



Information Sheet No. 125

Date: 15th August 2001

TELEGRAPHIC ADDRESS
METEO NADI
TEL : (679) 724 888 EXT.

FIJI METEOROLOGICAL SERVICE
PRIVATE MAIL BAG, NAP 0351
NADI AIRPORT, FIJI

FAX : (679) 720 430 (HQ)
720190 (NWFC)
720645 (TCWC)

LIST OF FLOODS OCCURING IN THE FIJI ISLANDS BETWEEN 1840 AND 2000

Issued by Director of Meteorology

This information sheet provides a listing of reported flooding incidents in Fiji for the period 1840 to 2000. Please note that it is based on information received only from known sources, and as such may not be a complete list. Also, the list may be bias towards the *Ba River*, which was the subject of a detailed survey recently (Yeo, 1998), and towards the last two decades for which information is more readily available.

Floods are regular occurrences in Fiji, happening almost as an annual event. Most major floods are associated with episodes of severe weather phenomena, such as tropical depressions and cyclones that are characterised by high intensity rainfall. Most of the rivers and streams in Fiji are relatively small in size (<1000 Km²) and flow from steep mountainous terrain. High intensity rainfall together with the small size and steep streams and rivers lead to swift rise and fall of water levels. The time between rainfall and floods can be as short as three to four hours. Flash floods are thus pretty common especially during the *Wet Season* (November to April).

The Public Works Department is responsible for issuing warnings on river flooding. Its *Hydrology Section* maintains and operates a systematic flood-forecasting system for the Rewa River while systems for other main rivers are under consideration. The Fiji Meteorological Service (FMS) issues forecasts for heavy rainfall and advises the public on prospects for flooding from extreme weather events like tropical cyclones. It also compiles reports on major flooding incidents, covering primarily the meteorological aspects, and keeps a database of rainfall and other important parameters..

For further information or clarification, please contact the Climate Service Division of FMS.

Date of Flood Peak	Tropical Cyclone intensity and location or other reason for high rainfall	Flood Description and Areas Affected
1840 Feb 25	(hurricane) Rewa and Northern Viti Levu.	• 'High' flood covering the Rewa flats (Derrick, 1946)
1866 Mar 10-12	(hurricane) Centre passed between Viti Levu and Vanua Levu.	• Cotton plantations along the Rewa flats inundated • Food gardens and coffee plantations buried in silt (Derrick, 1946)
1869 Mar	(hurricane)	• Flood at Navua left all the flat land "nearly smooth, and with 12 inches of deposit in some places" (Derrick, 1951)

Date of Flood Peak	Tropical Cyclone intensity and location or other reason for high rainfall	Flood Description and Areas Affected
1871 Mar 21*	(hurricane) Entire Fiji Group affected. Centre over Western Fiji.	<ul style="list-style-type: none"> • Several people drowned in the Ba River (Yeo, 1998)
1879 Dec 11#	(hurricane) Entire Fiji Group affected especially Northwestern Fiji.	<ul style="list-style-type: none"> • Storm surge in the Ba area. (Yeo, 1998) • Lautoka town flooded (Blong, 1994)
1886 Jan 4-5	(cyclone) West coast of Fiji.	<ul style="list-style-type: none"> • Ba River rose considerably, but no damage reported (Yeo, 1998)
1886 Mar 4	(hurricane) Entire Fiji affected.	<ul style="list-style-type: none"> • Ba River rose several feet, but no damage reported (Yeo, 1998)
1892 Dec 15	(cyclone) North coast of Vanua Levu and over Yasawas.	<ul style="list-style-type: none"> • Ba River flood peak recorded as 2.21m below the 1931 peak ^A Rarawai Mill flooded (Yeo, 1998).
1901 Mar 8*		<ul style="list-style-type: none"> • Ba River flood peak recorded as 2.51m below the 1931 peak ^B Rarawai Mill probably flooded (Yeo, 1998).
1904 Jan 11		<ul style="list-style-type: none"> • Ba River flood peak recorded as 4.19m below the 1931 peak ^C (Yeo, 1998)
1904 Jan 21#	(hurricane) Central Fiji.	<ul style="list-style-type: none"> • Rewa was badly affected by flooding • 1.8m storm surge at Navua (Blong, 1994)
1904 Feb 21-22	(hurricane)	<ul style="list-style-type: none"> • Ba River flood peak recorded as 4.42m below the 1931 peak ^C (Yeo, 1998) • Floods in the Rewa River (D'Aubert, 1994)
1906 Dec 26		<ul style="list-style-type: none"> • Two people drowned in the Ba River (Yeo, 1998)
1907 Jan 25		<ul style="list-style-type: none"> • Ba River flood peak recorded as 4.42m below the 1931 peak ^C (Yeo, 1998)
1908 Mar 23	(hurricane) West and South Viti Levu.	<ul style="list-style-type: none"> • Two people drowned in the Ba River (Yeo, 1998)
1908 Aug 29		<ul style="list-style-type: none"> • Ba River flood peak recorded as 4.11m below the 1931 peak ^B Rarawai flats flooded (Yeo, 1998)
1909 Feb 7		<ul style="list-style-type: none"> • Ba River flood peak recorded as 2.51m below the 1931 peak ^A Rarawai Mill flooded (Yeo, 1998)
1910 Mar 5		<ul style="list-style-type: none"> • In the Macuata Province the Qawa River flood peak was 1.07m below the 1929 peak. This flood is ranked 5th for the Qawa River since records began

Date of Flood Peak	Tropical Cyclone intensity and location or other reason for high rainfall	Flood Description and Areas Affected
		(1910) (Yeo, 2001)
1910 Mar 25	(hurricane) Over Vanua Levu and across Viti Levu passing close to Levuka.	<ul style="list-style-type: none"> Ba River flood peak recorded as 3.27m below the 1931 peak ^{D. 1909} Rarawai Mill yard flooded (Yeo, 1998) Major flooding in the Rewa River (D'Aubert, 1994)
1910 May 9		<ul style="list-style-type: none"> Ba river flood peak recorded as 5.03m below the 1931 peak ^C (Yeo, 1998)
1911 Jan 16-17		<ul style="list-style-type: none"> Ba River flood peak recorded as 2.51m below the 1931 peak ^A Rarawai Mill flooded (Yeo, 1998)
1911 Feb 9		<ul style="list-style-type: none"> Ba River flood peak recorded as 4.72m below the 1931 peak ^C (Yeo, 1998)
1911 Feb 21-28*		<ul style="list-style-type: none"> Ba River flooded (Yeo, 1998).
1911 Aug 9		<ul style="list-style-type: none"> Ba River flood peak recorded as 4.42m below the 1931 peak ^C (Yeo, 1998)
1912 Jan 28-29#	(hurricane) Entire Fiji	<ul style="list-style-type: none"> In the Macuata Province the Qawa River flood peak was 0.91m below the 1929 peak. This flood is ranked 4th highest for the Qawa River since records began (1910). Major flood - Labasa and Bucaisau Rivers (Yeo, 2001) Ba River flood peak recorded as 4.72m below the 1931 peak ^C on the 29th (Yeo, 1998) 'High' floods in the Rewa (Blong, 1994)
1913 Jan 14		<ul style="list-style-type: none"> Ba River flood peak recorded as 5.33m below the 1931 peak ^C (Yeo, 1998)
1913 Feb 28		<ul style="list-style-type: none"> Ba River flood peak recorded as 4.68m below the 1931 peak ^C (Yeo, 1998)
1913 Mar 21	(hurricane) Southeastern Viti Levu.	<ul style="list-style-type: none"> Ba River flood peak recorded as 3.51m below the 1931 peak ^C (Yeo, 1998)
1917 Jan		<ul style="list-style-type: none"> Ba River flood peak recorded as 3.96m below the 1931 peak ^C (Yeo, 1998)
1918 Feb 7		<ul style="list-style-type: none"> Ba River flood peak recorded as 1.04m below the 1931 peak ^B Rarawai Mill flooded. (Yeo, 1998)
1918 Dec		<ul style="list-style-type: none"> Ba River flood peak recorded as 5.03m below the 1931 peak ^C (Yeo, 1998)
1921 Jan 8		<ul style="list-style-type: none"> Ba River flood peak recorded as 3.51m below the 1931 peak ^C (Yeo, 1998)
1921 Jan 26-27		<ul style="list-style-type: none"> Ba River flood peak recorded as 4.72m below the 1931 peak ^C (Yeo, 1998)

Date of Flood Peak	Tropical Cyclone intensity and location or other reason for high rainfall	Flood Description and Areas Affected
1921 Apr 20		<ul style="list-style-type: none"> Ba River flood peak recorded as 5.03m below the 1931 peak ^C (Yeo, 1998)
1921 Dec 17		<ul style="list-style-type: none"> Ba River flood peak recorded as 4.88m below the 1931 peak ^C (Yeo, 1998)
1922 Apr 4-5		<ul style="list-style-type: none"> Ba River flood peak recorded as 2.90m below the 1931 peak ^C (Yeo, 1998)
1922 May 2		<ul style="list-style-type: none"> Ba River flood peak recorded as 4.11m below the 1931 peak ^C (Yeo, 1998)
1923 Jan 5-6		<ul style="list-style-type: none"> Ba River flood peak recorded as 4.04m below the 1931 peak ^A (Yeo, 1998)
1923 Mar 30		<ul style="list-style-type: none"> Ba River flood peak recorded as 2.83m below the 1931 peak ^B Rarawai Mill yard flooded, possibly in Mill (Yeo, 1998)
1924 Mar 4		<ul style="list-style-type: none"> Ba River flood peak recorded as 4.11m below the 1931 peak ^B Rarawai flat flooded (Yeo, 1998)
1925 Mar		<ul style="list-style-type: none"> Ba River flood peak recorded as 5.33m below the 1931 peak ^C (Yeo, 1998)
1927 Feb 9		<ul style="list-style-type: none"> Ba River flood peak recorded as 3.51m below the 1931 peak ^C (Yeo, 1998)
1927 May 24-25		<ul style="list-style-type: none"> Ba River flood peak recorded as 4.72m below the 1931 peak ^C (Yeo, 1998)
1928 May 25		<ul style="list-style-type: none"> Minor flood - Ba River (Yeo, 1998)
1929 Dec 8-13	(hurricane) Wide spread and slow moving. Moved Southwest to Rotuma, recurved to Southsoutheast passing over Eastern Viti Levu.	<ul style="list-style-type: none"> Rewa River rose nearly as high as 1931, flooding all the plains. Cattle drown and many people took refuge on top of their houses. About 150 people rescued by launches. Seven lives lost in the Rewa area (Derrick, 1951) Severe flooding along the Navua delta and plains. For Navua, the 1929 flood was higher than the 1931 flood, with 10 fatalities recorded (Derrick, 1951). In the Macuata Province, record floods for the Qawa and Labasa Rivers (records began, 1910). Major flood - Wainikoro and Bucaisau Rivers (Yeo, 2001). In Labasa floodwater extended 22.5km inland (Derrick, 1951). Three fatalities in Labasa (Yeo, 2000b: pers. comm.) 'Minor' flood - Ba River (Yeo, 1998)
1930 Nov 22	(hurricane) Rapid	<ul style="list-style-type: none"> Ba River flood peak recorded as 5.03m below the

Date of Flood Peak	Tropical Cyclone intensity and location or other reason for high rainfall	Flood Description and Areas Affected
	moving. Northeast coast of Viti Levu, Lomaiviti and Levuka.	1931 peak ^C (Yeo, 1998)
1931 Feb-Mar 21-2	(hurricane) Labasa, Western Viti Levu and Southern Lomaiviti Group. Looped near Yasawas. (There are two flood peaks due to the looping of the hurricane, the first peak was on the 21 st and the second on the 1-2 nd) (Some sources do not agree with the above interpretation and state there may have been two hurricane	<ul style="list-style-type: none"> • Flood peak occurred on the night of 21st February particularly at Rewa, Ba, Lautoka and Sigatoka and it was during that night that all the loss of life occurred and the greater part of the damage to crops and property was inflicted (FNA, 1931). • Worst floods in all rivers except Navua. • Flood height recorded as 7.33m a.m.s.l at the now 1931 obelisk ^{A^CD} Highest flood ever recorded for the Ba River. • Rarawai Mill flooded and more than 126 drowning cases reported for Ba valley (Yeo, 1998). Maximum flood in Ba town was 8.53m a.m.s.l ^E (PWD, 2000) • Rewa River rose by approximately 7.6m (D'Aubert, 1994). In another report the Rewa River is quoted to have risen to its highest point in 40 years with the entire river flat land from Naduruloulou to the sea covered. Reported 1.8m water in the Sugar Mill at Nausori; cattle lost (Derrick, 1951). • Major floods in the Sigatoka River carrying houses, people and livestock Sigatoka Bridge destroyed. At Nawamagi, the Sigatoka River rose 47 feet (14.3m). The Government station on the flat was 5 feet (1.5m) under water. • Total number of lives lost stated at 206 (FNA, 1931), although the actual figure is likely to be higher.
1932 Jan 26		<ul style="list-style-type: none"> • Ba River flood peak recorded as 5.03m below the 1931 peak ^C (Yeo, 1998)
1932 Feb 6-10#		<ul style="list-style-type: none"> • Ba River flood peak recorded as 2.90m below the 1931 peak ^C (Yeo, 1998). Ba River rose 2.1m above the old bridge (Blong, 1994). • Heavy flooding in all the main rivers.
1933 Mar 27		<ul style="list-style-type: none"> • Ba River flood peak recorded as 2.21m below the 1931 peak ^A (Yeo, 1998)
1933 Apr 27-28		<ul style="list-style-type: none"> • Ba River flood peak recorded as 4.72m below the 1931 peak ^C (Yeo, 1998)
1935 Jan 25		<ul style="list-style-type: none"> • Ba River flood peak recorded as 4.42m below the 1931 peak ^C (Yeo, 1998)
1936 Mar 16-23*		<ul style="list-style-type: none"> • Ba River flood peak recorded as 4.57m below the 1931 peak ^C (Yeo, 1998)

Date of Flood Peak	Tropical Cyclone intensity and location or other reason for high rainfall	Flood Description and Areas Affected
1937 Feb 13-20		<ul style="list-style-type: none"> Ba River flood peak recorded as 5.33m below the 1931 peak ^C (Yeo, 1998)
1938 Feb 24-27#	(cyclone) Western Viti Levu.	<ul style="list-style-type: none"> Water some feet over the Ba Bridge and into Morris Hedstrom Ltd on the 24th. Ba River flood peak recorded as 1.99m below the 1931 peak ^D Rarawai Mill flooded on the 28th (Yeo, 1998). According to D'Aubert (1994) flooding in the West was moderate
1938 Dec 22	(cyclone) West to Southwest of Viti Levu.	<ul style="list-style-type: none"> Ba River flood peak recorded as 1.39m below the 1931 peak ^B Rarawai Mill flooded (Yeo, 1998) Main roads blocked by landslides and washouts in Western Viti Levu (D'Aubert, 1994)
1939 Jan 21	(hurricane) Passed over Viti Levu, then moved to Western Viti Levu on 21 st . Centre passed over Kadavu.	<ul style="list-style-type: none"> Ba River flood peak recorded as 1.24m below the 1931 peak ^B Rarawai Mill flooded (Yeo, 1998) Damage to roads and bridges across the country due to flooding (D'Aubert, 1994)
1939 Feb 14		<ul style="list-style-type: none"> Ba River flood peak recorded as 2.83m below the 1931 peak ^B (Yeo, 1998)
1939 Mar 16		<ul style="list-style-type: none"> Ba River flood peak recorded as 2.21m below the 1931 peak ^A Rarawai Mill flooded (Yeo, 1998)
1939 Apr 5-6	(cyclone) Rotuma and West Fiji.	<ul style="list-style-type: none"> Ba River flood peak recorded as 3.81m below the 1931 peak ^C (Yeo, 1998)
1939 May 7-8		<ul style="list-style-type: none"> Ba River flood peak recorded as 4.57m below the 1931 peak ^C (Yeo, 1998)
1941 Feb 21#	(hurricane) Central Lau, Lomaiviti and Viti Levu.	<ul style="list-style-type: none"> There was a 1.8m storm surge at Navua on the 20th (Blong, 1994). Severe flooding in the Navua area (D'Aubert, 1994). The Ba River flood peak was recorded as 4.42m below the 1931 peak ^C on the 21st (Yeo, 1998)
1941 Dec 25-26	(cyclone) From Northwest passed near Savusavu and Taveuni.	<ul style="list-style-type: none"> Ba River flood peak recorded as 5.03m below the 1931 peak ^C (Yeo, 1998) Navua River flooded (FMS, 1997a)
1942 Dec 27#		<ul style="list-style-type: none"> Labasa flooded in places (Blong, 1994)
1943 Jan 1-3#	(hurricane) Vanua Levu and Lau.	<ul style="list-style-type: none"> Labasa flooded in places on the 3rd (Blong, 1994) Flood damage recorded across the country (FMS, 1997a)

Date of Flood Peak	Tropical Cyclone intensity and location or other reason for high rainfall	Flood Description and Areas Affected
1944 Mar 20	(hurricane) Passed 50 miles west of Lautoka from west of Wallis Is.	<ul style="list-style-type: none"> Ba River flood peak recorded as 3.81m below the 1931 peak^C (Yeo, 1998)
1946 Jan 30		<ul style="list-style-type: none"> Ba River flood peak recorded as 2.51m below the 1931 peak^B Rarawai Mill flooded (Yeo, 1998)
1946 Feb 12		<ul style="list-style-type: none"> Ba River flood peak recorded as 4.27m below the 1931 peak^C (Yeo, 1998)
1946 Mar 28		<ul style="list-style-type: none"> Ba River flood peak recorded as 3.51m below the 1931 peak^C (Yeo, 1998)
1947 Feb 8		<ul style="list-style-type: none"> Ba River flood peak recorded as 4.11m below the 1931 peak^C (Yeo, 1998).
1948 Jan/Feb 31-4	(hurricane) Rotuma, Western Viti Levu and Kadavu.	<ul style="list-style-type: none"> Viti Levu rivers in high flood (D'Aubert, 1994).
1950 Jan 3		<ul style="list-style-type: none"> In the Macuata Province the Qawa River flood peak was 0.61m below the 1929 peak. This flood is ranked 3rd highest since records began. Moderate flood - Labasa and Wailevu Rivers. Minor flood - Wainikoro and Bucaisau Rivers (Yeo, 2001)
1950 Feb/Mar 25-1	(storm) North-western Viti Levu and Vanua Levu.	<ul style="list-style-type: none"> Ba River flood peak recorded as 2.82m below the 1931 peak^A and recorded at Rarawai Mill floor level (Yeo, 1998). In the Macuata Province on the 26th the Qawa River flood peak was 0.56m below the 1929 peak. This flood is ranked 2nd highest since records began. Record floods at the time (>1929) for the Wainikoro and Bucaisau Rivers. Minor flood - Labasa and Wailevu Rivers (Yeo, 2001)
1950 Mar 13		<ul style="list-style-type: none"> Ba River flood peak recorded as 5.03m below the 1931 peak^C (Yeo, 1998)
1950 Mar 30	(storm) Moderate. Southern Viti Levu.	<ul style="list-style-type: none"> In the Macuata Province, Major flood - Wainikoro and Bucaisau Rivers. Moderate flood - Qawa River. Labasa Mill not flooded (Yeo, 2001).
1951 Feb/Mar		<ul style="list-style-type: none"> Ba River flood peak recorded as 5.03m below the 1931 peak^C (Yeo, 1998)
1951 May 23		<ul style="list-style-type: none"> Ba River flood peak recorded as 5.15m below the 1931 peak^C (Yeo, 1998)
1952 Jan 24-28	Minor cyclone on 24 th , South-eastern Vanua Levu and Lau Group.	<ul style="list-style-type: none"> In the Macuata, Major flood - Wainikoro, Bucaisau and Labasa Rivers. For the Labasa River this flood is ranked 3rd highest since records began (Yeo, 2001)

Date of Flood Peak	Tropical Cyclone intensity and location or other reason for high rainfall	Flood Description and Areas Affected
	(hurricane) on 28 th , passed over Northern Yasawas and crossed the coast of Viti Levu.	<ul style="list-style-type: none"> • Severe flooding in the Wainibuka and Rewa Rivers • In Ba the level of the river remained under the Rarawai Bridge (Yeo, 2000b: pers. comm.)
1953 Jan 13		<ul style="list-style-type: none"> • Ba River flood peak recorded as 5.15m below the 1931 peak ^C (Yeo, 1998)
1954 Jan 15-19*	(hurricane) Northwest of Fiji.	<ul style="list-style-type: none"> • Ba River flood peak recorded as 5.03m below the 1931 peak ^C (Yeo, 1998) • Some flood damage on Viti Levu (FMS, 1997a)
1954 Mar 9*		<ul style="list-style-type: none"> • Ba River flood peak recorded as 5.15m below the 1931 peak ^C (Yeo, 1998)
1954 Mar 30		<ul style="list-style-type: none"> • Ba River flood peak recorded as 5.03m below the 1931 peak ^C (Yeo, 1998)
1955 Mar 8		<ul style="list-style-type: none"> • Ba River flood peak recorded as 3.68m below the 1931 peak ^F (Yeo, 1998)
1956 Jan 30-31#	Minor. Approached Fiji from the Northwest passed western Fiji.	<ul style="list-style-type: none"> • Three feet (0.9m) of water in Nausori town on the 30th (Blong, 1994). At Baulevu, the Rewa river rose 15 feet 3 inches (14m) above normal. • Ba River flood peak recorded as 0.72m below the 1931 peak ^D. Rarawai Mill flooded. Entire Ba town on flats flooded on the 31st (Yeo, 1998). Ba Bridge under water for several days. At 0500hrs on the 31st there was 5 feet (1.53m) of water in Ba town, which rose to a depth of 10 feet (3.05m) by 0830hrs the next day (FNA, 1956). • Ba and Nadi shopkeepers suffered heavy losses of merchandise. • Damage to sugar crop severe and 150 tons of sugar at the Ba Mill damaged. • Flood damage at Ba estimated at (1956)F£75,670, of that £62,000 in the Ba Commercial district and £13,670 at Rarawai Mill (Yeo, 2000a) • Considerable flooding in Nadi, there was up to 5 feet (1.53m) of water in some cane fields. • In the Southern District the worst hit areas were the valleys of the Wainimala and Wainibuka. It was estimated that 50% of the banana and a third of the food crops were destroyed. • Three deaths in flooded rivers reported (FNA, 1956)
1956 Feb 27	Minor cyclone on 16 th affecting Northern Fiji then hurricane on 25 th	<ul style="list-style-type: none"> • Ba River flood peak recorded as 3.61m below the 1931 peak ^F (Yeo, 1998)



TELEGRAPHIC ADDRESS
METEO NADI
TEL : (879) 724 884 EXT.

FIJI METEOROLOGICAL SERVICE
PRIVATE MAIL BAG, NAP 0351
NADI AIRPORT, FIJI

Date: August 16, 2001

FAX : (879) 729 438 (HO)
729 188 (SWFC)
728445 (TCWC)

LIST OF FLOODS OCCURRING IN THE FIJI ISLANDS
BETWEEN 1840 AND 2000 (Summary Version)
Issued by Director of Meteorology

This information sheet provides a listing of reported flooding incidents in Fiji for the period 1840 to 2000. Please note that it is based on information received only from known sources, and as such may not be a complete list. Also, the list may be bias towards the *Ba River* which was the subject of a detailed survey recently (Yeo, 1998), and towards the last two decades for which information is more readily available.

Floods are regular occurrences in Fiji, happening almost as an annual event. Most major floods are associated with episodes of severe weather phenomena, such as tropical depressions and cyclones that are characterised by high intensity rainfall. Most of the rivers and streams in Fiji are relatively small in size (<1000 Km²) and flow from steep mountainous terrain. High intensity rainfall together with the small size and steep streams and rivers lead to swift rise and fall of water levels. The time between rainfall and floods can be as short as three to four hours. Flash floods are thus pretty common especially during the *Wet Season* (November to April).

The Public Works Department is responsible for issuing warnings on river flooding. Its *Hydrology Section* maintains and operates a systematic flood-forecasting system for the Rewa River while systems for other main rivers are under consideration. The Fiji Meteorological Service (FMS) issues forecasts for heavy rainfall and advises the public on prospects for flooding from extreme weather events like tropical cyclones. It also compiles reports on major flooding incidents, covering primarily the meteorological aspects, and keeps a database of rainfall and other important parameters..

For further information or clarification, please contact the Climate Service Division of FMS.

Note:

- ◆ This is the summary version of Information Sheet 125, 'List of Floods Occurring in the Fiji Islands Between 1840 and 2000';
- ◆ For the Ba River, numeric flood heights have been converted to three categories which are: Major for floods 0.00-2.50m; Moderate for 2.51-5.00 and Minor for floods >5.00m. This is with regard to the heights of floods below the highest flood on record which occurred on 21-2 Feb-Mar, 1931;
- ◆ Dates mark by (*) refer to approximate dates;
- ◆ The towns, river deltas, no. of deaths etc. listed in the 'Areas Affected' column do not necessarily mean that these were the only areas/numbers affected by flooding. The areas/numbers listed are the only references Fiji Meteorological Services has found to date.
- ◆ The highest floods on record have where possible been indicted in the 'Areas Affected' column. In the case of the Rewa River there is uncertainty over which event was the highest due to anthropogenic changes affecting channel morphology and the depth of the channel near Nausori town. For example during the period when the Nausori Sugar Mill was in operation the river delta

was dredged regularly to allow for shipping access to the Mill. Other factors such as the construction of the Monasavu Dam and Rewa Bridge have also affected river flow. In the case of the Sigatoka River, sufficient data isn't available to determine flood rank and the highest flood.

Flood Date(s)	Brief Details on Flood Event	Area(s) Affected
1840 Feb 25	High flood covering river flats	Rewa
1866 Mar 10-12	Cotton, coffee and food gardens inundated on the river flats	Rewa
1869 Mar	All flat land nearly smooth with twelve inches of silt in some places	Navua
1871 Mar 21*	Several people drown	Ba
1879 Dec 11*	Lautoka town flooded	Ba, Lautoka
1886 Jan 4-5	River rose considerably	Ba
1886 Mar 4	River rose several feet	Ba
1892 Dec 15	Major flood. Rarawai Mill flooded	Ba
1901 Mar 8*	Moderate flood	Ba
1904 Jan 11	Moderate flood	Ba
1904 Jan 21*	Rewa badly affected	Navua, Rewa
1904 Feb 21-22	Moderate flood - Ba	Ba, Rewa
1906 Dec 26	Two people drown	Ba
1907 Jan 25	Moderate flood	Ba
1908 Mar 23	Two people drown	Ba
1908 Aug 29	Moderate flood	Ba
1909 Feb 7	Moderate flood, Rarawai Mill flooded	Ba
1910 Mar 5	Fifth highest flood since 1910	Qawa River, Macuata
1910 Mar 25	Moderate flood - Ba River, Rarawai Mill yard flooded. Major flood - Rewa River	Ba, Rewa
1910 May 9	Minor flood	Ba
1911 Jan 16-17	Moderate flood, Rarawai Mill flooded	Ba
1911 Feb 9	Moderate flood	Ba
1911 Feb 21-28*	River flooded	Ba
1911 Aug 9	Moderate flood	Ba
1912 Jan 20-29	Moderate flood - Ba. High flood - Rewa. Fourth highest flood since 1910 - Qawa River, Major flood Labasa and Bucaisau Rivers.	Ba, Rewa and [Qawa, Labasa and Bucaisau Rivers in Macuata].
1913 Jan 14	Minor flood	Ba
1913 Feb 28	Moderate flood	Ba
1913 Mar 21	Moderate flood	Ba
1917 Jan	Moderate flood	Ba
1918 Feb 7	Major flood, Rarawai Mill flooded	Ba
1918 Dec	Minor flood	Ba
1921 Jan 8	Moderate flood	Ba
1921 Jan 26-27	Moderate flood	Ba
1921 Apr 20	Minor flood	Ba
1921 Dec 17	Moderate flood	Ba
1922 Apr 4-5	Moderate flood	Ba
1922 May 2	Moderate flood	Ba
1923 Jan 5-6	Moderate flood	Ba

Flood Date(s)	Brief Details on Flood Event	Area(s) Affected
1923 Mar 30	Moderate flood, Rarawai Mill yard flooded	Ba
1924 Mar 4	Moderate flood, Rarawai flat flooded	Ba
1925 Mar	Minor flood	Ba
1927 Feb 9	Moderate flood	Ba
1927 May 24-25	Moderate flood	Ba
1928 May 25	Minor flood	Ba
1929 Dec 8-11	Major flooding in the Central and Northern Divisions. Property, cattle and 20 lives lost. 150 people rescued from the rising Rewa River. Ba - Minor flood.	Ba, Rewa, Navua (highest), [Qawa (highest), Labasa (highest), Wainikoro and Bucaisau in Macuata]
1930 Nov 22	Minor flood	Ba
1931 Feb-Mar 21-2	Worst flood in all major rivers except Navua. 206+ lives lost. Massive damage to crops and property. Two flood peaks, 21 st then on 1-2 nd .	Ba (highest), Rewa, Lautoka, Sigatoka
1932 Jan 26	Minor flood	Ba
1932 Feb 6-10*	Moderate flood, Ba river rose 2.1m above the old bridge.	Ba, Whole of Fiji?
1933 Mar 27	Major flood	Ba
1933 Apr 27-28	Moderate flood	Ba
1935 Jan 25	Moderate flood	Ba
1936 Mar 16-23*	Moderate flood	Ba
1937 Feb 13-20	Minor flood	Ba
1938 Feb 24-27	Major flood, Water some feet over the Ba bridge, into Morris Hedstrom Ltd and the Rarawai Mill	Ba, Western Viti Levu
1938 Dec 22	Major flood, Rarawai Mill flooded. Main roads blocked by landslides and washouts in Western Viti Levu	Ba, Western Viti Levu
1939 Jan 21	Major flood, Rarawai Mill flooded. Damage to roads and bridges across the country	Ba, Whole of Fiji
1939 Feb 14	Moderate flood	Ba
1939 Mar 16	Major flood	Ba
1939 Apr 5-6	Moderate flood	Ba
1939 May 7-8	Moderate flood	Ba
1941 Feb 21*	Moderate flood in Ba, Severe flooding in Navua	Ba, Navua
1941 Dec 25-26	Minor flood in Ba	Ba, Navua
1942 Dec 27*		Labasa
1943 Jan 1-3*		Labasa, Whole of Fiji
1944 Mar 20	Moderate flood	Ba
1946 Jan 30	Moderate flood, Rarawai Mill flooded	Ba
1946 Feb 12	Moderate flood	Ba
1946 Mar 28	Moderate flood	Ba
1947 Feb 8	Moderate flood	Ba
1948 Jan/Feb 31-4		Whole of Viti Levu
1948 Jan 3	Third highest flood since 1910 - Qawa River. Moderate flood Labasa and Wailevu	[Qawa, Labasa, Wailevu, Wainikoro and Bucaisau in Macuata]

Flood Date(s)	Brief Details on Flood Event	Area(s) Affected
1950 Feb/Mar 25-1	Moderate flood in Ba, Rarawai Mill flooded. Major flooding in the Macuata Province.	Ba, [Qawa, Wainikoro (highest), Bucaisau (highest), Labasa and Wailevu in Macuata]
1950 Mar 13	Minor flood	Ba
1950 Mar 30	Major flooding in the Macuata Province	[Wainikoro, Bucaisau and Qawa Rivers in Macuata]
1951 Feb/Mar	Minor flood	Ba
1951 May 23	Minor flood	Ba
1952 Jan 24-28	Severe flooding in the Wainibuka and Rewa Rivers. Major flooding in the Macuata Province, Third highest flood for the Labasa River since 1910.	Rewa, [Wainikoro, Bucaisau and Labasa Rivers in Macuata]
1953 Jan 13	Minor flood	Ba
1954 Jan 15-19*	Minor flood	Ba
1954 Mar 9*	Minor flood	Ba
1954 Mar 30	Minor flood	Ba
1955 Mar 8	Moderate flood	Ba
1956 Jan 30-31	Major flood, Entire Ba town on flats flooded on 31 st . Ba bridge under water for several days. Considerable flooding in Nadi town. Severe damage to sugar crop. Major flooding in the Wainimala and Wainibuka valleys. Three deaths reported.	Rewa, Western Viti Levu,
1956 Feb 27	Moderate flood	Ba
1956 Mar 6	Major flood - Ba. Severe flooding in Viti Levu.	Ba, Whole of Viti Levu.
1957 Jan 16	Major flood, Rarawai Mill flooded	Ba
1958 Nov/Dec 28-6	Flooding in North-Western Viti Levu. Penang Mill flooded. Flooding in the Nausori area	North-Western Viti Levu, Rewa
1959 Jan 20	Moderate flood	Ba
1959 Mar 14	Minor flood	Ba
1959 Mar/Apr	Minor flood	Ba
1959 Dec 30	Minor flood	Ba
1960 Feb 24	Minor flood	Ba
1960 Mar 4	Moderate flood. Rarawai Mill yard flooded	Ba
1961 Feb 4	Minor flood	Ba
1964 Feb 24	Minor flood	Ba
1964 Mar 22	Major flood, Rarawai Mill flooded. Entire town on flats flooded.	Ba, Nadi, Sigatoka
1964 Dec 18-22	Communications disrupted, villages flooded and crops damaged	Western Viti Levu
1965 Jan 19	Minor flood	Ba
1965 Feb 9-12	Major flood - Ba, Rarawai Mill flooded, Ba town on flats flooded. Eleven flood related deaths	Ba, Sigatoka
1965 Mar 2	Moderate flood	Ba
1965 Apr 2	Minor flood	Ba
1967 Mar 21	Minor flood	Ba

Flood Date(s)	Brief Details on Flood Event	Area(s) Affected
1968 Mar 21	Moderate flood	Ba
1970 Feb 13-16*	Minor flood	Ba
1970 Dec 17	Minor flood	Ba
1971 Mar 8	Moderate flood	Ba
1972 Jan 14	Moderate flood	Ba
1972 Oct 24-29	Major flood - Ba, Rarawai Mill flooded, Vitogo and Namoli flooded in Lautoka. High floods in Nadi and Nausori towns. Severe flooding in the Sigatoka valley.	Ba, Lautoka, Nadi, Sigatoka and Rewa
1977 Feb 4	Major flood - Ba. Shops on Kings Rd flooded	Ba, Kings Road
1978 Dec 29-30	Major floods	Vanua Levu and Taveuni
1979 Mar 26-28	Major floods	Whole of Viti Levu
1980 Apr 3-5	Almost all coastal rivers from Sigatoka to Nausori flooded, causing extensive damage to the highway, loss of livestock, pasture and crops	South and South-Eastern Viti Levu. The flood on the Navua almost rivalled the 1929 flood there.
1981 Jan 29	Minor flood	Ba
1981 Apr 12-13	Minor flood	Ba
1982 Jan 23-31	Major flood - Nadi, Sigatoka and Labasa	Ba, Nadi, Sigatoka, Labasa
1983 Feb/Mar 28-2	Severe flooding in Nadi town and Upper Sigatoka River. Moderate flood - Ba.	Ba, Nadi, Sigatoka
1984 Mar 16-18	Significant flooding across the country. Nadi town flooded.	Northern and Western Vanua Levu and Viti Levu
1985 Jan 17	Nadi town flooded. Crop and livestock losses in Western Viti Levu.	Western Viti Levu
1985 Jan 19	Moderate flood - Ba. Nadi town flooded. Localized flooding in Lautoka	Ba, Lautoka, Nadi
1985 Mar 3-7	Serious flooding in the Ba, Nadi, Sigatoka and Rewa valleys. Closure of several roads and bridges	Ba, Nadi, Sigatoka and Rewa
1985 Mar 16-17	Moderate flood - Ba. Nadi town flooded. Flooding in the Sigatoka and Rewa valleys	Ba, Nadi, Sigatoka and Rewa
1986 Apr 10-11	Major flood - Ba, Rarawai Mill flooded. Shops in Ba near the east end of town flooded. Villages flooded in Lautoka. Nadi and parts of Sigatoka town flooded.	Ba, Lautoka, Nadi, Sigatoka
1986 Apr 17-20	Widespread flooding and landslides caused the deaths of eight people and extensive damage in the tributaries of the Rewa River	Rewa
1986 Dec 28-30	Worst floods in the Labasa River since 1929. Labasa's main street under a metre of water. Flooding of the town may be due to the choked drainage system combined with exceptional astronomical tides.	[Labasa, Qawa, Wainikoro and Bucaisau in Macuata]
1986 Dec 29*	Three deep water in Labasa's main street	Labasa
1988 Dec 16-28	Widespread flooding in the Northern Division. River at the level of the Ba bridge on the 16 th . Moderate flooding on the 28 th .	Ba, Northern Division
1989 Feb 9-15	Moderate flood - Ba, shops near Ba market flooded. Waist	Ba, Nadi, Northern

Flood Date(s)	Brief Details on Flood Event	Area(s) Affected
	deep water in Nadi town. Flooding in Northern Vanua Levu. Nine deaths	Division
1989 Mar/Apr 29-2	Moderate flood, rose to the level of the bridge.	Ba
1989 May 28-30	Low-lying areas of Northern and Western Viti Levu flooded. Moderate flood - Ba, shops near market flooded. Ba bridge under a metre of water. Knee deep water in Nadi town	Northern and Western Viti Levu
1989 Nov 15*	Labasa's main streets flooded	Labasa
1990 Mar 16-30*	Major flood - Ba, flooding in Lautoka, Nadi, Sigatoka and Nausori towns. Three deaths. Closure of roads and bridges across the country.	Ba, Lautoka, Nadi, Sigatoka, Nausori
1990 June 9	Ba river flooded. Highest discharge for the year recorded at Toge	Ba
1990 Nov 24-30	Flooding across the country	Whole of Fiji
1991 Jan 10	Moderate flood - Ba, Rarawai Mill closed due to flooding and Ba bridge closed to all traffic. Flooding also noted on the King's Road, Tailevu and in Labasa	Ba, Tailevu, Labasa
1991 Feb 21	Ba river flooded. Highest discharge for the year recorded at Toge	Ba
1992 Dec 10-11	Moderate flood - Ba. Nausori town flooded. Significant loss of livestock due to flooding.	Ba, Nausori
1993 Jan 3	Major flood. For the Ba this flood is ranked second highest since 1871. Severe flooding in Sigatoka, Nadi and Rewa, Major property and livestock losses. Ba and Sigatoka bridges destroyed. One death	Whole of Viti Levu
1993 Feb 17	Navutu flats in the Ba flooded. Some damages to bridges in Ba and Sigatoka	Ba, Sigatoka
1993 Feb 26-27	Major flood - Ba, shops near Ba market flooded. Severe flooding in Nadi town. Significant damage to crops and property. Three deaths.	Ba, Nadi
1994 Jun 4-5	Minor flood	Ba
1994 Nov 13-14	Severe flooding in Tailevu. Whole valley flooded causing intensive crops and livestock	Tailevu
1995 Jan 28-30	Minor flood - Ba. Floods in Naitasiri and Rakiraki. Shops in Tailevu and parts of the Kings Road flooded.	Ba, Naitasiri, Tailevu
1995 Mar 16-19	Flooding in Labasa and Nadi	Nadi, Labasa
1996 Feb 22	Schools in Ra and parts of the Kings Road inaccessible. Naqali bridge collapsed. Bridges under water in Southwestern Vanua Levu	Ra, Kings Road, Naqali and Southwestern Vanua Levu
1997 Jan/Feb 19-2	Moderate flood - Ba. Traffic disruption and schools closed in the Western Division, Several low bridges closed, Irish crossing washed away in Nadi	Ba, Nadi, Labasa
1997 Feb 18-19	Severe flooding in low-lying areas and Labasa	Labasa
1997 Mar 8	Major flood - Ba, Rarawai Mill flooded. Parts of Nadi, Sigatoka and Labasa towns flooded. High floods in the Upper Rewa River. One death	Ba, Nadi, Sigatoka, Upper Rewa River, Labasa
1997 April 26	Flash flooding and landslides	Eastern and Southeastern parts of Viti Levu

Flood Date(s)	Brief Details on Flood Event	Area(s) Affected
1997 May 3-5	Localized flooding on the Northern coast causing damage to infrastructure and property	Northern coast of Taveuni
1998 Jan 21	Ba River flooded	Ba
1999 Jan 19	Code named 'Manumanu' or 'The Beast'. Major flood across the Western Division causing damage to infrastructure and property in Ba and Nadi. In Ba, this was the third large flood in a span of six years. Severe flooding in Labasa. Seven deaths.	Whole of Western Viti Levu, Labasa
1999 Jan 28-29	Flash flood. Two deaths	Nadi
1999 Feb 9-18	Incidences of flooding in the Western Division. Two deaths in Lautoka	Western Viti Levu
1999 Apr 19-22	Flooding in low-lying Viti Levu, this event coincided with 4m high sea swells and local high tide	South-Eastern and Western Viti Levu
1999 Sept 22-23	Closure of roads in the Central Division and parts of Nausori under water	Central Division
1999 Dec 6-10	Damage to infrastructure in Vanua Levu. Three deaths in the Central Division and one in Rakiraki.	Rakiraki, Vanua Levu
2000 Jan 17-24	Three bridges washed away in the Ba area	Ba
2000 Feb 16-18	Reports of flash flooding and a man swept away	Lautoka
2000 Mar 17	Flash floods in Nadi and other parts of the Western Division. One death in Nadi.	Western Division
2000 Apr 15-16	Flooding in the Macuata Province and Northern Division caused damage to infrastructure and agriculture. Labasa Mill flooded.	Northern Division
2000 May 2-3	Flooding results in damage to infrastructure	Northern and Western Viti Levu
2000 May 24-25	Flash floods with reports of water approximately 2m above road level.	Rakiraki
2000 Jun 16-18	Flash floods led to one death	Rakiraki
2000 Dec 12	Flooding in the Western and Eastern Divisions, Two deaths	Rakiraki

Compiled by:

Janita Pahalad
Manager, Climate Services

Simon Motilal
Climate Applications Officer

Climate Services Division

Please refer to this Information Sheet as:

Fiji Meteorological Service, 2001. **List of Floods Occuring in the Fiji Islands between 1840 and 2000.**
(Summary Version) FMS Information Sheet No. 127.

References

- Blong, R. 1994. **Natural Perils and Integrated Hazard Assessment in Fiji**. Final Report for Queensland Insurance (Fiji) Limited, National Insurance Company of New Zealand, and Fiji Reinsurance Corporation Limited.
- Derrick, R.A. 1946. **A History of Fiji**. Vol 1. Govt. Printing Dept. Suva, Fiji.
- Derrick, R.A. 1951. **The Fiji Islands**. A Geographical Handbook. Govt. Printing Dept. Suva, Fiji
- D' Aubert, A.M. 1994. **Tropical Cyclones and Droughts in the Pacific Islands**. Unpublished Report. Department of Geography, University of the South Pacific, Suva. Fiji.
- Fiji Meteorological Service, 1983. Annual Weather Summary 1982.
- Fiji Meteorological Service, 1984. Annual Weather Summary 1983.
- Fiji Meteorological Service, 1985. Annual Weather Summary 1984.
- Fiji Meteorological Service, 1986. Annual Weather Summary 1985.
- Fiji Meteorological Service, 1987. Annual Weather Summary 1986.
- Fiji Meteorological Service, 1990. Annual Weather Summary 1989.
- Fiji Meteorological Service, 1991. Monthly Weather Summary - January 1991.
- Fiji Meteorological Service, 1995. Annual Weather Summary 1994.
- Fiji Meteorological Service, 1996a. Tropical Cyclones Affecting Fiji May 1985 to April 1985 FMS Information Sheet 122.
- Fiji Meteorological Service, 1996b. Annual Weather Summary 1995.
- Fiji Meteorological Service, 1997a. Tropical Cyclone Damages in Fiji (From 1939/40 - 96/97) FMS Information Sheet 123.
- Fiji Meteorological Service, 1997b. Annual Weather Summary 1996.
- Fiji Meteorological Service, 1998. Annual Weather Summary 1997.
- Fiji Meteorological Service, 2000a. Annual Weather Summary 1999.
- Fiji Meteorological Service, 2000b. Monthly Weather Summary - January 2000.
- Fiji Meteorological Service, 2000c. Monthly Weather Summary - February 2000.
- Fiji Meteorological Service, 2000d. Monthly Weather Summary - March 2000.
- Fiji Meteorological Service, 2000e. Monthly Weather Summary - April 2000.
- Fiji Meteorological Service, 2000f. Monthly Weather Summary - May 2000.
- Fiji Meteorological Service, 2000g. Monthly Weather Summary - June 2000.

Date of Flood Peak	Tropical Cyclone intensity and location or other reason for high rainfall	Flood Description and Areas Affected
	affecting Southern Western Viti Levu.	
1956 Mar 6	Minor to moderate. South-western and South-eastern Viti Levu and Kadavu.	<ul style="list-style-type: none"> • Ba River flood peak recorded as 1.40m below the 1931 peak ^D (Yeo, 1998) • Severe flooding on Viti Levu (FMS, 1997a)
1957 Jan 16		<ul style="list-style-type: none"> • Ba River flood peak recorded as 2.29m below the 1931 peak ^C Rarawai Mill flooded (Yeo, 1998)
1958 Nov/Dec 28-6	(hurricane) Rotuma, Yasawas, Northern and Eastern Fiji.	<ul style="list-style-type: none"> • Heavy rain particularly on the north coast of Viti Levu, led to flooding. Penang Mill was flooded. • Water rose to 0.6-1.0m in a few houses in the Nausori area (D'Aubert, 1994)
1959 Jan 20		<ul style="list-style-type: none"> • Ba River flood peak recorded as 4.72m below the 1931 peak ^C (Yeo, 1998) [Note Rarawai Mill not flooded]
1959 Mar 14		<ul style="list-style-type: none"> • Ba River flood peak recorded as 5.33m below the 1931 peak ^C (Yeo, 1998)
1959 Mar/Apr		<ul style="list-style-type: none"> • Ba River flood peak recorded as 5.03m below the 1931 peak ^C (Yeo, 1998)
1959 Dec 30		<ul style="list-style-type: none"> • Ba River flood peak recorded as 5.03m below the 1931 peak ^C (Yeo, 1998)
1960 Feb 24		<ul style="list-style-type: none"> • Ba River flood peak recorded as 5.03m below the 1931 peak ^C (Yeo, 1998)
1960 Mar 4		<ul style="list-style-type: none"> • Ba River flood peak recorded as 2.82m below the 1931 peak ^B. Rarawai Mill yard flooded (Yeo, 1998)
1961 Feb 4		<ul style="list-style-type: none"> • Ba River flood peak recorded as 5.33m below the 1931 peak ^C (Yeo, 1998)
1964 Feb 24		<ul style="list-style-type: none"> • Ba River flood peak recorded as 5.33m below the 1931 peak ^C (Yeo, 1998)
1964 Mar 22		<ul style="list-style-type: none"> • Ba River flood peak recorded as 1.75m below the 1931 peak ^A. Rarawai Mill flooded. Entire Ba town on flats flooded. (Yeo, 1998) • Major flood - Sigatoka River (Parry, 1987) • Maximum flood level of 6.72m a.m.s.l recorded in Nadi town ^G (PWD, 2000)
1964 Dec 18-22	(hurricane) Western Viti Levu.	<ul style="list-style-type: none"> • Roads and villages flooded. • Communications disrupted and food crops damaged (D'Aubert, 1994)
1965 Jan 19		<ul style="list-style-type: none"> • Ba River flood peak recorded as 5.03m below the

Date of Flood Peak	Tropical Cyclone intensity and location or other reason for high rainfall	Flood Description and Areas Affected
		1931 peak ^C (Yeo, 1998)
1965 Feb 9-12	(hurricane) One of the largest most intense hurricanes on record in the Fiji area. North coast of Vanua Levu, Western Viti Levu, Northern Yasawas and Southwestern Kadavu.	<ul style="list-style-type: none"> • Ba River flood peak recorded as 2.05m below the 1931 peak ^{D, 1964} Rarawai Mill flooded, Ba town on flats flooded on the 9th (Yeo, 1998). • Maximum flood level was 6.5m a.m.s.l in Ba town ^E (PWD, 2000). • Major flood - Sigatoka River (Parry, 1987). • The very slow movement of the hurricane meant prolonged heavy rain and widespread floods, some areas eclipsed the recorded floods of March the previous year. • On the main islands severe flooding caused heavy stock and crop losses and claimed 11 lives (D'Aubert, 1994).
1965 Mar 2		<ul style="list-style-type: none"> • Ba River flood peak recorded as 3.61m below the 1931 peak ^F (Yeo, 1998)
1965 Apr 2		<ul style="list-style-type: none"> • Ba River flood peak recorded as 5.36m below the 1931 peak ^C (Yeo, 1998)
1967 Mar 21		<ul style="list-style-type: none"> • Ba River flood peak recorded as 5.15m below the 1931 peak ^C (Yeo, 1998)
1968 Mar 21		<ul style="list-style-type: none"> • Ba River flood peak recorded as 4.22m below the 1931 peak ^F (Yeo, 1998)
1970 Feb 13-16*		<ul style="list-style-type: none"> • Ba River flood peak recorded as 5.03m below the 1931 peak ^C (Yeo, 1998)
1970 Dec 17	<i>Priscilla</i> . Yasawas, Mamanucas, Vatulele, Southwest Viti Levu, and Kadavu.	<ul style="list-style-type: none"> • Ba River flood peak recorded as 5.03m below the 1931 peak ^C (Yeo, 1998)
1971 Mar 8	<i>Thelma</i> . (gale) Western and Southwestern Viti Levu.	<ul style="list-style-type: none"> • Ba River flood peak recorded as 4.22m below the 1931 peak ^F (Yeo, 1998)
1972 Jan 14		<ul style="list-style-type: none"> • Ba River flood peak recorded as 4.22m below the 1931 peak ^F (Yeo, 1998)
1972 Oct 24-29#	<i>Bebe</i> . (hurricane) Whole of Fiji affected.	<ul style="list-style-type: none"> • Ba town flooded to a level of 5 feet (1.52m) on the 23rd (Blong, 1994). Ba River flood peak recorded as 1.21m below the 1931 peak ^{D, 1993} Rarawai Mill flooded. Storm surge at the along the Ba coastline on the 24th (Yeo, 1998). Maximum flood in Ba town was 5.34m a.m.s.l ^E (PWD, 2000).

Date of Flood Peak	Tropical Cyclone intensity and location or other reason for high rainfall	Flood Description and Areas Affected
		<ul style="list-style-type: none"> • Flooding in Vitogo and Namoli in Lautoka, 2-4 feet (0.6-1.2m) on the 23rd. • In Nadi some shops were flooded to a depth of approximately 8 feet (2.44m) on the 23rd causing considerable damage to buildings and their stock. Some vehicles were washed away in the floods and about 500 houses damaged. • Disastrous flood in the Sigatoka valley and informants on the 23rd. • The Rewa River at Nausori town was 18 feet (5.49m) above normal on the 25th at 7am. Wainimala River 28 feet (8.54m) above normal at 6pm on the 24th. At Nabukaluka the Waidina River in the early hours of the 25th was 30 feet (9.15m) and continuing to rise (Hackett, ??). • The Navua River burst its banks at Waidova, Calia and Naitata. Queens Road cut in places and highway impassable. The 120 feet span Navua Bridge destroyed. The river rose to 20 feet (6.1m) above normal. Navua town flooded. At Namuamua, the river rose to 60 feet (18.3m) above normal (Hackett, ??)
1977 Feb 4		<ul style="list-style-type: none"> • Ba River flood peak recorded as 2.39m below the 1931 peak^E Rarawai Mill probably flooded, shops on Kings Rd flooded (Yeo, 1998)
1978 Dec 29-30	<i>Fay.</i> (storm) Rotuma, Eastern Vanua Levu, Taveuni, Lau Group.	<ul style="list-style-type: none"> • Major flooding in Vanua Levu and Taveuni (FMS, 1997a)
1979 26-28 Mar	<i>Meli</i> (hurricane) Southern Islands of Fiji, Southern and South-eastern Viti Levu.	<ul style="list-style-type: none"> • Major flooding around Viti Levu (FMS, 1997a).
1980 Apr 3-5	<i>Wally.</i> (gale) Korolevu, Yasawas, Southern Viti Levu, Navua, Vatulele, Kadavu and Beqa. The cyclone passed along the south of Viti Levu, generating	<ul style="list-style-type: none"> • Major flooding of the Sigatoka River (Parry, 1987). • Almost all the coastal rivers on Viti Levu from Korolevu to Nausori flooded, causing extensive damage to the main highway, considerable loss of livestock, pasture and crops (FMS, 1997a). • The catchments closer to the southern coast of Viti Levu such as the Waimanu and Navua were the most severely affected. Little data is recorded as most of

Date of Flood Peak	Tropical Cyclone intensity and location or other reason for high rainfall	Flood Description and Areas Affected
	exceptionally high rainfall along the coast.	<ul style="list-style-type: none"> the hydrological stations were destroyed or severely damaged. Catchments further inland were not as severely affected. (Raj, 1995). With only the Waimanu as a contributor, the flood experienced in the Rewa was the second highest since 1971 (Raj, 1986). The flood on the Navua rivalled the 1929 flood there (Yeo, 2001).
1981 Jan 29		<ul style="list-style-type: none"> Ba River flood peak recorded as 5.03m below the 1931 peak ^C (Yeo, 1998)
1981 Apr 12-13		<ul style="list-style-type: none"> Ba River flood peak recorded as 5.03m below the 1931 peak ^C (Yeo, 1998). Flood peak for the Ba River at Toge recorded at 0100hrs on the 13th (PWD, 2000).
1982 Jan 23-31#	<i>Hettie.</i> (storm) Mamanucas and Western Viti Levu.	<ul style="list-style-type: none"> Maximum flood level in Nadi town of 5.86m a.m.s.l ^G (PWD, 2000). Four feet (1.22m) of water at the Nadi bus station on the 29th. Also on the 29th the Sigatoka River rose 4m at Nacocolevu. There was flooding in many areas of Labasa (Blong, 1994). Flood peak for the Ba River at Toge recorded at 1700hrs on the 30th (PWD, 2000). Extensive flooding in Northern, Western and Central parts of Viti Levu and Vanua Levu (FMS, 1983).
1983 Feb/Mar 28-2#	<i>Oscar.</i> (hurricane) Viti Levu, Yasawas, Lomaiviti, Southern Lau and Kadavu.	<ul style="list-style-type: none"> Twelve feet (3.66m) of water in the market of Nadi town on the 1st (Blong, 1994). Floodwater, reached the Valley Road in Sigatoka, some houses were washed away. Flood height was between 7-9m at Nacocolevu on the 1st. There was also a 2m surge reported along the Southwest coast of Viti Levu on the 1st (Blong, 1994). Ba River flood peak recorded as 2.54m below the 1931 peak ^F (Yeo, 1998). Flood peak for the Ba River at Toge recorded at 2400hrs on the 1st (PWD, 2000). Maximum flood levels in Ba town was 5.46m, Nadi town 6.61m, Sigatoka town 3.90m all a.m.s.l ^{E,G,H} on the 2nd (PWD, 2000). Severe flood damage in Western and Southwestern Viti Levu. Near Vuda and Nadi Airport, the storm surge was reported to be around 2m with some reports suggesting 3-4m at Momi and Beqa Island (FMS,

Date of Flood Peak	Tropical Cyclone intensity and location or other reason for high rainfall	Flood Description and Areas Affected
		1984). <ul style="list-style-type: none"> Flood damages for the country amounted to approximately (1998)F\$148 Million (World Bank, 2000).
1984 Mar 16-18#	<i>Cyril.</i> (gale) Western Division.	<ul style="list-style-type: none"> Significant flooding in Northern and Western Vanua Levu and Viti Levu. Small storm surge observed in the Nadi Bay with sea level estimated to have been 0.3m above normal on the 16th (FMS, 1985). A metre of floodwater at the Nadi bus station on the 16th (Blong, 1994). Maximum flood level in Nadi town of 5.62m a.m.s.l^G on the 18th. Flood peak for the Ba River at Toge recorded at 1300hrs on the 18th (PWD, 2000).
1985 Jan 17	<i>Eric</i> (hurricane) Yasawas, Mamanucas, whole of Viti Levu and Southern Lau.	<ul style="list-style-type: none"> Maximum flood level in Nadi town of 4.56m a.m.s.l^G (PWD, 2000). Flood damages amounted to approximately (1998)F\$64 Million for the country (World Bank, 2000). Crop and livestock losses in Western Viti Levu (FMS, 1997a)
1985 Jan 19	<i>Nigel.</i> (hurricane) Southern Yasawas, Mamanucas, Northern half of Viti Levu, and Lomaiviti and Southern Lau.	<ul style="list-style-type: none"> Ba River flood peak recorded as 3.61m below the 1931 peak^F (Yeo, 1998). Flood peak for the Ba River at Toge recorded at 2200hrs on the 19th. Maximum flood level in Nadi town of 4.74m a.m.s.l^H (PWD, 2000). Localised flooding in Lautoka (Blong 1994). Storm surge recorded in Western Fiji (FMS, 1997a).
1985 Mar 3-7#	<i>Gavin.</i> (storm) Western and Southwestern parts of Viti Levu.	<ul style="list-style-type: none"> Severe widespread flooding in Viti Levu. Closure of several roads, bridges and Nausori Airport due to flooding. Serious flooding in the Ba, Nadi, Sigatoka and Rewa valleys (FMS, 1986 & 1997). Ba River flood peak recorded as 2.27m below the 1931 peak^F (Yeo, 1998). Floods in Nadi on the 5th (Blong, 1994). Maximum flood level in Sigatoka town of 3.5m a.m.s.l^H on the 6th. Maximum flood level in Nausori town of 3.77m a.m.s.l on the 7th (PWD, 2000).
1985 Mar 16-17#	<i>Hina.</i> (hurricane). Yasawas, Mamanuca, Viti Levu and parts of the Lomaiviti Group	<ul style="list-style-type: none"> Ba River flood peak recorded as 3.04m below the 1931 peak^F on the 16th (Yeo, 1998). Maximum flood in Ba town was 5.03m a.m.s.l^E on the 17th (PWD, 2000). One to two metres of flood water in Nadi town on

Date of Flood Peak	Tropical Cyclone intensity and location or other reason for high rainfall	Flood Description and Areas Affected
		<ul style="list-style-type: none"> the 16th (Blong, 1994). Maximum flood level in Nadi town of 5.38m a.m.s.l^G on the 17th (PWD, 2000). Flooding in the Sigatoka and Rewa valleys (FMS, 1985). One metre storm surge reported along Viti Levu's Southwest coastline on the 16th.
1986 Apr 10-11	<i>Martin.</i> (storm) Northern Lau, Taveuni, Vanuabalavu and northern two-thirds of Vanua Levu.	<ul style="list-style-type: none"> Ba River flood peak recorded as 2.20m below the 1931 peak^J Rarawai Mill probably flooded. Shops in Ba near the market and east end of town flooded on the 10th (Yeo, 1998). Flood peak for the Ba River at Toge recorded at 2300hrs on the 10th (PWD, 2000). In Lautoka surrounding villages were flooded on the 10th (Blong, 1994). Water level at the southern end of Nadi town was 1.5m on the 10th (Blong, 1994). Maximum flood level of 6.53m recorded in Nadi town^G. Maximum flood level of 3.5m recorded in Sigatoka town^H (both a.m.s.l recorded on the 11th (PWD, 2000). Parts of Sigatoka town underwater (Blong, 1994).
1986 Apr 17-20	Trough associated with Cyclone <i>Martin</i> drifted back over Fiji and became stationary close to Suva.	<ul style="list-style-type: none"> Widespread flooding and landslides caused the deaths of 8 people and extensive damage in the tributaries of the Rewa River (FMS, 1987). The Rewa river at Nausori Bridge was 5.0m above normal from 2330 hours on the 17th to 2300 hours on the 29th. Peak discharge was in the order of 6200 cubic metres per second, a volume that is far below the discharges of each of the floods of 1972, 73 and 80. Floodwaters from each of the Rewa tributaries reached Nausori alternatively causing a long period of inundation rather than a higher peak submerging a much greater area for a longer period (Raj, 1986).
1986 Dec 28 30	<i>Raja.</i> (hurricane) Rotuma, Northeastern Vanua Levu, Lau and Koro.	<ul style="list-style-type: none"> In the Macuata Province, the Labasa River experienced its worst flood since 1929. Major flood - Wailevu. Moderate flood - Qawa River, Labasa Mill not flooded. Minor flood - Wainikoro and Bucaisau (Yeo, 2001). Labasa town's main street under a metre of water for the first time since 1929 (Blong, 1994). According to Raj (1987) flooding within the town was prolonged by the choked drainage system. Exceptional astronomical high tides would have also caused floodwaters to back-up and inundate large areas of low lying land around and along the coast

Date of Flood Peak	Tropical Cyclone intensity and location or other reason for high rainfall	Flood Description and Areas Affected
		including parts of Labasa town.
1988 Jan 9#		<ul style="list-style-type: none"> • Knee deep water in parts of Labasa's main street (Blong, 1994).
1988 Feb 25#	<i>Bola.</i> (hurricane) Mamanucas, Kadavu and Southwest Viti Levu.	<ul style="list-style-type: none"> • Flooding in the Labasa area (Blong, 1994).
1988 Dec 16-28#	<i>Eseta.</i> (storm) Yasawas, Mamanucas and Southwestern Viti Levu.	<ul style="list-style-type: none"> • River to the level of the Ba Bridge on the 16th. • Flood peak for the Ba River at Toge recorded at 1600hrs on the 18th (PWD, 2000). On the 28th the Ba River flood peak was recorded as 4.52m below the 1931 peak ^D (Yeo, 1998). • On the 16th widespread flooding in the Northern Division (Blong, 1994).
1989 Feb 9-15	Tropical Depression developed just to the Southwest of Fiji on the 6 th , later moved slowly eastward	<ul style="list-style-type: none"> • Flood peak for the Ba River at Toge recorded at 1700hrs on the 10th (PWD, 2000). • Ba River flood peak recorded as 2.83m below the 1931 peak ^F and shops near Ba market flooded on the 11th (Yeo, 1998). • There was 0.45m of water in some shops near the Ba market on the 13th (Blong, 1994). • Waist deep water at the bus station in Nadi town on the 13th (Blong, 1994). • Flooding in Western Viti Levu and Northern Vanua Levu; • Nine flood related deaths reported (FMS, 1990).
1989 Mar/Apr 29-2#	<i>Kerry.</i> (storm) Western Viti Levu, Kadavu.	<ul style="list-style-type: none"> • Flood rose to bridge level in Ba, cut road on the 29th (Blong, 1994). • Ba River flood peak recorded as 4.22m below the 1931 peak ^B on the 2nd (Yeo, 1998).
1989 May 28-30#	Tropical Depression to the far west of Fiji. Associated broad cloud band persisted over Fiji from the 27 th to the 31 st .	<ul style="list-style-type: none"> • From the 28th low lying areas of Northern and Western Viti Levu were flooded (FMS, 1990). • On the 30th the Ba River flood peak was recorded as 3.52m below the 1931 peak ^F, shops near the Ba market flooded. (Yeo, 1998). Ba Bridge under a metre of water. • Knee deep water at the bus station in Nadi town on the 30th (Blong, 1994).
1989 Nov 15#		<ul style="list-style-type: none"> • Floodwater in the main streets of Labasa, approximate depth of 0.6m (Blong, 1994).
1990 Mar 16-30#	<i>Rae</i> (16-25 th) (storm) Most of the Fiji Group	<ul style="list-style-type: none"> • Shallow flooding in Vitogo Parade, Lautoka on the 16th (Blong, 1994).

Date of Flood Peak	Tropical Cyclone intensity and location or other reason for high rainfall	Flood Description and Areas Affected
	affected. Torrential rain fell over most parts of the country. <i>Sina</i> (24-30 th) (hurricane) Southern Viti Levu and Lau.	<ul style="list-style-type: none"> • Maximum flood level of 4.33m a.m.s.l in Nausori town ^I on the 22nd (PWD, 2000). • Ba River flood peak recorded as 2.42m below the 1931 peak ^F Rarawai Mill probably flooded on the 23rd (Yeo, 1998). • Maximum flood level of 5.493m in Ba ^E 5.93m in Nadi town ^G and 3.03m in Sigatoka ^H (all a.m.s.l and recorded on the 29th). • Three lives lost due to drowning in flooded rivers, minor damage to crops and vegetation (FMS, 1996a). • Closure of roads and bridges all over the country (FMS, 1997a).
1990 June 9	Low-pressure system developed and moved over Fiji (4-5 th). On the 9 th a second trough moved over the Group on the far south.	<ul style="list-style-type: none"> • Flood peak for the Ba River at Toge recorded at 2100hrs on the 9th. Highest discharge rate for the year at Toge (PWD, 2000).
1990 Nov 24-30	<i>Sina</i> . (hurricane) Southern Fiji.	<ul style="list-style-type: none"> • Flood damages amounted to approximately (1998) F\$33 Million for the country (World Bank, 2000).
1991 Jan 10	Shallow low pressure passing southwards to the west of Viti Levu on the 9 th .	<ul style="list-style-type: none"> • Ba River flood peak recorded as 4.22m below the 1931 peak ^F (Yeo, 1998). Rarawai Mill closed due to flooding and the Ba Bridge was closed to all traffic. • Flooding also noted on the King's Road at Tailevu • Roads closed in Labasa (FMS, 1991).
1991 Feb 21	Area of low pressure drifted over the group from the far west.	<ul style="list-style-type: none"> • Flood peak for the Ba River at Toge recorded at 1600hrs. Highest discharge rate for the year at Toge (PWD, 2000).
1992 Dec 10-11	<i>Joni</i> . (hurricane) Yasawas, Mamanucas, Southwestern Viti Levu and Kadavu.	<ul style="list-style-type: none"> • Ba River flood peak recorded as 3.61m below the 1931 peak ^F on the 10th (Yeo, 1998). Flood peak for the Ba River at Toge recorded at 0500hrs on the 11th. • Maximum flood level of 3.66m a.m.s.l in Nausori town ^I on the 11th (PWD, 2000). Flooding of rivers in Viti Levu, especially the Rewa Delta; • Significant loss of livestock due to flooding (FMS, 1997a). Flood damages amounted to approximately (1998) F\$2 Million for the country (World Bank, 2000).

Date of Flood Peak	Tropical Cyclone intensity and location or other reason for high rainfall	Flood Description and Areas Affected
1993 Jan 3	<i>Kina.</i> (hurricane) Yasawas, Northern and Eastern Viti Levu, Southern Vanua Levu, Lomaiviti and Southern Lau.	<ul style="list-style-type: none"> • Ba River flood peak recorded as 0.21m below the 1931 peak^F Rarawai Mill and entire Ba town on flat flooded. One drowning case was reported in the Ba area (Yeo, 1998). Maximum flood in Ba town was 6.68m a.m.s.l^E. • Maximum flood level of 4.82m a.m.s.l recorded in Sigatoka town which is the highest on PWD records^H • Maximum flood level of 6.00m a.m.s.l in Nausori town^I (PWD, 2000) also highest according to PWD's records. • Prolonged heavy rain with a combination of factors including high tide and heavy seas blocked mouths of major rivers resulting in extensive flooding (FMS, 1996a). • Destruction of the Ba and Sigatoka Bridges; almost complete loss of crop in the Sigatoka, Navua and Nausori areas; major loss of livestock (FMS, 1997a). • The heaviest rainfall was centred over eastern Viti Levu. High runoff into the Wainimala river. The Vunidawa Bridge (Wainimala) was overtopped by some 16m. • The Kina flood in the Rewa watershed was large by world standards. Peak discharge at Nausori was estimated at 18,000m³/s with just over 15,000m³/s flowing under the Rewa Bridge, and the remainder as sheet flow over the flood plain. The Wainimala branch of Rewa system contributed over half of this with 9,000m³/s at its peak. • The peak flow at Nausori may be a world record for a catchment of this size (2900km²) (Raj, 1995). • Approximately \$13.7 Million damage in Ba of that \$4 Million in the Ba Commercial district and \$9.7 Million at the Rarawai Mill (Yeo, 2000a). • Overall flood damage for the country amounted to approximately (1998) F\$188 Million (World Bank, 2000).
1993 Feb 17	<i>Oli.</i> (gale) Yasawas, Mamanucas, Southern Viti Levu, Kadavu and Ono-I-Lau.	<ul style="list-style-type: none"> • Navatu flats in the Ba area flooded. (Yeo, 1998). • Some damages to bridges in the Ba and Sigatoka areas (FMS, 1997a).
1993 Feb 26-27	Active trough of low-pressure linked to Tropical Cyclone Polly.	<ul style="list-style-type: none"> • Ba River flood peak recorded as 1.97m below the 1931 peak^J Rarawai Mill probably flooded, Shops near the Ba market flooded on the 26th (Yeo, 1998). Maximum flood in Ba town was 6.13m a.m.s.l^E • Maximum flood level of 7.06m a.m.s.l recorded in

Date of Flood Peak	Tropical Cyclone intensity and location or other reason for high rainfall	Flood Description and Areas Affected
		<ul style="list-style-type: none"> Nadi town, which is the second highest flood on record for Nadi town^G on the 27th (PWD, 2000). Three lives lost; Significant damage to crops, property and disruption to transportation.
1994 Jun 4-5	Weak trough of low-pressure on 2 nd . An active trough followed with widespread rain on the 3 rd and 4 th .	<ul style="list-style-type: none"> Ba River flood peak recorded as 5.03m below the 1931 peak^C (Yeo, 1998).
1994 Nov 13-14	Tropical Cyclone <i>Vania</i> traversed to the west of Fiji.	<ul style="list-style-type: none"> Severe flooding in Tailevu. The whole valley was flooded causing intensive damage to vegetable farms. Over 100 hectares of crops and several horses and cattle worth over \$250,000 perished during the flooding (FMS, 1995).
1995 Jan 28-30	Presence of troughs caused moderate to heavy rainfall.	<ul style="list-style-type: none"> Floods in Naitasiri and Rakiraki. Hundreds of people stranded in Naitasiri after a river overflowed. Shops in Tailevu and parts of the Kings Road flooded (FMS, 1996b). On the 30th the Ba River flood peak was recorded as 5.03m below the 1931 peak^C (Yeo, 1998). Flood peak for the Ba River at Toge recorded at 1200hrs on the 30th (PWD, 2000).
1995 Mar 16-19	Presence of troughs caused moderate to heavy rainfall.	<ul style="list-style-type: none"> Flooding in Labasa. Floods in Nadi damaging over 250 tonnes of cane (FMS, 1996b).
1996 Feb 22	Shallow depression moved just Northwest of Yasawa-i-Rara on the 22 nd .	<ul style="list-style-type: none"> Flooding in low-lying areas around the country. Schools closed in Ra and parts of the Kings Road were inaccessible. The Naqali Bridge collapsed. A couple of bridges in the southwest tip of Vanua Levu were under water (FMS 1997b).
1997 Jan/Feb 19-2	Tropical Cyclones <i>Evan</i> and <i>Freda</i> and several other low pressure systems dominate Fiji's weather.	<ul style="list-style-type: none"> Flood peak for the Ba River at Toge recorded at 0800hrs on the 27th (PWD, 2000). On the 1st the Ba River flood peak was recorded as 3.57m below the 1931 peak^J (Yeo, 1998). Traffic disruption and schools closed in the Western Division. Several low bridges and roads under water with an Irish crossing in Nadi washed away. Crushing at the Labasa and Lautoka Mills temporarily suspended (FMS 1998).

Date of Flood Peak	Tropical Cyclone intensity and location or other reason for high rainfall	Flood Description and Areas Affected
1997 Feb 18-19	Tropical Depression	<ul style="list-style-type: none"> Severe flooding in low-lying areas and Labasa (FMS 1998).
1997 Mar 8	<i>Gavin.</i> (hurricane) Yasawas, Mamanuca, Western Viti Levu.	<ul style="list-style-type: none"> Ba River flood peak recorded as 0.51m below the 1931 peak ^{D, 1993} Rarawai Mill flooded and entire Ba town on flats flooded. Storm surge at Ba coast. One drowning recorded in the Ba area (Yeo, 1998). Approximately \$6.0 Million damage in Ba, of that \$2-3 Million in the Ba Commercial district and \$3-4 Million at the Rarawai Mill (Yeo, 2000a). Maximum flood in Ba was 6.259m a.m.s.l ^E Maximum flood level of 6.66m a.m.s.l recorded in Nadi town ^G Maximum flood level of 3.44m a.m.s.l recorded in Sigatoka town ^H (PWD, 2000). Overall flood damages for the country amounted to approximately (1998)F\$35 Million (World Bank, 2000). Severe flooding in Labasa (FMS, 1997a). During the cyclone, the Wainimala and Wainibuka tributaries produced the most runoff in the Rewa system because of the high rainfalls in the highlands and on the northern coast. Below the confluence of the tributaries the main Rewa River was able to contain the maximum 4.52m rise in water level (Terry & Raj, 1999).
1997 April 26	Trough of low-pressure near Vanua Levu.	<ul style="list-style-type: none"> Flash flooding and landslides in Eastern and South-eastern parts of Viti Levu led to the temporary closure of parts of the Kings and Queens Road (FMS 1998).
1997 May 3-5	<i>June.</i> (storm) Significant rainfall over most parts of the Fiji Group.	<ul style="list-style-type: none"> During the cyclone, rainfalls were record breaking at Matei airport, causing localised flooding on the northern coast and consequent damage to infrastructure and property. Local hydrologists reported that stream levels for the island were some of the highest in living memory (Terry & Raj, 1999). Flood damages for the country amounted to approximately (1998) F\$1 Million (World Bank, 2000)
1998 Jan 21	<i>Cora.</i> (hurricane) All parts of the Group received heavy rainfall.	<ul style="list-style-type: none"> Flood peak for the Ba River at Toge recorded at 1700hrs (PWD, 2000).
1999 Jan 19	Frequent succession of westward moving	<ul style="list-style-type: none"> Code named 'Manumanu' or 'The Beast'. Damage estimated in Ba town of approximately \$15

	troughs, traversing the country and bringing heavy rain in January. On this occasion one of the easterly waves merged with the SPCZ during its southward migration onto Fiji, with eddies embedded in it, enhancing associated deep convective activity that converged over Fiji.	<p>Million, of that \$7.5 Million was in the Ba Commercial district and \$7-8 Million at the Mill (including \$2 Million for rehabilitation bank protection works) (Yeo, 2000a).</p> <ul style="list-style-type: none"> • Damage in Nadi town estimated at \$12 Million to the business sector and \$2 Million to private vehicles (Yeo, 2000a). • Government estimated agricultural, infrastructural and utilities losses at about \$10 Million (Yeo, 2000a). • In another report Yeo (1999) reports losses of \$25+ Million due to damages in the commercial and industrial sectors of Ba and Nadi towns. • In Ba, the 1999 event was the third large flood in a space of six years. • The three floods have left a direct damage bill of at least \$27 Million. The maximum flood level in Ba town was 6.80m a.m.s.l ^E • Maximum flood level of 7.25m a.m.s.l recorded in Nadi town (highest on record) ^G • Maximum flood level of 3.40m a.m.s.l recorded in Sigatoka town ^H (PWD, 2000). • Seven lives lost; \$F8 Million allocated by the Government in relief funding. • Severe flooding in Labasa (FMS Reports).
1999 Jan 28-29	Westward moving troughs, traversing the country.	<ul style="list-style-type: none"> • Flash flood; Nadi worst hit; • Two children drown (FMS Reports).
1999 Feb 12	Westward moving troughs, traversing the country.	<ul style="list-style-type: none"> • Two brothers drown in a flooded drain in Lautoka (FMS, 2000a).
1999 Apr 19-22	Slow moving and deep low-pressure system in the Tasman Sea.	<ul style="list-style-type: none"> • Flooding in low-lying areas, people and livestock forced to move to higher ground in the South-eastern and Western parts of Viti Levu, this event coincided with 4m high sea swells and the local high tide (FMS, 2000a).
1999 Sept 22-23	SPCZ lingered to the north of Vanua Levu while a sub-tropical high-pressure system remained south of the Group.	<ul style="list-style-type: none"> • Flash flooding caused the closure of roads in the Central Division and parts of Nausori were under water (FMS, 2000a).
1999 Dec 6-10	Trough of low pressure prominent in December	<ul style="list-style-type: none"> • Flooding caused damage to infrastructure in Vanua Levu. • Three people were reported missing in the Central Division, while another drowned while crossing a river in Rakiraki (FMS, 2000a).

Date of Flood Peak	Tropical Cyclone intensity and location or other reason for high rainfall	Flood Description and Areas Affected
2000 Jan 17-24	Two troughs drifted over Vanua Levu and Rotuma. Intensified into a Tropical Depression on 22 nd .	<ul style="list-style-type: none"> Two bridges washed away in the interior of Ba on the 17th and a bridge collapsed on the 24th (FMS, 2000b).
2000 Feb 16-18	A weak low-pressure system	<ul style="list-style-type: none"> Reports of flash floods on the 16th with a man swept away in Lautoka on the 18th (FMS, 2000c)
2000 Mar 17	Trough of low pressure extended over the Group from the Northwest, from the 15 th to 18 th .	<ul style="list-style-type: none"> A man drowned in a flash flood in Nadi. Flooding in other areas of the Western Division (FMS, 2000d)
2000 Apr 15-16	Series of low-pressure systems developed along a trough near Fiji between the 3 rd and 16 th . One of these formed into a Tropical Depression over the Northern Lau Group on the 13 th then further developed into Tropical Cyclone <i>Neil</i> on the 16 th . Areas affected by the cyclone were mostly Kadavu and the Southern Lau Group.	<ul style="list-style-type: none"> In the Macuata Province on the 15th, Major flood - Wainikoro, Bucaisau and Qawa Rivers. Labasa Mill flooded. Moderate flood - Wailevu. Minor flood - Labasa River. This flood event was clearly a rare event on the Lagalaga, Wainikoro, Bucaisau and Qawa Rivers. Records are insufficient to determine whether the flood was higher than the 1950 flood on the Wainikoro and Bucaisau Rivers. Though probably the highest in 50 years at the Labasa Mill, it was not a record there. The estimated financial losses associated with flooding of the Macuata Province in April 2000 approached ~F\$2.85 million (Yeo, 2001) Flooding in the Macuata Province and Northern Division caused damage to infrastructure and agriculture (FMS 2000e).
2000 May 2-3	A low pressure system developed along a trough over the Lomaiviti Group.	<ul style="list-style-type: none"> Reports of flooding in the northern and western areas of Viti Levu in the first week of the month resulting in damages to infrastructure (FMS, 2000f).
2000 May 24-25	Active trough of low pressure moved over the Group from the west.	<ul style="list-style-type: none"> Flash flooding in Rakiraki with reports of water approximately 2m above the road level (FMS, 2000f).
2000 Jun 16-18	SPCZ north of the Fiji Group moved southwards and was over the Group on the 16 th .	<ul style="list-style-type: none"> Flash floods in Rakiraki led to a drowning incident (FMS 2000g).
2000 Dec 12	Tropical Depression passed over the Group from the Northwest.	<ul style="list-style-type: none"> Flooding in the Western and Eastern Divisions. Two people drown in Rakiraki (FMS 2000h).

SPCZ = South Pacific Convergence Zone

a.m.s.l = above mean sea level

* = Uncertainty with actual date

= Blong may not have purported to precise redates. For example, he recorded the Ba flood of 1931 as 16 Feb when it was clearly 21-22 Feb – it seems that he wanted only to give a rough indication, and may have taken the first date listed in the FMS cyclone list as the flood date.

Key to datum used for determining flood magnitude:

- A level determined by comparison of height above mill floor with height of 1931 flood above mill floor (8.37m a.m.s.l)
- B level determined by interpretation of upper and lower limits based on description of areas flooded and general comparison with other floods.
- C level determined by comparison of height above Rail Bridge with height of 1931 flood above rail bridge (8.49m a.ms.l)
- D level determined by comparison of the height at the Ba 1931 obelisk (7.33m a.m.s.l)
- D (1909) level determined by comparison with flood with the 1909 flood
- D (1964) level determined by comparison with flood with the 1964 flood
- D (1993) level determined by comparison with flood with the 1993 flood
- E Ba Bench Mark: (BM = 4.388m, above mean sea level)
- F level determined by transferring height above (former) road bridge at Ba town to rail bridge at Rarawai, using average flood slope of 1993 and 1997 floods
- G Nadi Bench Mark: (BM = 5.552m, above mean sea level)
- H Sigatoka Bench Mark: (BM = 5.276m, above mean sea level)
- I Nausori (Bridge) Bench Mark: (BM = 0.665m, below mean sea level)
- J level determined by transferring height at the market to road bridge at Ba town, then to rail bridge at Rarawai.

Compiled by:

Ashmita Gosai
Acting Climate Applications & Development Manager

Simon Motilal
Climate Applications Officer

Climate Services Division

Please refer to this Information Sheet as:

Fiji Meteorological Service, 2001. **List of Floods Occuring in the Fiji Islands between 1840 and 2000.**
FMS Information Sheet No. 125.

References

- Blong, R. 1994. **Natural Perils and Integrated Hazard Assessment in Fiji**. Final Report for Queensland Insurance (Fiji) Limited, National Insurance Company of New Zealand, and Fiji Reinsurance Corporation Limited.
- Derrick, R.A. 1946. **A History of Fiji**. Vol 1. Govt. Printing Dept. Suva, Fiji.
- Derrick, R.A. 1951. **The Fiji Islands**. A Geographical Handbook. Govt. Printing Dept. Suva, Fiji
- D' Aubert, A.M. 1994. **Tropical Cyclones and Droughts in the Pacific Islands**. Unpublished Report. Department of Geography, University of the South Pacific, Suva. Fiji.
- Fiji Meteorological Service, 1983. Annual Weather Summary 1982.
- Fiji Meteorological Service, 1984. Annual Weather Summary 1983.
- Fiji Meteorological Service, 1985. Annual Weather Summary 1984.
- Fiji Meteorological Service, 1986. Annual Weather Summary 1985.
- Fiji Meteorological Service, 1987. Annual Weather Summary 1986.
- Fiji Meteorological Service, 1990. Annual Weather Summary 1989.
- Fiji Meteorological Service, 1991. Monthly Weather Summary - January 1991.
- Fiji Meteorological Service, 1995. Annual Weather Summary 1994.
- Fiji Meteorological Service, 1996a. Tropical Cyclones Affecting Fiji May 1985 to April 1985 FMS Information Sheet 122.
- Fiji Meteorological Service, 1996b. Annual Weather Summary 1995.
- Fiji Meteorological Service, 1997a. Tropical Cyclone Damages in Fiji (From 1939/40 - 96/97) FMS Information Sheet 123.
- Fiji Meteorological Service, 1997b. Annual Weather Summary 1996.
- Fiji Meteorological Service, 1998. Annual Weather Summary 1997.
- Fiji Meteorological Service, 2000a. Annual Weather Summary 1999.
- Fiji Meteorological Service, 2000b. Monthly Weather Summary - January 2000.
- Fiji Meteorological Service, 2000c. Monthly Weather Summary - February 2000.
- Fiji Meteorological Service, 2000d. Monthly Weather Summary - March 2000.
- Fiji Meteorological Service, 2000e. Monthly Weather Summary - April 2000.
- Fiji Meteorological Service, 2000f. Monthly Weather Summary - May 2000.
- Fiji Meteorological Service, 2000g. Monthly Weather Summary - June 2000.

- Fiji Meteorological Service, 2000h. Monthly Weather Summary - December 2000.
- Fiji Meteorological Service, 2001. List of Tropical Cyclones affecting Fiji between the 1830/1831 and 1999/2000 seasons. FMS Information Sheet 120. Revision 3.
- Fiji National Archives, 1931. Hurricanes and Floods, 1931. Fiji Legislative Council Paper No.23, 1931.
- Fiji National Archives, 1956. Secretariat files, F81/20/24: Tropical Storm 29th - 31st 1956. Telegram from the Governor to The Secretary of State, 11/2/56, Memorandum from The District Commissioner Southern to The Colonial Secretary, 8/2/56. Correspondence Between the Fiji Meteorological Office and Government Buildings, 9/2/56 and Memorandum from The Assistant Superintendent of Police Ba and The A/Commissioner of Police, Suva.
- Hackett, J. year unknown. **Bebe! Fiji's Worst Hurricane. October 21 to 25, 1972.** Fiji Public Relations Officer
- Public Works Department, 2000. Hydrology Division Flood Levels - Major Floods in Western Towns and other Misc. Flood records.
- Parry, J.T. 1987. **The Sigatoka Valley: Pathway to Prehistory.** Bulletin of the Fiji Museum No.9
- Raj, R. 1986. **Report on Flooding of the Rewa River.** Report 1/86 Public Works Department.
- Raj, R. 1987. Cyclone Raja - Floods and Rainfall in Vanua Levu. Report 2/87 Public Works Department.
- Raj, R. 1995. **Namosi Prospect Environmental Program. Flood Analysis.** Report prepared for Placer Exploration Limited by the Hydrology Section of the Suva Water Supply and NSR. Environmental Consultants Pty Ltd, Hawthorn, Victoria.
- Terry, J.P and Raj, R. 1999. Island Environment and Landscape Responses to 1997 Tropical Cyclones in Fiji. **Pacific Science**, 53, 257-272.
- Yeo, S.W. 1998. **Natural and Human Controls on Flooding in the Ba River Valley, Fiji,** Unpublished PhD thesis, Natural Hazards Research Centre, School of Earth Sciences, Macquarie University, Sydney.
- Yeo, S.W. 1999. From Government prevention to community preparedness: Shifting the culture for flood damage reduction, Ba, Fiji. In: Crook, K.A. & Rodda, P. (eds), **Abstracts of Papers Presented at the STAR Session 1999.** SOPAC Miscellaneous Report 355, pp.74-75.
- Yeo, S.W. 2000a. **Ba Community Flood Preparedness Project: Final Report.** SOPAC Technical 309. 69p.
- Yeo, S.W. 2000b. Department of Physical Geography, Macquarie University, NSW Australia. Personal Communication.
- Yeo, S.W. 2001. **A Review of Flooding in Macuata Province, Fiji Islands, April 2000.** SOPAC Technical Report 328, 31p.
- World Bank, 2000. **Economic Implications of Climate Change in Two Pacific Country Locations Case Study of Tarawa, Kiribati and Viti Levu, Fiji.** World Bank - Pacific Region
-