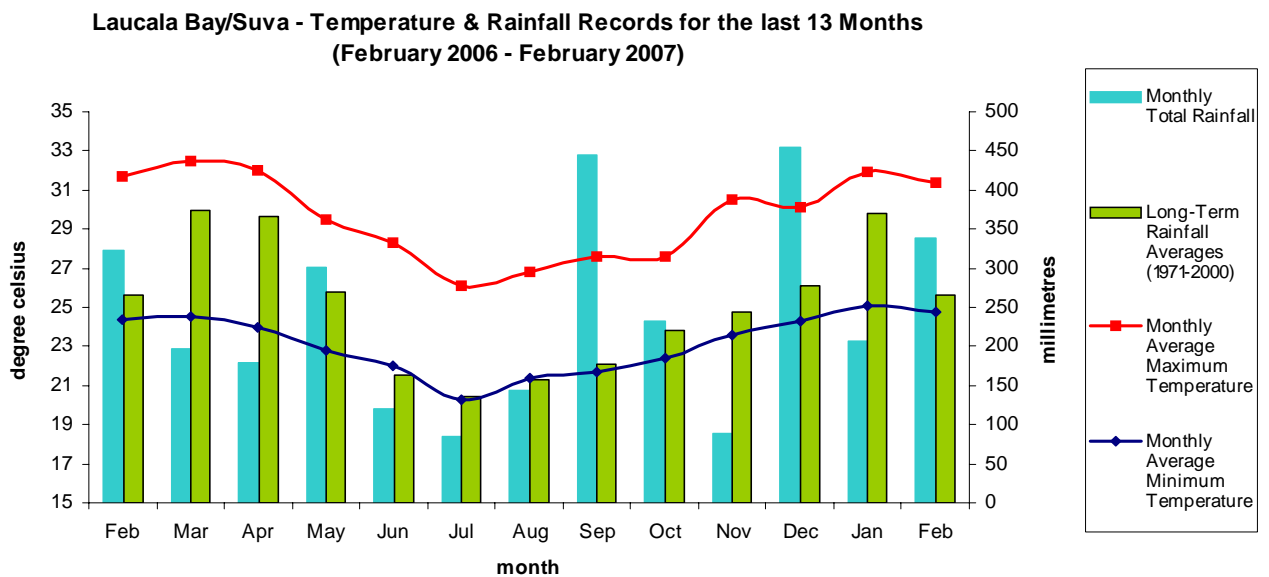


Figure C



PRELIMINARY CLIMATOLOGICAL SUMMARY FOR FEBRUARY 2007

PRELIMINARY CLIMATOLOGICAL DATA FOR FEBRUARY 2007: SUMMARY FOR DAYS 1 TO 28

	RAINFALL					AIR TEMPERATURES								SUNSHINE	
	TOTAL	RAIN		MAX.		AVERAGE DAILY				EXTREME				TOTAL	
	MM	%	* DAYS	MM	ON	MAX.	#	MIN.	#	MAX.	MIN.	C	ON	HRS	*
NADI AIRPORT	514	176	16	100	9	31.2	-0.4	24.0	1.1	33.7	21	22.2	15	128	68
SUVA/LAUCALA BAY	339	128	25	77	18	31.4	0.2	24.8	0.8	33.5	1	23.4	18	104	59
NACOCOLEVU	353	151	14	173	11	31.7	0.2	23.8	1.2	34.5	1	21.0	18	88	54
ROTUMA	438	136	23	118	2	30.4	-0.2	25.1	0.4	32.0	7	23.6	15	114	70
VIWA	278	114	18	63	9	31.7	0.4	25.9	0.6	34.6	1	23.0	28		
UDU POINT	330	132	21	57	20	30.5	-0.3	24.8	0.3	32.0	1	23.5	5		
LABASA AIRFIELD	564	164	22	272	4	31.5	-0.1	23.9	1.5	33.5	2	22.4	23		
NABOUWALU	309	112	24	79	18	30.5	0.1	24.7	0.3	32.5	6	23.2	19		
SAVUSAVU AIRFIELD	385	158	19	83	19	30.7	-0.1	24.3	0.6	33.3	10	22.0	12		
MATEI AIRFIELD	420	147	28	100	19	30.3	-0.1			32.0	6				
YASAWA-I-RARA	150	63	16	21	2	31.3	0.7	23.7	-1.1	34.5	6	22.2	8		
VATUKOULA	NO REPORT														
MONASAVU	751	141	25	114	19	26.0	0.3	20.0	0.8	29.0	8	17.0	11		
NAUSORI AIRPORT	298	111	23	53	18	30.6	-0.2	23.9	0.6	32.5	8	22.5	15		
NAVUA/TOKOTOKO	465	182	23	133	24	30.2	0.2	23.5	0.5	33.7	9	22.0	15		
LEVUKA	330	123	24	84	18	30.3	-0.3	25.2	1.0	31.6	15	24.0	24		
LAKEBA	224	99	17	62	2	30.3	-0.2	25.4	1.3	31.4	17	24.0	3		
MATUKU	214	116	18	50	11	29.4	-1.3	23.9	-0.8	31.7	24	20.7	12		
VUNI SEA	376	163	22	73	8	30.0	-0.4	24.9	1.3	32.3	14	23.5	15		
ONO-I-LAU	229	118	12	96	3	30.3	0.4	23.9	-0.7	32.3	18	22.5	19		
BA/RARAWAI MILL	583	168	18	136	9	32.0	-0.1	23.5	1.2	35.1	1	19.9	15		
LAUTOKA AES	439	146	17	93	11	31.1	-0.0	24.4	0.5	32.8	5	22.7	23		
PENANG MILL	333	99	22	41	3	31.2	0.7	24.2	0.3	33.6	15	20.8	15		

RAINFALL OUTLOOK FOR FIJI ISLANDS - MARCH TO MAY 2007

As of mid-February 2007, ocean and atmospheric conditions in the equatorial Pacific indicate the El Niño event has dissipated. Convection is returning to normal in the western equatorial Pacific. However, in the Fiji region below average rainfall has continued recently due to lagged El Niño effects. Two months remain in the Tropical Cyclone and Wet Season, therefore the chances of high magnitude rainfall are still significant. These situations combined with predicting over the Transition period from Wet to Dry Season results in the following prediction. **Rainfall is expected to vary around average in Fiji over the next three months.** The **confidence level** of the prediction is **moderate to low.** (More detailed climate predictions will follow in the 'Fiji Islands Climate Outlook' to be released in mid March).

TROPICAL CYCLONE SEASON 2006/2007

The South Pacific Tropical Cyclone (TC) Season is from November 1 to April 30. On average 9 Tropical Cyclones develop in the Southwest Pacific region a season. Specifically for the Fiji Islands, the seasonal average is between one and two (1971-2000).

Since the 1969/70 season, 14 tropical cyclones have affected Fiji in March. With the return of neutral conditions in Pacific basin, tropical cyclone area of development may shift from near and east of Dateline as expected during El Niño conditions to near and west of dateline as expected during neutral conditions. Based on historical occurrence and the present ocean and atmospheric conditions **the chances of at least one cyclone affecting Fiji in March 2007 is moderate to high.**

Four tropical cyclones have developed in the Southwest Pacific to date this season. The first two were TC Xavier on 22 October and TC Yani on 22 November. Both Tropical Cyclones formed near the Solomon Islands. In January, TC Zita formed near the Northern Cook Islands on the 23rd TC Arthur developed to the east of Samoa on the 25th. Both tropical cyclones followed a similar path and affected parts of French Polynesia.

Normal - Represents average form 1971 to 2000 period.

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 all correspondences please contact: The Director, Fiji Meteorological Service, Private Mail Bag, NAP0351, Nadi Airport, Fiji Islands.
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