

APPENDIX 4
TOPOGRAPHIC SURVEY

4.1 Monthly Level of Lake Malawi

Monthly Levels of Lake Malawi

SUMMARY OF MEAN MONTHLY LEVELS OF LAKE MALAWI
in metres above sea level (National Datum)

Year	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.
1895:		470.61					472.44					
1896		470.88					472.29					
1897		471.01					472.74					
1898		471.16					471.39					
1899		471.07					472.13					
1900		471.01					472.07					
1901		470.58					471.37					
1902		470.55					471.62					
1903		470.49					471.71					
1904		470.79					471.83					
1905		470.67					471.46					
1906		470.61					471.28					
1907		470.37					471.16					
1908		470.46					471.52					
1909		470.49					470.88					
1910		470.15					471.22					
1911		470.30					470.94					
1912		470.18					470.88					
1913		470.09					470.61					
1914		470.06					470.67					
1915		469.94	470.14	470.49	470.59	470.98	470.95	470.95	470.83	470.65	470.52	470.42
1916	470.37	470.54	470.70	470.85	471.16	471.46	471.64	471.68	471.46	471.38	471.31	471.18
1917	471.08	471.08	471.20	471.31	471.44	471.46	471.69	471.58	471.38	471.26	471.13	471.00
1918	470.83	470.83	470.85	470.85	471.26	471.36	471.51	471.38	471.28	471.03	471.00	470.90
1919	470.77	470.75	470.85	471.03	471.33	471.36	471.51	471.38	471.13	471.00	470.98	470.83
1920	470.67	470.75	470.93	471.10	471.54	471.66	471.71	471.61	471.36	471.16	471.08	470.95
1921	471.00	471.16	471.28	471.46	471.84	471.92	471.76	471.66	471.46	471.38	471.23	471.16
1922	471.20	471.31	471.64	472.02	472.12	471.99	471.99	471.84	471.69	471.48	471.31	471.33
1923	471.20	471.31	471.64	472.02	472.12	471.99	471.99	471.84	471.69	471.48	471.31	471.33
1924	471.26	471.16	471.36	471.58	471.92	472.09	472.22	472.09	471.92	471.74	471.69	471.61
1925	471.46	471.46	471.54	471.92	471.99	472.07	472.37	472.23	472.07	471.84	471.74	471.69
1926	471.54	471.54	471.76	471.92	472.15	472.37	472.60	472.42	472.22	472.12	471.99	471.94
1927	471.76	471.76	471.84	472.07	472.25	472.68	472.60	472.53	472.37	472.30	472.15	471.99
1928	471.69	471.69	472.07	472.22	472.42	472.68	472.78	472.63	472.45	472.22	472.12	472.07
1929	471.92	471.84	472.07	472.22	472.63	473.03	473.14	473.06	472.86	472.63	472.60	472.45
1930	472.42	472.32	472.42	472.83	473.01	473.29	473.39	473.29	473.11	472.96	472.83	472.68
1931	472.60	472.68	472.98	473.14	473.36	473.64	473.85	473.87	473.75	473.54	473.44	473.36
1932	473.26	473.21	473.31	473.44	473.82	473.90	473.90	473.82	473.57	473.47	473.34	473.24
1933	473.14	473.06	473.29	473.49	473.80	474.15	474.20	474.20	474.10	473.95	473.80	473.72
1934	473.64	473.62	473.90	474.13	474.41	474.63	474.74	474.63	474.46	474.28	474.18	474.10
1935	474.02	473.97	474.20	474.33	474.58	475.14	475.37	475.22	475.09	475.02	474.97	474.84
1936	474.68	474.63	474.86	475.12	475.55	475.63	475.75	475.63	475.40	475.35	475.12	475.12
1937	474.91	474.86	475.02	475.22	475.22	475.50	475.57	475.42	475.29	474.99	474.91	474.81
1938	474.61	474.61	474.66	475.07	475.12	475.27	475.40	475.27	475.14	474.94	474.81	474.66
1939	474.51	474.56	474.61	474.97	475.24	475.73	475.70	475.57	475.29	475.07	474.99	474.81
1940	474.66	474.63	474.74	474.97	475.12	475.19	475.37	475.29	474.97	474.81	474.51	474.48
1941	474.66	474.43	474.51	474.74	474.81	474.97	475.02	474.91	474.76	474.61	474.51	474.43
1942	474.36	474.30	474.25	474.66	474.79	474.68	474.66	474.58	474.56	474.25	474.10	474.00
1943	473.82	473.64	473.72	474.40	474.85	474.72	474.20	474.15	473.94	473.80	473.57	473.47
1944	473.36	473.49	473.82	474.13	474.51	474.74	475.02	475.02	474.81	474.63	474.46	474.38
1945	474.20	474.18	474.25	474.36	474.48	474.76	474.84	474.94	474.51	474.30	474.20	474.10
1946	474.00	473.95	474.05	474.56	474.89	475.24	475.37	475.27	475.09	474.99	474.81	474.71

Monthly Levels of Lake Malawi(Continue)

Year	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.
1947	474.53	474.58	474.66	474.84	475.17	475.50	475.55	475.37	475.13	474.99	474.82	474.70
1948	474.55	474.53	474.48	474.53	474.55	474.56	474.54	474.34	474.15	473.97	473.83	473.69
1949	473.59	473.47	473.77	474.19	474.46	474.81	474.77	474.60	474.44	474.25	474.14	473.97
1950	473.91	473.89	473.98	474.23	474.55	474.69	474.66	474.44	474.26	474.06	473.95	473.87
1951	473.70	473.72	474.15	474.29	474.72	474.95	475.07	474.92	474.77	474.62	474.50	474.39
1952	474.30	474.21	474.29	474.40	474.51	474.67	474.65	474.42	474.19	473.99	473.81	473.70
1953	473.58	473.64	473.83	474.00	474.18	474.26	474.17	474.08	473.74	473.54	473.40	473.28
1954	473.18	473.13	473.19	473.52	473.92	474.08	474.11	474.02	473.83	473.67	473.50	473.37
1955	473.26	473.21	473.48	473.95	474.23	474.66	474.84	474.75	474.55	474.39	474.26	474.14
1956	474.04	474.07	474.27	474.67	474.94	475.34	475.58	475.44	475.27	475.13	475.00	474.87
1957	474.70	474.65	474.83	475.03	475.26	475.38	475.35	475.16	474.88	474.63	474.49	474.34
1958	474.23	474.17	474.29	474.49	474.74	474.80	474.70	474.50	474.27	474.07	473.93	473.79
1959	473.69	473.72	473.79	473.96	474.39	474.63	474.62	474.45	474.26	474.06	473.93	473.80
1960	473.64	473.59	473.70	473.88	474.19	474.36	474.47	474.29	474.10	474.00	473.81	473.66
1961	473.58	473.76	474.14	474.48	474.82	475.19	475.24	475.11	474.94	474.77	474.63	474.50
1962	474.39	474.40	474.63	474.93	475.36	475.79	475.83	475.76	475.52	475.35	475.20	475.08
1963	475.04	475.14	475.47	475.76	475.98	476.08	475.99	475.80	475.57	475.41	475.24	475.10
1964	474.94	474.86	475.07	475.26	475.48	475.73	475.61	475.43	475.23	475.07	474.91	474.84
1965	474.74	474.78	474.97	475.14	475.39	475.51	475.44	475.31	475.09	474.91	474.79	474.66
1966	474.56	474.56	474.63	474.68	474.85	475.07	475.16	475.07	474.88	474.69	474.52	474.40
1967	474.30	474.45	474.65	474.81	475.10	475.27	475.32	475.19	474.97	474.79	474.62	474.49
1968	474.39	474.43	474.61	474.86	475.02	475.28	475.38	475.23	475.04	474.84	474.68	474.55
1969	474.52	474.41	474.58	474.90	475.14	475.27	475.17	474.97	474.78	474.60	474.45	474.31
1970	474.20	474.39	474.64	474.96	475.31	475.49	475.50	475.29	475.10	474.92	474.75	474.55
1971	474.49	474.49	474.64	474.72	474.87	475.01	475.03	474.91	474.67	474.48	474.34	474.24
1972	474.15	474.21	474.40	474.53	474.77	475.04	475.09	474.90	474.74	474.58	474.36	474.26
1973	474.15	474.14	474.36	474.62	474.88	475.32	475.62	475.61	475.49	475.23	475.11	475.00
1974	474.93	474.92	475.08	475.18	475.44	475.69	475.74	475.57	475.40	475.22	475.04	474.93
1975	474.80	474.79	475.05	475.24	475.72	476.15	476.25	476.09	476.03	475.67	475.52	475.40
1976	475.35	475.26	475.46	475.49	475.67	475.85	475.88	475.75	475.53	475.30	475.15	475.06
1977	474.89	474.95	475.18	475.45	476.25	476.41	476.39	476.21	476.00	475.79	475.65	475.51
1978	475.43	475.91	475.82	476.21	476.84	477.16	477.18	476.82	476.70	476.60	476.42	476.26
1979	476.11	476.20	476.44	476.52	476.87	477.30	477.23	477.07	476.81	476.46	476.39	476.28
1980	476.05	476.17	476.35	476.21	476.82	476.89	476.90	476.70	476.45	476.22	476.05	475.89
1981	475.75	475.75	475.80	476.00	476.28	476.45	476.55	476.40	476.20	475.99	475.84	475.67
1982	475.61	475.68	475.83	476.00	476.21	476.38	476.33	476.17	475.97	475.76	475.58	475.42
1983	475.27	475.20	475.46	475.57	475.77	475.88	475.77	475.57	475.39	475.18	475.00	474.86
1984	474.77	474.85	475.06	475.23	475.42	475.66	475.65	475.45	475.26	475.05	474.89	474.76
1985	474.70	474.85	475.05	475.43	475.69	476.00	476.01	475.83	475.58	475.36	475.20	475.08
1986	475.01	475.08	475.34	475.59	475.81	475.94	475.83	475.58	475.32	475.15	475.03	474.88
1987	474.74	474.64	474.77	475.07	475.28	475.50	475.29	475.23	475.06	474.84	474.69	474.54
1988	474.43	474.42	474.65	475.00	475.47	476.34	476.11	476.00	475.81	475.59	475.42	475.26
1989	475.16	475.21	475.46	475.60	475.74	475.84	475.80	475.64	475.42	475.21	474.89	474.83
1990	474.73	474.62	474.82	475.04	475.20	475.62	475.68	475.47	475.25	475.07	474.91	474.77
1991	474.64	474.58	474.76	474.84	474.85	474.90	474.85	474.69	474.44	474.21	474.06	473.94
1992	473.84	473.82	473.91	474.16	474.56	474.86	474.93	474.77	474.53	474.36	474.21	474.09
1993	474.00	473.87	473.98	474.22	474.48	474.56	474.44	474.24	474.02	473.85	473.70	473.58
1994	473.46	473.42	473.60	473.71	474.01	474.12	474.05	473.86				
mean	473.79	473.12	473.97	474.20	474.47	474.63	474.04	474.58	474.39	474.20	474.06	473.95

Source : Ministry of Water Development

	29 Oct		8.115	475.756
1981/82	9 May	8.809		476.45
	31 Oct		7.833	475.474
1982/83	2 May	8.69		476.32
	18 Nov		7.7	475.36
1983/84	13 Apr	8.348		475.818
	19 Oct		7.15	474.78
1984/85	8 May	7.79		475.72
	20 Oct		6.71	474.12
1985/86	30 Apr	8		475.94
	9 Nov		6.65	474.59
1986/87	4 Apr	8.2		475.96
	16 Nov		6.97	474.91
1987/88	8 Apr	7.77		475.52
	26 Oct		6.72	474.48
1988/89	14 May	8.35		476.1
	16 Nov		6.59	474.347
1989/90	2 May	8.12		475.877
	27 Oct		7	474.75
1990/91	4 May	7.93		475.687
	26 Dec		6.81	474.567
1991/92	1 Apr	7.2		474.957
	1 Oct		6.26	474.017
1992/93	5 May	7.26		475.014
	27 Nov		<6	473.757
1993/94	22 Apr	6.91		474.664
	23 Oct		5.69	473.444
1994/95	27 Apr	6.44		474.194
	13 Jan		5	472.754
1995/96	26 May	6.42		474.169
	2 Dec		5.2	472.954
1996/97	25 Apr	6.2		473.949

Notes : the station was opened in 1940. However, intensive gauge readings started on 1 June, 1948
: water year in Malawi starts on November, 1 and ends October, 31 the following year
: there are a lot of changes in zero of gauge of this station
: the station was operated as a water level station until 1976 when discharge measurements commenced
: rating equations:-
(i) 1976-1984 discharge=0.307(gauge height-1)^{3.89}
(ii) 02/11/84-1989 discharge=1.2(gauge height-1)^{3.35}
(iii) Nov, 1989-Nov, 1997 discharge=36.14(gauge height-3.27)^{1.881}

Sources of Data:

- gauge books
- ledgers
- history file

4.2 Gauging and Rating Data for Shire River at Mangochi

Gauging and Rating Data for Shire River at Mangochi (R.G.S. 1.T.1)

water year	date	gauge hgt.		mean above sea level
		max (m)	min (m)	
1947/48	1 June	7.849		475.499
1948/49	19 Feb	6.934		474.584
	26 Oct		5.969	473.619
1949/50	25 Apr	7.239		474.889
	8 Dec		5.766	473.416
1950/51	30 Apr	7.087		474.737
	28 Dec		6.172	473.822
1951/52	10 May	7.468		475.121
	30 Nov		5.944	473.597
1952/53	1 Jul	7.188		474.841
	19 Dec		6.514	474.167
1953/54	1 Jul	6.645		474.298
	24 Nov		5.791	473.444
1954/55	29 Apr	6.398		474.048
	3 Dec		5.377	473.027
1955/56	19 May	7.132		474.782
	5 Dec		5.456	473.106
1956/57	5 May	7.907		475.557
	17 Dec		6.111	473.761
1957/58	2 Jun	7.69		475.34
	13 Dec		6.846	474.505
1958/59	8 Apr	7.081		474.74
	29 Oct		5.989	473.648
1959/60	25 Apr	6.928		474.587
	5 Jan		5.87	473.529
1960/61	17 May	6.767		474.426
	13 Dec		5.819	473.478
1961/62	27 Apr	7.495		475.154
	13 Nov		5.791	473.45
1962/63	15 May	8.147		475.806
	29 Nov		6.55	474.209
1963/64	30 Mar	8.419		476.078
	7 Nov		7.209	474.868
1964/65	25 Apr	8.025		475.684
	28 Dec		7.077	474.736
1965/66	16 Apr	7.897		475.556
	23 Oct		6.864	474.523
1966/67	2 May	7.495		475.154
	30 Oct		6.584	474.243
1967/68	2 May	7.647		475.306
	24 Nov		6.55	474.209
1968/69	6 May	7.775		475.434
	20 Nov		6.614	474.273
1969/70	13 Apr	7.583		475.242
	27 Oct		6.517	474.176
1970/71	27 Apr	7.858		475.517
	26 Nov		6.407	474.066
1971/72	3 May	7.382		475.041
	31 Oct		6.37	474.029
1972/73	3 May	7.434		475.093
	9 Nov		6.346	474.005
1973/74	25 May	7.967		475.617
	17 Dec		6.325	473.975
1974/75	9 May	8.083		475.743
	3 Dec		7.148	474.798
1975/76	6 May	8.487		476.147
	10 Jan		7.186	474.846
1976/77	5 May	8.172		475.832
	31 Oct		7.225	474.885
1977/78	23 May	8.57		476.23
	30 Nov		7.199	474.859
1978/79	5 May	9.062		476.709
	1 Nov		6.783	474.443
1979/80	23 May	9.096		476.737
	12 Nov		8.225	475.866
1980/81	23 May	9.102		476.743

4.3 Annual Summary of Daily Data (Mangochi)

Water Department
Annual summary of daily data - Flow

Station number : 12001 Name : SHIRE AT MANGOCHI

Basin no. : 1 Latitude : 0: 0: 0 N Longitude : 0: 0: 0 E Altitude : .0
Area : 125500. (22)²
(Catchment)

Year : 1996/1997

	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
1	183.1	161.7	178.7	193.8	168.4	208.1	240.5	212.4	212.3	-	-	-
2	189.5	164.0	177.4	197.5	169.3	136.0	239.2	212.9	201.5	-	-	-
3	186.5	164.2	175.1	188.2	175.3	-	241.3	173.5	204.4	-	-	-
4	184.2	162.4	174.4	196.5	171.8	221.5	238.0	181.5	195.7	-	-	-
5	183.7	164.2	166.8	-	217.0	183.7	235.6	211.9	199.7	-	-	-
6	181.7	157.7	182.4	191.3	209.8	231.0	229.3	177.1	193.5	-	-	-
7	182.3	161.3	177.2	193.9	132.2	230.0	234.0	217.1	191.3	-	-	-
8	183.8	162.6	179.5	198.9	133.7	237.7	232.8	219.1	190.7	-	-	-
9	181.8	166.4	172.3	197.5	173.5	235.8	231.5	222.8	195.3	-	-	-
10	181.2	163.7	175.4	202.5	199.3	239.9	228.6	218.3	195.3	-	-	-
11	177.8	170.4	179.0	200.5	135.8	239.6	227.3	220.4	191.3	-	-	-
12	179.6	169.0	174.6	199.9	-	237.0	229.6	219.7	193.5	-	-	-
13	179.2	174.1	166.4	200.7	172.2	235.7	232.4	218.6	191.3	-	-	-
14	180.2	177.4	175.6	198.1	174.8	238.2	227.1	221.5	189.8	-	-	-
15	178.8	175.1	181.0	199.1	169.1	238.5	223.4	220.8	185.5	-	-	-
16	177.8	174.3	185.0	198.6	166.7	235.9	227.0	221.9	188.7	-	-	-
17	175.7	169.8	183.7	204.4	167.2	237.1	226.9	221.3	187.0	-	-	-
18	175.8	169.9	177.9	209.4	135.2	235.2	226.7	218.9	187.7	-	-	-
19	175.7	176.9	180.7	209.1	169.9	236.4	225.3	215.2	188.2	-	-	-
20	178.3	170.2	186.7	214.8	172.2	237.2	-	213.0	187.5	-	-	-
21	176.6	169.7	189.3	206.5	134.4	239.4	-	209.1	187.6	-	-	-
22	175.2	173.4	182.4	207.9	213.8	241.0	-	208.6	185.5	-	-	-
23	175.1	173.5	192.8	204.5	209.6	240.3	230.2	210.7	183.5	-	-	-
24	174.4	183.2	176.9	208.0	141.4	244.6	228.4	211.0	187.4	-	-	-
25	174.9	166.3	183.7	210.8	165.4	245.4	225.0	208.9	188.8	-	-	-
26	174.4	182.6	187.8	212.2	135.2	242.8	224.3	209.3	191.8	-	-	-
27	172.3	181.8	192.2	209.7	213.4	244.1	223.8	211.5	187.3	-	-	-
28	165.6	180.2	195.5	209.0	214.3	241.8	223.6	210.6	191.7	-	-	-
29	170.4	179.8	201.0		215.7	241.5	217.1	210.0	190.0	-	-	-
30	166.4	180.1	208.1		223.4	241.5	135.8	209.1	182.9	-	-	-
31		177.2	195.7		184.4		133.7		185.0	-	-	-
Mean	178.12	171.87	182.42	202.34	175.51	231.62	223.02	211.23	191.51	-	-	-
Maximum	189.46	186.28	208.12	214.77	223.43	245.43	241.34	222.8	212.35	-	-	-
Minimum	165.6	157.65	166.44	188.18	132.19	135.95	133.65	173.48	182.87	-	-	-
9/off mm	3.6498	3.6391	3.8625	3.8696	3.7161	4.7459	4.7221	4.328	4.0548	-	-	-

Flows in cubic metres per second

Insufficient data for annual statistics

Possible data flags

Missing - flag "-"

Original - no flag set

Estimate - flag "e"

Water Department
Annual summary of daily data - Flow

Station number : 12001 Name : SHIRE AT MANGOCHI

Basin no. : 1 Latitude : 0: 0: 0 N Longitude : 0: 0: 0 E Altitude : .0
Area : 126500.

Year : 1995/1996

	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
1	161.0	151.3	155.5	171.0	205.7	244.3	260.0	263.4	238.3	222.0	208.1	194.9
2	160.5	145.9	155.6	176.8	204.1	245.1	259.2	263.4	237.1	224.1	204.3	197.3
3	163.4	143.8	149.6	168.8	204.9	247.3	264.8	259.5	235.6	223.6	204.3	197.1
4	164.4	144.4	146.4	169.1	210.5	-	264.3	261.3	240.8	219.8	208.0	197.4
5	162.6	147.0	153.2	164.8	205.8	251.6	264.7	257.3	241.0	219.7	205.1	195.3
6	159.0	145.8	153.3	170.8	207.8	251.5	262.1	260.4	243.9	221.7	205.0	195.7
7	155.8	145.8	160.2	-	205.0	255.4	262.5	259.3	240.9	221.6	207.9	195.0
8	157.0	136.3	159.8	173.0	209.1	256.7	264.4	255.9	242.1	224.1	209.1	195.0
9	158.7	144.7	158.6	169.2	209.3	258.6	261.7	255.8	241.2	220.8	208.5	194.4
10	160.6	148.5	160.6	172.0	204.5	257.1	262.9	252.6	242.2	224.4	208.4	193.3
11	159.4	144.6	162.3	170.3	133.2	258.7	259.0	259.8	240.3	223.6	205.6	194.5
12	152.1	146.0	162.9	172.1	137.9	259.1	262.2	255.1	234.8	221.1	208.1	193.4
13	121.9	144.1	162.2	174.8	202.8	260.6	261.1	255.0	234.1	218.1	208.4	195.1
14	158.5	148.3	159.0	173.8	177.3	261.0	264.2	255.0	239.1	215.3	205.8	192.3
15	159.1	144.9	161.0	178.4	227.1	260.1	264.3	256.8	238.0	219.7	205.1	193.6
16	161.7	150.3	169.9	170.3	229.9	261.7	258.8	-	235.1	214.6	207.5	189.2
17	160.7	148.5	168.5	170.2	230.5	262.3	258.5	254.9	234.9	214.0	202.3	194.0
18	-	145.7	165.9	173.6	228.6	261.6	261.9	252.4	230.3	-	203.0	185.5
19	-	148.1	161.4	180.5	236.4	263.5	262.8	252.7	238.2	-	205.6	185.2
20	154.4	145.4	162.1	180.6	237.5	263.4	263.8	253.9	284.3	-	203.0	187.5
21	154.7	153.5	161.6	187.1	231.3	263.0	263.9	247.3	227.3	211.6	198.2	185.0
22	156.9	146.9	168.9	184.6	228.3	263.9	263.8	248.4	224.6	212.6	194.2	187.0
23	155.7	153.5	173.1	186.2	235.7	259.3	262.2	248.2	223.4	210.1	196.1	185.7
24	156.8	-	171.0	185.5	240.0	262.4	266.3	247.4	222.6	207.2	199.3	187.1
25	155.9	-	164.9	191.9	239.9	262.3	267.0	247.8	222.1	202.6	200.0	186.2
26	153.5	153.6	162.0	193.0	237.5	264.1	267.7	246.2	220.3	203.9	200.0	186.6
27	150.1	154.1	160.2	193.9	242.3	263.3	262.1	247.7	221.9	209.7	200.4	184.1
28	152.7	152.0	168.7	196.5	241.5	263.4	264.2	244.1	224.2	204.9	197.2	185.8
29	149.8	151.7	167.4	200.9	241.9	262.1	260.4	241.6	221.7	205.4	193.0	183.1
30	151.8	154.7	166.5		242.5	259.8	261.5	237.3	223.1	203.2	194.4	186.4
31		157.2	165.3		244.6		263.4		221.7	208.4		185.7
Mean	156.06	148.15	161.86	178.56	217.25	258.75	262.77	253.12	234.35	215.28	203.42	193.43
Maximum	164.43	157.18	173.14	200.89	244.61	264.1	267.72	263.45	284.33	224.41	209.09	197.39
Minimum	121.89	136.26	146.39	164.75	133.21	244.88	258.46	237.35	220.31	202.61	194.19	183.12
R/off mm	3.1976	3.1369	3.4271	3.5367	4.5999	5.3019	5.5636	5.1865	4.9621	4.5592	4.1682	4.0319

Flows in cubic metres per second

Annual statistics

Maximum 284.325 Minimum 121.889 Mean 207.044 cubic metres per second
Total 6547.213 million cubic metres Runoff 51.757 millimetres

Possible data flags

Missing - flag "a"

Original - no flag set

Estimate - flag "e"

Water Department
Annual summary of daily data - Flow

Station number : 12001 Name : SHIRE AT MANGOCHI

Basin no. : 1 Latitude : 0: 0: 0 N Longitude : 0: 0: 0 E Altitude : 0
Area : 128500.

Year : 1994/1995

	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
1	196.5	198.6	193.5	178.5	238.6	257.0	265.3	244.3	227.4	207.0	191.4	-
2	200.8	189.3	190.7	178.0	244.3	255.7	260.9	240.9	238.0	204.9	191.7	177.9
3	197.0	195.5	194.9	178.4	242.8	257.3	262.5	242.1	210.8	201.3	192.7	178.5
4	197.0	190.5	204.6	187.7	243.8	259.7	265.0	241.7	175.5	200.4	192.3	178.8
5	197.6	187.9	189.9	219.6	242.5	257.4	259.5	241.9	215.5	202.9	192.4	178.2
6	198.3	190.2	124.5	183.1	240.8	258.1	263.7	240.3	216.9	204.5	193.1	178.5
7	197.0	191.7	-	176.9	243.4	259.5	262.5	242.8	215.8	200.5	187.5	179.5
8	198.7	192.2	202.0	186.8	244.5	258.3	263.4	238.0	212.5	200.9	187.1	178.7
9	199.2	191.8	173.8	174.0	245.3	260.1	264.7	236.8	215.3	200.8	185.2	189.3
10	199.9	192.2	199.4	204.2	247.5	263.3	259.3	237.0	211.8	199.0	186.3	179.9
11	199.9	195.1	205.9	176.0	246.8	264.8	258.6	237.4	217.2	192.9	186.7	178.4
12	197.6	190.2	203.5	205.7	248.9	260.0	257.3	232.1	214.9	194.5	187.6	189.5
13	197.5	188.5	133.4	196.1	248.0	259.7	254.1	235.2	215.2	193.2	187.2	179.9
14	197.3	193.4	160.5	193.5	250.1	261.8	253.8	236.4	213.4	195.1	185.8	176.7
15	200.5	189.6	174.7	222.7	252.5	262.4	254.7	236.7	208.4	194.5	185.5	170.3
16	199.4	187.1	203.1	229.2	249.4	260.7	255.2	236.1	207.7	194.1	186.7	175.5
17	199.5	193.2	177.9	230.5	248.8	258.6	252.0	235.5	208.2	196.4	185.2	173.4
18	197.6	192.4	137.6	230.7	255.1	256.1	249.7	232.7	211.5	197.1	185.9	175.0
19	198.4	193.4	129.2	238.1	255.5	261.7	250.3	231.7	210.2	196.1	181.9	174.6
20	198.3	193.2	127.0	234.5	257.2	266.0	254.4	228.4	209.1	197.2	178.2	175.4
21	197.8	192.9	129.0	279.6	259.6	265.5	256.5	232.1	208.7	196.8	176.3	174.9
22	197.6	196.2	129.9	245.5	261.1	267.8	257.7	230.5	209.0	199.4	181.1	171.7
23	199.5	193.8	162.0	237.7	259.2	268.6	254.8	232.0	208.7	199.2	179.5	170.9
24	194.5	190.5	134.3	229.7	263.8	270.0	250.9	231.0	205.3	194.0	189.3	173.4
25	190.2	194.7	125.5	234.1	262.0	270.2	248.7	228.3	205.5	192.0	182.4	172.5
26	186.9	195.7	128.8	233.6	263.1	272.4	246.0	224.8	207.5	191.5	181.1	172.3
27	194.2	190.5	170.8	242.0	262.4	271.6	247.0	225.7	206.6	195.6	177.4	172.4
28	188.3	193.3	144.4	239.9	266.0	269.3	243.6	224.9	205.1	194.0	178.5	169.6
29	187.6	189.2	219.4		266.2	269.7	242.9	225.7	207.4	192.8	177.9	170.2
30	188.5	195.3	177.8		265.3	271.2	241.5	225.1	205.1	192.5	178.5	169.3
31		200.5	130.1		261.0		245.5		207.9	194.2		163.4
Mean	196.41	192.24	165.93	213.08	252.76	263.14	254.92	234.26	210.75	197.23	181.45	175.0
Maximum	200.78	200.52	219.38	279.64	266.23	272.38	265.77	244.35	238.01	206.98	192.72	180.48
Minimum	186.89	187.06	124.46	173.96	238.62	255.69	241.52	224.76	175.51	191.52	176.33	162.45
R/off mm	4.0245	4.0703	3.5133	4.075	5.3518	5.3919	5.3975	4.8001	4.4622	4.1773	3.7794	3.7052

Flows in cubic metres per second

Annual statistics

Maximum 279.635 Minimum 124.462 Mean 211.916 cubic metres per second
Total 6679.843 million cubic metres Runoff 52.805 millimetres

Possible data flags

Missing - flag "--"

Original - no flag set

Estimate - flag "e"

Water Department
Annual summary of daily data - Flow

Station number : 12001 Name : SHIRE AT MANGOCHI

Basin no. : 1 Latitude : 0: 0: 0 N Longitude : 0: 0: 0 E Altitude : 0
Area : 126500.

Year : 1993/1994

	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
1	251.7	248.0	239.9	277.2	289.2	335.6	308.8	287.0	265.0	239.1	224.3	219.2
2	247.5	248.5	243.1	279.2	285.8	318.3	307.9	285.8	262.7	240.7	224.4	212.3
3	249.0	246.2	246.2	285.8	290.9	320.0	310.9	284.9	257.9	242.5	221.2	212.1
4	256.1	246.3	246.2	286.4	294.5	327.8	305.8	286.3	258.9	240.7	215.8	207.6
5	250.9	246.3	249.3	287.7	297.6	317.8	311.5	287.1	258.5	240.0	221.7	235.0
6	241.5	246.3	244.5	287.9	300.6	322.2	317.3	286.3	258.6	237.4	219.1	200.5
7	240.1	245.2	248.0	284.7	298.4	320.9	316.1	283.7	262.2	237.8	219.2	201.9
8	250.0	245.3	248.9	280.0	300.7	328.3	309.8	280.5	255.2	237.8	223.3	205.5
9	245.9	245.0	252.5	273.4	305.8	328.3	310.7	283.4	259.7	239.5	221.0	205.3
10	249.7	249.1	256.6	271.0	304.0	331.2	308.4	277.1	260.3	238.1	217.7	206.8
11	257.6	239.3	252.0	279.7	308.5	321.2	308.2	276.8	258.8	238.5	216.0	212.1
12	249.0	238.2	251.6	287.6	319.3	315.3	307.3	276.2	254.8	237.4	220.8	208.2
13	251.9	238.1	256.0	280.2	318.1	318.5	304.1	271.0	250.5	235.8	222.5	205.2
14	251.8	236.5	255.1	282.2	321.6	325.3	304.5	275.2	254.3	237.0	218.7	207.4
15	251.7	235.4	254.1	280.0	309.2	335.4	300.9	269.4	253.9	235.4	216.1	202.2
16	246.2	237.5	259.2	281.3	309.0	333.2	301.7	271.9	253.9	236.9	217.9	199.8
17	246.6	236.4	253.9	286.0	310.2	338.5	300.5	272.1	247.9	240.0	217.8	202.3
18	251.2	241.2	257.1	281.9	314.8	340.1	302.8	274.9	253.3	236.0	218.7	202.5
19	250.1	238.8	258.3	279.8	316.1	337.1	301.3	271.1	254.1	235.2	219.4	206.3
20	247.3	234.9	257.9	279.2	310.3	341.6	301.9	271.5	251.8	236.5	219.7	205.4
21	249.1	233.2	259.3	280.6	317.3	344.0	301.3	274.1	253.0	236.3	-	-
22	255.4	237.5	257.5	289.2	311.3	344.3	302.0	274.5	251.2	229.7	219.3	193.8
23	249.4	236.2	261.2	283.5	316.2	337.6	301.6	272.7	252.5	224.4	219.9	193.9
24	251.3	236.8	263.9	282.9	319.2	336.6	298.1	272.3	251.3	230.3	219.9	193.0
25	252.8	237.2	267.1	282.5	316.9	322.7	294.4	272.0	251.3	230.3	216.1	204.1
26	253.6	235.9	271.4	282.7	307.5	316.1	293.0	274.7	252.8	226.0	216.2	203.8
27	250.2	238.1	275.8	283.5	318.7	315.8	297.3	276.3	249.9	226.7	218.0	201.2
28	255.9	235.2	277.4	294.2	323.9	311.5	296.8	275.4	241.7	225.8	220.1	202.3
29	253.1	239.6	279.0		302.3	316.8	295.4	271.8	235.3	221.5	217.2	201.5
30	247.5	238.3	279.3		315.2	308.5	290.9	267.2	239.9	217.2	213.8	204.4
31		234.9	275.4		323.3		290.1		233.1	222.4		208.6
Mean	250.14	240.16	257.99	282.51	308.97	327.01	303.26	276.77	253.24	234.02	219.37	204.82
Maximum	257.63	249.09	279.31	294.24	323.87	344.28	317.28	297.13	265.02	242.52	224.41	213.24
Minimum	240.08	233.2	239.9	271.0	295.85	308.5	290.06	267.16	235.27	217.2	215.78	198.83
R/off mm	5.1254	5.0849	5.4625	5.4028	5.5419	6.7005	6.421	5.9711	5.362	4.955	4.495	4.3365

Flows in cubic metres per second

Annual statistics

Maximum 344.283 Minimum 198.876 Mean 253.255 cubic metres per second
Total 8302.023 million cubic metres Runoff 65.629 millimetres

Possible data flags

Missing - flag 'a'

Original - no flag set

Estimate - flag 'e'

Water Department
Annual summary of daily data - Flow

Station number : 12001 Name : SHIRE AT MANGOCHI

Basin no. : 1 Latitude : 0: 0: 0 N Longitude : 0: 0: 0 E Altitude : .0
Area : 126500.

Year : 1992/1993

	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
1	246.6	233.9	242.6	266.4	295.1	398.7	442.3	419.6	335.1	303.7	276.5	272.0
2	243.5	232.9	235.9	266.5	295.8	382.6	441.0	424.2	332.7	307.3	274.4	271.8
3	243.5	232.2	-	260.7	-	393.8	445.4	416.5	325.8	305.2	273.9	273.9
4	240.5	231.9	-	266.1	295.5	404.6	450.4	418.8	324.6	306.6	274.9	272.8
5	235.9	234.5	246.1	264.8	300.5	403.3	453.9	414.9	332.2	307.2	273.7	273.2
6	240.9	236.0	248.7	270.9	303.9	403.6	457.3	403.1	332.9	305.3	276.7	278.6
7	245.6	239.8	246.9	268.1	304.9	414.2	457.3	403.8	335.4	307.0	279.4	278.6
8	-	238.3	249.8	267.2	306.7	423.2	459.1	403.1	331.2	306.5	276.0	275.5
9	-	231.3	251.6	268.1	310.5	414.9	456.5	406.4	334.2	304.9	278.8	270.7
10	238.0	236.1	247.8	271.3	312.7	417.8	455.7	407.2	340.8	304.4	278.8	272.9
11	236.4	233.5	249.1	277.1	313.9	435.2	459.7	400.0	334.6	304.9	275.7	272.5
12	238.1	236.1	253.2	273.2	308.3	429.5	456.2	394.1	338.6	303.3	277.9	274.0
13	237.6	234.3	252.8	279.4	310.0	431.6	444.4	392.0	334.4	305.0	277.4	275.0
14	238.1	237.2	255.6	279.7	314.3	428.4	442.0	395.9	326.1	304.3	271.8	272.9
15	238.7	234.9	252.3	285.0	314.6	433.1	442.8	397.4	316.6	296.4	270.4	268.8
16	236.7	236.0	253.8	279.8	316.8	436.5	438.1	-	323.6	293.3	271.4	269.6
17	235.7	234.7	255.7	283.1	324.6	424.8	438.3	386.2	318.7	292.4	274.4	266.7
18	238.7	233.4	265.6	278.9	320.2	437.3	434.4	396.4	325.8	293.1	275.3	259.7
19	234.6	237.2	261.2	280.1	319.7	432.8	434.2	388.7	323.1	292.6	276.1	252.2
20	236.3	233.7	261.7	286.9	334.2	428.9	425.0	387.2	310.1	294.0	273.6	261.2
21	235.0	233.6	252.3	288.8	344.3	416.0	426.6	383.6	323.1	288.3	273.9	265.7
22	241.4	234.4	253.9	289.8	345.8	420.9	429.5	379.6	317.0	284.9	270.6	267.6
23	243.1	233.3	252.5	291.1	359.2	423.5	428.4	372.0	309.4	282.9	271.8	261.5
24	240.8	244.3	254.1	286.6	365.7	428.2	438.9	372.3	305.0	280.9	273.1	259.8
25	240.7	246.4	256.3	288.3	360.2	447.8	426.3	354.5	313.0	281.6	274.0	260.8
26	235.6	253.7	263.0	282.7	364.7	437.6	430.8	342.3	319.2	279.7	274.8	262.4
27	-	245.5	269.2	298.2	371.0	434.9	434.9	341.3	314.4	277.4	278.6	260.5
28	228.7	241.9	258.4	289.8	389.3	441.8	433.9	349.7	308.9	279.1	272.6	259.7
29	231.2	242.2	252.4	-	393.8	434.7	447.0	351.0	308.0	275.6	272.5	255.7
30	236.0	-	259.0	-	403.1	441.0	436.5	333.2	309.2	274.2	273.2	251.4
31	-	-	258.6	-	391.3	-	431.8	-	302.9	278.7	-	262.6
Mean	238.49	237.21	253.79	278.16	333.03	423.37	442.05	387.07	322.79	294.25	274.82	267.75
Maximum	245.92	253.69	269.22	298.16	403.06	447.79	459.56	424.24	340.81	307.34	279.4	278.65
Minimum	228.7	231.31	235.9	260.68	295.1	382.64	425.03	333.17	302.92	274.15	270.42	255.69
R/off mm	4.8365	5.0225	5.3735	5.3195	7.0513	8.6749	9.3595	7.9311	6.8345	5.2301	5.631	5.6692

Flows in cubic metres per second

Annual statistics

Maximum 459.561 Minimum 228.702 Mean 313.933 cubic metres per second
Total 9900.198 million cubic metres Runoff 78.262 millimetres

Possible data flags

Missing - flag '-'

Original - no flag set

Estimate - flag 'e'

Water Department
Annual summary of daily data - Flow

Station number : 12001

Name : SHIRE AT MANGOCHI

Basin no. : 1 Latitude : 0: 0: 0 N Longitude : 0: 0: 0 E Altitude : .0
Area : 126500.

Year : 1991/1992

	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
1	359.7	317.8	360.5	399.0	413.0	435.2	400.5	400.0	334.6	277.4	-	253.5
2	353.2	328.5	370.2	403.8	412.8	409.8	416.7	393.8	329.2	274.8	265.8	-
3	351.7	317.8	365.5	409.7	-	418.0	425.3	399.0	327.0	276.5	-	-
4	352.5	323.9	356.2	413.1	412.9	411.6	419.1	392.6	311.8	275.9	271.5	-
5	348.0	331.7	360.7	411.6	422.2	404.9	415.9	383.6	308.5	281.2	270.8	-
6	359.2	322.5	382.4	413.6	409.2	410.6	422.4	381.1	314.9	278.8	267.8	-
7	349.7	329.0	392.8	410.5	409.5	412.1	417.0	359.2	311.1	279.7	268.3	-
8	352.5	320.4	391.8	410.8	412.3	409.5	420.4	357.2	306.3	286.4	259.2	-
9	348.7	321.5	384.9	417.0	408.0	415.4	424.5	362.0	309.5	287.6	-	-
10	345.0	308.2	394.9	417.5	410.8	415.4	425.0	363.2	317.5	279.8	-	-
11	339.1	309.9	393.3	409.7	407.2	412.1	420.4	360.2	307.1	274.2	263.4	-
12	347.7	308.5	487.2	410.5	409.5	412.8	414.7	356.5	295.4	269.8	-	-
13	348.7	313.4	418.0	407.9	423.8	410.8	410.3	358.5	294.4	266.6	262.7	-
14	341.6	324.5	401.5	410.3	402.3	415.2	407.7	357.2	300.6	270.0	263.1	-
15	339.1	305.6	396.7	407.7	406.9	414.4	411.3	364.5	294.9	271.2	250.0	-
16	340.1	321.4	384.4	400.0	419.1	426.8	415.9	354.5	294.3	271.9	264.5	-
17	337.1	329.3	388.5	392.8	426.6	428.1	411.6	357.0	294.0	279.8	262.4	-
18	334.6	318.5	385.4	396.1	413.4	418.0	416.7	357.7	294.8	269.4	258.5	-
19	339.8	323.9	389.0	399.5	393.3	420.1	420.4	361.5	295.1	265.7	260.0	-
20	330.0	326.8	395.9	406.4	419.8	424.5	412.1	354.0	296.6	267.2	260.2	-
21	334.2	337.1	393.6	395.4	421.4	424.8	408.7	343.7	296.8	271.4	260.4	353.2
22	337.7	339.6	384.7	396.4	419.3	421.4	413.6	353.7	299.2	276.4	261.2	377.3
23	307.6	338.3	382.4	401.3	417.2	415.4	409.2	350.0	302.3	272.7	261.2	-
24	314.2	330.8	362.2	403.3	413.6	423.7	405.9	354.2	296.5	276.1	-	-
25	316.3	324.8	377.6	414.9	420.4	417.2	412.6	349.7	292.7	273.2	-	-
26	317.3	332.7	385.9	412.8	423.2	413.1	403.3	350.0	293.2	275.4	-	372.5
27	321.9	343.8	391.8	424.3	437.6	413.9	401.3	327.5	293.5	274.8	-	-
28	314.6	357.2	397.7	434.9	415.7	421.4	401.3	342.0	294.4	273.7	-	-
29	313.9	355.2	395.1	422.7	415.7	400.5	397.2	338.3	293.4	270.6	-	-
30	318.7	357.7	400.7	-	425.3	403.3	385.2	336.4	285.6	258.6	-	-
31	-	357.7	401.0	-	426.1	-	396.1	-	283.7	-	-	-
Mean	337.15	328.32	389.47	408.71	415.77	416.01	411.88	360.82	302.21	274.55	-	-
Maximum	359.7	357.7	487.23	434.94	437.55	436.25	425.29	399.98	334.64	287.6	-	-
Minimum	307.63	305.6	356.2	392.81	393.35	400.52	395.13	327.54	283.73	255.68	-	-
R/off mm	6.9092	6.9515	8.2162	8.0953	8.8032	8.524	8.7166	7.3932	6.3986	5.3131	-	-

Flows in cubic metres per second

Insufficient data for annual statistics

Possible data flags

Missing - flag "-"

Original - no flag set

Estimate - flag "e"

Printed on 13/ 2/1998

Water Department
Annual summary of daily data - Flow

Station number : 12001

Name : SHIRE AT MANGOCHI

Basin no. : 1
Area : 126500.

Latitude : 0: 0: 0 N

Longitude : 0: 0: 0 E

Altitude : .0

Year : 1990/1991

	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
1	412.6	368.5	355.7	457.6	495.2	543.4	671.8	640.5	562.7	502.5	447.0	390.0
2	391.6	352.2	357.2	469.8	515.8	580.5	676.1	639.6	559.4	499.8	441.0	395.4
3	385.9	367.6	372.0	460.7	502.5	595.1	680.2	625.9	552.8	501.7	435.2	390.0
4	401.5	363.5	385.9	462.6	506.8	608.9	650.2	614.0	559.3	491.4	434.7	395.7
5	397.7	360.7	390.8	467.6	503.3	615.7	673.5	614.6	563.3	473.3	438.5	395.4
6	402.8	353.0	396.1	457.5	509.2	624.2	673.8	611.7	564.9	482.3	436.0	385.7
7	393.0	354.0	408.7	468.7	508.4	626.5	655.3	624.8	557.7	478.0	430.0	392.6
8	413.6	352.7	416.7	482.8	510.0	648.5	662.3	610.0	543.1	482.3	435.7	398.2
9	402.1	358.7	409.8	478.3	525.3	641.3	663.4	611.2	544.5	477.7	438.1	404.9
10	398.5	343.1	410.3	513.0	543.9	643.6	663.4	606.1	543.1	476.7	441.2	391.0
11	395.9	339.3	408.6	517.4	554.7	630.8	665.7	608.1	544.8	471.4	440.2	393.1
12	380.6	354.5	435.5	520.9	540.9	633.6	672.7	599.3	539.8	458.6	436.0	391.5
13	378.6	354.2	420.4	516.9	532.9	642.7	664.3	595.1	530.2	464.4	438.1	395.4
14	379.6	360.2	422.7	496.0	529.9	648.2	661.7	593.4	535.1	463.1	436.0	385.2
15	378.8	370.0	422.9	509.0	518.2	644.2	657.9	588.1	537.6	452.0	432.5	390.8
16	377.8	368.2	420.1	522.0	516.0	648.8	647.3	580.3	528.3	445.9	431.0	392.0
17	382.1	364.2	416.7	520.7	523.7	661.1	643.6	581.4	517.4	451.7	427.1	377.5
18	386.5	356.3	415.9	526.4	533.8	661.1	647.6	587.3	518.2	459.9	424.5	365.7
19	378.8	339.8	422.9	511.1	534.6	658.8	658.8	583.3	510.9	454.4	428.9	374.0
20	388.8	340.9	426.6	509.5	506.8	664.9	656.5	580.5	517.7	445.7	428.4	371.5
21	331.9	342.0	421.4	497.4	507.6	670.9	653.3	584.7	512.5	444.1	429.7	364.5
22	379.3	342.3	431.5	512.0	512.8	675.8	651.3	579.1	509.8	447.5	425.5	376.0
23	373.3	332.9	433.6	492.5	524.7	669.5	650.0	575.8	516.8	445.9	427.9	372.5
24	357.7	342.5	436.5	498.2	509.0	669.8	666.9	581.1	520.1	450.9	431.0	371.0
25	357.2	331.9	421.1	507.1	529.9	673.8	672.1	581.4	516.8	449.9	427.4	372.0
26	378.3	330.2	424.8	509.8	511.4	673.8	672.7	576.1	514.9	448.6	414.4	369.2
27	375.0	350.5	422.4	516.3	522.6	658.0	662.3	575.2	507.9	447.8	404.1	364.2
28	366.7	341.1	438.5	521.5	525.6	670.3	649.0	573.6	506.0	445.2	404.1	361.5
29	364.7	346.5	442.8		538.7	672.7	646.2	571.9	502.2	460.7	401.3	361.5
30	362.5	366.0	439.4		550.3	675.8	662.0	568.3	494.4	454.6	389.0	355.5
31		351.5	447.3		551.4		645.0		493.0	446.5		362.5
Mean	384.98	352.55	415.68	497.26	522.45	644.75	662.19	595.41	530.0	463.86	428.48	360.96
Maximum	413.65	370.0	447.26	526.38	554.73	675.83	680.18	640.46	564.94	502.46	447.0	404.36
Minimum	362.45	330.22	355.7	457.55	495.21	543.4	643.6	568.27	494.37	444.1	389.93	356.45
R/off mm	7.8984	7.4647	8.8912	9.5096	11.062	13.211	14.021	12.2	11.222	9.3213	8.7797	8.3661

Flows in cubic metres per second

Annual statistics

Maximum 680.178 Minimum 330.224 Mean 489.562 cubic metres per second
Total 15438.820 million cubic metres Runoff 122.046 millimetres

Possible data flags

Missing - flag '-'

Original - no flag set

Estimate - flag 'e'

Water Department
Annual summary of daily data - Flow

Station number : 12001

Name : SHIRE AT MANGOCHI

Basin no. : 1

Latitude : 0: 0: 0 N

Longitude : 0: 0: 0 E

Altitude : .0

Area : 126500.

Year : 1989/1990

	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
1	525.3	528.3	567.7	624.2	698.2	677.7	740.2	683.4	622.2	536.0	493.5	433.4
2	524.2	536.5	575.0	622.8	694.7	700.2	739.9	680.2	610.5	544.2	493.6	430.5
3	526.1	528.6	591.9	636.2	-	712.2	732.2	684.5	604.7	539.3	491.4	448.3
4	519.6	531.8	588.9	620.5	684.8	708.7	729.0	680.8	612.6	537.9	491.4	444.1
5	516.0	538.7	593.7	628.2	669.5	718.1	729.9	688.9	603.6	529.9	473.7	428.9
6	517.7	537.3	598.8	634.2	669.2	716.6	736.6	683.4	598.2	533.8	477.2	440.7
7	511.9	529.7	592.0	641.0	677.3	718.1	728.7	691.0	603.0	532.9	479.6	442.3
8	513.6	528.3	599.6	640.2	678.2	720.1	715.8	673.2	604.4	529.7	482.8	436.5
9	514.9	507.1	594.5	641.0	675.5	724.6	717.8	674.7	603.3	523.1	483.4	444.6
10	510.3	520.4	592.9	633.9	674.1	726.6	731.0	672.9	605.0	527.5	476.7	442.8
11	520.9	527.2	590.9	647.1	683.9	724.6	718.4	671.8	604.7	532.9	476.2	442.3
12	494.4	535.4	586.4	661.7	681.1	730.1	716.0	670.6	599.9	534.6	476.9	441.2
13	500.1	525.0	591.2	641.6	671.8	729.9	701.4	657.1	592.6	521.7	474.8	438.1
14	506.5	519.8	597.1	635.9	681.3	728.4	697.3	658.5	585.3	526.8	481.0	445.9
15	496.5	528.6	603.8	644.5	675.6	732.5	700.5	658.8	590.1	531.0	479.6	441.7
16	492.8	539.3	616.8	655.4	681.6	730.4	701.4	649.6	591.7	525.3	473.9	439.7
17	493.8	531.3	610.4	659.7	689.8	726.6	697.0	659.4	594.3	521.2	476.9	432.6
18	504.4	531.8	621.9	659.4	702.0	724.0	697.6	654.2	580.3	525.3	478.3	437.0
19	493.0	538.7	644.2	672.1	699.5	726.3	694.4	647.0	588.4	528.6	486.0	441.2
20	503.1	530.5	654.5	675.3	701.1	724.6	697.3	639.6	587.5	526.7	470.0	423.2
21	520.7	535.1	645.6	679.0	696.7	721.3	705.5	643.0	583.3	525.6	462.3	423.2
22	511.7	530.2	656.5	666.6	700.5	729.9	706.7	636.2	567.7	521.8	447.5	420.3
23	505.7	538.4	667.7	677.3	697.6	729.0	702.0	630.2	555.5	524.7	448.0	411.0
24	508.2	535.2	655.4	675.5	696.7	732.4	703.7	640.7	561.9	514.9	452.3	413.1
25	510.6	538.4	653.9	671.8	699.1	733.7	699.7	634.2	558.0	509.2	454.4	410.5
26	504.1	542.0	645.9	687.4	671.9	739.6	693.3	634.2	550.3	513.6	450.7	401.8
27	510.6	536.2	653.6	696.7	643.6	740.8	695.7	635.9	556.1	505.7	471.4	391.6
28	511.1	539.0	644.7	684.0	671.6	738.4	692.1	631.6	555.0	507.3	461.8	402.0
29	510.3	541.5	641.9	677.7	677.7	738.1	698.0	627.1	547.0	502.5	445.4	391.3
30	519.8	547.2	627.9	651.9	651.9	742.0	688.0	625.3	557.2	504.9	441.5	404.1
31		563.6	625.4		643.0		689.3		542.8	507.1		423.7
Mean	509.95	533.68	616.8	654.04	681.29	724.88	709.24	656.94	584.42	524.14	471.78	428.61
Maximum	526.1	563.55	667.74	696.74	701.99	741.95	740.19	699.88	622.23	544.2	493.57	443.34
Minimum	492.76	507.07	567.72	620.53	643.03	677.7	688.01	625.35	542.84	502.47	441.48	391.3
R/off mm	10.449	11.3	13.06	12.508	14.425	14.853	15.017	13.461	12.374	11.098	9.6668	9.0749

Flows in cubic metres per second

Annual statistics

Maximum 741.953 Minimum 391.296 Mean 590.554 cubic metres per second
Total 19623.720 million cubic metres Runoff 147.223 millimetres

Possible data flags

Missing - flag '-'

Original - no flag set

Estimate - flag 'e'

Water Department
Rating equations for station 10201 : SHIRE AT LIWONDE

Rating A from 17 Dec 1987 Q = 128.387 (h - 2.830) ** 1.399 to 7.50 m
Rating B from 18 Jul 1988 Q = 125.418 (h - 2.570) ** 1.399 to 7.50 m
Rating C from 6 Feb 1989 Q = 166.222 (h - 3.011) ** 1.300 to 7.50 m
Rating D from 19 Nov 1990 Q = 138.444 (h - 2.872) ** 1.300 to 7.50 m
Rating E from 30 Dec 1996 Q = 49.807 (h - 1.831) ** 1.300 to 7.50 m

5 rating equation(s) for this station

4.4 Annual Maxima for Shire at Liwonde

ANNUAL MAXIMA FOR SHIRE AT LIWONDE - 1.B.1	
YEAR	Q(m ³ /s)
1949	356
1950	460
1951	541
1952	453
1953	398
1954	285
1955	314
1956	419
1957	377
1958	579
1959	369
1960	362
1961	369
1962	455
1963	562
1964	614
1965	559
1966	559
1967	466
1968	498
1969	486
1970	607
1971	480
1972	392
1973	221
1974	535
1975	683
1976	722
1977	671
1978	779
1979	952
1980	979
1981	954
1982	753
1983	734
1984	736
1985	686
1986	777
1987	772
1988	666
1989	904
1990	829
1991	421
1992	194
1993	223
1994	194
1995	226
1996	170
1997	221

4.5 Annual Summary of Daily Data (Liwonde)

SHIRE AT LIWONDE

Station 10201 Flow data

20

20 Feb 1994

 WATER DEPARTMENT (CENTRE)
 Annual summary of daily data - Flow

Station number : 10201 Name : SHIRE AT LIWONDE

Basin number : 1 Latitude : 15: 4: 0 Longitude : 35:12: 0 Altitude : .0
 Area : 130200.

Year : 1997/1998

	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
1	60.13	73.24	161.41	126.49	-	-	-	-	-	-	-	-
2	63.64	74.71	161.41	156.90	-	-	-	-	-	-	-	-
3	76.97	89.10	161.41	185.32	-	-	-	-	-	-	-	-
4	97.92	96.32	162.50	176.92	-	-	-	-	-	-	-	-
5	82.01	102.04	163.59	175.35	-	-	-	-	-	-	-	-
6	95.70	99.91	162.50	163.63	-	-	-	-	-	-	-	-
7	102.59	106.47	161.24	125.93	-	-	-	-	-	-	-	-
8	108.10	111.54	160.92	108.89	-	-	-	-	-	-	-	-
9	103.67	104.80	140.59	99.84	-	-	-	-	-	-	-	-
10	108.66	120.95	142.01	163.43	-	-	-	-	-	-	-	-
11	109.22	120.95	165.50	136.91	-	-	-	-	-	-	-	-
12	107.58	139.47	165.85	137.91	-	-	-	-	-	-	-	-
13	95.21	161.23	165.34	-	-	-	-	-	-	-	-	-
14	102.04	162.26	163.63	-	-	-	-	-	-	-	-	-
15	103.12	161.41	164.48	-	-	-	-	-	-	-	-	-
16	105.89	162.95	160.37	-	-	-	-	-	-	-	-	-
17	108.10	170.68	94.57	-	-	-	-	-	-	-	-	-
18	101.04	179.54	144.55	-	-	-	-	-	-	-	-	-
19	80.51	172.58	203.43	-	-	-	-	-	-	-	-	-
20	85.36	170.15	87.34	-	-	-	-	-	-	-	-	-
21	102.66	162.49	145.52	-	-	-	-	-	-	-	-	-
22	116.73	165.18	155.06	-	-	-	-	-	-	-	-	-
23	135.49	161.92	154.96	-	-	-	-	-	-	-	-	-
24	99.52	167.58	147.30	-	-	-	-	-	-	-	-	-
25	98.85	186.12	147.30	-	-	-	-	-	-	-	-	-
26	101.06	199.15	153.55	-	-	-	-	-	-	-	-	-
27	85.74	198.81	155.21	-	-	-	-	-	-	-	-	-
28	81.39	174.51	155.86	-	-	-	-	-	-	-	-	-
29	84.80	148.84	158.54	-	-	-	-	-	-	-	-	-
30	83.89	161.05	156.39	-	-	-	-	-	-	-	-	-
31		161.41	152.22	-	-	-	-	-	-	-	-	-
Mean	96.253	144.11	154.02	-	-	-	-	-	-	-	-	-
Maximum	135.49	199.15	203.43	-	-	-	-	-	-	-	-	-
Minimum	60.126	73.243	87.344	-	-	-	-	-	-	-	-	-
Runoff	1.9162	2.9645	3.1684	-	-	-	-	-	-	-	-	-

Flows in cubic metres per second

 Insufficient data for annual statistics

Possible data flags

Missing - flag "-"

Original - no flag set

Estimate - flag "e"

Printed on 11/ 3/1998

WATER DEPARTMENT (CENTRE)
Annual summary of daily data - Flow

Station number : 10201 Name : SHIRE AT LIWONDE

Basin number : 1 Latitude : 15: 4: 0 Longitude : 35:12: 0 Altitude : .0
 Area : 130200.

Year : 1996/1997

	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
1	157.10	140.10	167.91	194.70	205.70	171.84	163.59	160.92	154.25	167.57	167.74	163.46
2	165.72	98.33	167.57	206.34	232.88	247.30	163.59	155.66	147.30	167.57	167.57	161.41
3	167.91	74.16	167.57	213.76	236.40	369.56	163.59	162.87	147.30	169.47	167.57	162.52
4	169.29	63.38	167.74	214.67	234.16	385.89	163.59	163.59	150.08	169.81	167.57	162.26
5	166.89	57.10	169.46	216.86	229.90	385.68	159.27	159.27	146.61	169.64	167.40	172.29
6	153.47	66.13	169.64	211.46	205.70	384.23	154.95	154.95	142.59	169.64	165.68	167.41
7	124.09	71.64	169.64	200.76	182.33	293.33	154.95	154.95	147.47	168.78	165.85	169.29
8	141.35	61.67	169.64	196.48	182.15	198.98	154.95	154.95	161.77	168.43	169.29	168.09
9	154.96	63.62	169.46	197.55	180.59	197.90	154.95	159.27	161.41	167.74	166.55	161.92
10	162.14	74.36	167.74	211.77	165.18	187.46	159.27	163.59	158.18	169.46	165.51	161.97
11	155.66	97.33	167.57	206.34	165.34	261.63	163.59	163.59	154.95	169.64	167.57	161.41
12	152.88	111.37	167.40	194.70	148.16	200.55	163.59	163.59	154.25	169.64	165.00	157.64
13	129.02	73.32	165.68	192.96	127.68	184.08	162.87	163.59	147.30	169.64	167.06	136.02
14	127.07	74.77	165.85	229.77	117.74	182.33	155.66	162.50	177.59	169.46	167.57	130.18
15	135.35	91.62	169.81	214.51	111.72	182.50	154.95	161.41	173.32	166.71	167.57	123.95
16	145.26	96.32	174.13	216.14	105.34	155.74	154.95	161.41	168.78	165.51	167.74	118.81
17	138.57	100.49	172.92	233.53	102.57	148.34	154.95	158.18	169.64	167.57	169.29	74.50
18	130.82	95.72	198.22	301.30	102.57	148.00	159.38	154.95	169.64	169.64	167.91	68.11
19	123.95	158.65	309.87	256.02	98.87	163.51	166.37	154.95	169.64	169.64	169.46	80.15
20	123.33	164.32	233.70	229.92	93.12	164.32	162.17	154.95	169.64	169.64	169.81	78.21
21	119.74	173.10	205.30	221.62	90.58	163.46	162.60	154.95	169.64	169.64	171.54	87.73
22	116.14	176.22	212.68	213.59	90.07	164.65	162.50	150.78	169.64	169.81	171.71	85.03
23	114.99	180.93	198.28	209.77	90.07	167.23	151.49	150.78	169.64	170.50	171.71	111.63
24	104.23	174.48	184.09	204.19	137.17	165.68	146.61	155.66	170.67	169.12	172.92	122.73
25	105.34	173.61	181.10	186.03	184.26	165.51	147.30	163.01	171.54	164.14	173.44	122.73
26	101.51	171.88	181.10	183.21	184.26	165.17	154.25	167.74	169.64	165.51	169.64	120.95
27	94.15	171.71	182.50	182.33	184.26	161.75	147.90	167.57	167.74	167.57	167.74	126.44
28	96.72	171.54	190.82	183.21	184.26	161.41	89.38	167.57	167.57	169.46	167.40	116.94
29	108.82	169.81	241.92	184.08	161.42	144.55	166.71	167.57	167.57	169.64	165.68	80.81
30	118.58	169.81	270.11	174.01	162.50	154.95	156.20	167.57	167.57	169.64	165.34	71.09
31		171.19	209.24		165.51		159.55		167.57	169.46		71.97
Mean	133.5	120.6	189.31	211.55	157.96	208.4	155.23	159.67	162.27	168.7	168.23	125.73
Maximum	169.29	180.93	309.87	301.3	236.4	385.89	166.37	167.74	177.59	170.5	173.44	172.29
Minimum	94.155	57.097	165.68	182.33	90.075	148.0	89.378	150.78	142.59	164.14	165.0	68.109
Runoff	2.6577	2.481	3.8944	3.9308	3.2494	4.1489	3.1934	3.1787	3.3382	3.4704	3.3491	2.5864

Flows in cubic metres per second

Annual statistics

Maximum 385.892 Minimum 57.097 Mean 162.991 cubic metres per second
 Total 5140.073 million cubic metres Runoff 39.478 millimetres

Possible data flags

Missing - flag "--" Original - no flag set Estimate - flag "e"

WATER DEPARTMENT (CENTRE)
Annual summary of daily data - Flow

Station number : 10201 Name : SHIRE AT LIWONDE

Basin number : 1 Latitude : 15: 4: 0 Longitude : 35:12: 0 Altitude : 0
 Area : 130200.

Year : 1995/1996

	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
1	156.39	109.23	155.66	185.31	178.13	186.19	163.46	161.41	154.95	154.95	162.33	156.39
2	165.71	95.42	162.87	212.89	178.13	166.37	163.46	161.41	154.95	154.95	155.66	161.77
3	168.78	74.16	162.87	220.18	180.23	186.37	162.60	161.41	155.66	154.95	155.66	161.41
4	169.46	65.31	156.54	200.42	183.91	190.09	163.29	161.24	162.87	154.95	162.33	162.26
5	167.08	57.47	194.20	197.01	175.23	189.02	163.46	163.06	163.59	154.95	161.24	166.72
6	132.53	66.13	203.33	196.12	171.71	179.93	163.63	162.33	163.59	154.95	161.41	163.46
7	122.18	69.62	182.57	187.08	177.96	170.85	165.34	162.33	163.59	154.95	161.41	162.43
8	144.66	63.31	164.32	190.63	184.09	171.54	165.34	159.26	163.59	154.95	161.41	161.41
9	154.96	66.07	161.58	191.68	189.91	169.81	163.63	155.66	159.27	154.95	161.24	161.41
10	162.14	77.14	161.41	186.55	202.39	169.64	163.46	154.95	154.95	154.95	158.74	161.41
11	156.38	97.83	161.41	186.37	187.26	169.64	163.46	154.95	154.95	154.95	154.95	162.60
12	160.04	111.37	162.14	187.25	189.19	169.81	163.63	154.95	154.95	154.25	155.66	165.34
13	129.70	75.45	163.18	196.12	188.13	171.36	166.20	154.95	154.95	147.30	161.77	164.31
14	127.07	77.56	163.57	195.94	200.55	169.64	166.71	154.95	159.27	146.61	161.41	161.58
15	135.35	92.62	169.65	188.69	234.55	168.78	167.57	154.95	162.87	142.59	157.48	161.24
16	145.26	98.87	179.18	184.08	223.11	169.64	167.57	154.95	159.99	142.59	146.62	158.04
17	138.57	100.49	209.65	184.26	207.07	170.67	167.57	154.95	153.76	146.61	143.25	142.62
18	132.09	90.37	191.23	184.43	199.69	171.71	167.57	154.95	131.47	146.61	145.93	135.99
19	130.29	112.17	186.91	191.16	198.62	171.71	167.74	154.95	126.49	154.57	139.23	150.82
20	123.33	119.13	190.09	193.98	189.91	171.71	168.43	154.95	156.54	161.60	134.68	162.33
21	119.74	116.14	188.69	200.05	184.26	171.71	167.57	154.95	163.59	154.96	130.18	161.58
22	114.99	128.01	189.55	197.55	182.33	171.88	166.54	154.95	162.87	147.30	123.34	163.12
23	103.68	151.33	183.03	201.12	182.33	173.61	165.51	154.25	155.66	147.30	116.73	161.41
24	103.12	190.49	177.09	-	184.08	173.79	165.34	155.79	154.95	158.57	139.33	162.43
25	105.34	173.84	191.55	-	184.26	172.75	163.63	163.59	154.95	163.59	161.58	163.29
26	127.57	161.92	184.97	185.43	184.26	171.71	163.29	163.59	154.95	162.50	165.17	161.58
27	99.92	163.46	178.67	170.50	184.26	170.67	161.94	163.59	154.95	161.58	165.34	161.58
28	99.39	165.00	189.20	167.40	184.26	168.63	156.39	159.27	154.95	162.26	163.63	162.63
29	109.36	161.58	184.79	171.92	184.26	141.10	154.25	154.95	154.95	161.24	162.80	158.89
30	115.56	162.33	184.26	184.26	184.26	162.75	152.91	154.95	154.95	163.06	155.66	161.41
31		155.66	184.43		184.43		161.77		154.95	162.33		161.77
Mean	134.02	111.27	178.02	190.89	189.12	172.77	163.98	157.75	155.93	154.58	152.87	160.1
Maximum	169.46	190.49	209.65	220.18	234.55	190.09	168.43	163.59	163.59	163.59	165.34	166.72
Minimum	99.385	57.471	155.66	167.4	171.71	141.1	152.91	154.25	126.49	142.59	116.73	135.99
Runoff	2.6681	2.2891	3.6621	3.6736	3.8905	3.4394	3.3732	3.1404	3.2078	3.1759	3.0434	3.2936

Flows in cubic metres per second

 Annual statistics

Maximum 234.549 Minimum 57.471 Mean 159.834 cubic metres per second
 Total 5054.328 million cubic metres Runoff 38.820 millimetres

 Possible data flags

Missing - flag "*" Original - no flag set Estimate - flag "e"

Monthly Discharge Report
 1970-71 (1970/71) - 1971/72 (1971/72)

Station: 150001
 Name: 150001
 Basin no.: 1
 Area: 150001
 Latitude: 15: 4: 0 S Longitude: 35:12: 0 E Altitude: 0

Period: 1970/71/1971/72

	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
1	172.05	175.09	188.67	178.90	180.91	192.25	181.13	182.73	183.05	182.39	157.53	169.25
2	177.79	172.91	153.37	197.59	179.06	179.06	181.61	182.41	184.49	182.73	167.37	167.84
3	179.97	182.73	135.47	190.29	179.06	177.15	180.81	179.22	182.39	182.73	167.69	170.99
4	182.73	182.73	183.86	193.85	180.81	174.78	184.02	179.86	182.73	181.93	169.41	171.62
5	182.89	182.73	189.02	182.41	191.45	180.18	189.96	180.81	182.57	182.57	169.41	172.38
6	184.65	183.53	183.21	173.70	180.02	182.73	182.67	180.81	180.97	182.73	170.35	171.46
7	185.42	184.41	182.73	178.43	180.81	182.73	189.51	180.81	180.91	182.57	170.51	171.30
8	185.61	185.59	182.73	181.45	181.61	182.73	189.51	180.97	180.81	180.02	170.20	171.30
9	184.31	184.01	182.73	180.81	181.77	182.73	189.51	180.82	180.91	178.90	169.41	171.30
10	186.58	184.65	182.73	180.65	180.97	182.73	180.35	181.77	180.81	178.90	169.41	171.46
11	185.46	183.21	181.77	178.90	181.77	182.57	186.74	184.65	180.65	177.00	169.41	172.38
12	182.41	180.18	180.81	177.79	182.73	186.11	186.58	186.42	180.02	172.25	169.57	172.40
13	180.97	180.81	182.25	178.43	183.21	185.45	185.61	185.61	180.65	169.41	171.14	172.38
14	180.97	180.81	187.38	181.77	189.32	185.61	185.61	184.65	178.74	170.36	170.99	168.63
15	180.97	180.65	182.41	182.73	185.15	186.42	189.64	184.65	174.62	171.14	168.63	164.87
16	182.25	179.06	183.53	184.65	183.35	186.58	194.16	184.65	175.89	169.73	168.63	163.78
17	179.38	179.06	184.98	187.38	184.81	186.58	192.38	184.65	185.62	171.14	169.41	166.60
18	180.65	180.81	179.70	187.22	185.61	185.61	190.44	184.65	186.58	171.30	170.20	170.51
19	181.77	182.57	178.90	182.73	186.58	184.65	190.44	184.65	185.61	171.30	169.10	173.04
20	182.73	182.73	177.79	178.74	188.35	185.61	190.60	183.69	184.65	172.25	164.40	174.14
21	182.73	183.95	175.83	172.72	184.66	186.58	192.22	182.73	183.69	173.19	167.38	175.09
22	182.73	186.26	180.00	173.69	180.97	186.58	192.22	182.73	182.73	174.14	169.41	175.09
23	183.67	186.58	172.74	192.08	181.61	186.58	190.45	182.73	182.73	172.25	167.53	171.46
24	183.37	186.58	182.25	186.42	181.77	185.45	180.02	182.73	182.73	172.25	167.53	171.46
25	179.22	186.58	182.73	183.21	182.73	181.29	179.85	181.61	182.73	169.41	167.53	171.14
26	178.79	186.26	183.69	179.38	192.73	177.32	182.39	179.06	183.69	163.63	167.53	169.73
27	177.31	183.21	185.53	179.70	183.95	176.35	186.42	179.06	184.65	169.25	167.53	168.16
28	178.59	184.23	181.93	184.65	187.22	178.91	185.29	181.77	184.49	168.32	168.47	166.75
29	176.99	182.39	181.29	189.66	182.73	182.73	184.49	183.69	166.90	169.41	167.54	
30	178.25	184.65	177.47	184.17	182.57	183.95	184.33	183.85	168.32	169.41	167.26	
31		182.35	178.90	181.29	185.69			184.49	167.53		166.34	
Mean	181.53	183.36	181.92	182.07	183.15	182.89	186.81	182.66	182.34	174.35	168.85	169.73
Maximum	186.58	184.41	183.37	193.35	189.66	186.58	194.16	186.42	186.58	182.39	171.14	175.09
Minimum	175.05	175.09	163.0	172.72	179.36	174.78	179.86	179.06	174.62	166.9	164.4	156.34
9/9/71	0.6108	3.7719	3.7423	3.3385	3.7676	3.6409	3.843	3.6365	3.7309	3.3357	3.3514	3.4916

1. Gross discharge (including base flow) (cubic metres per second)

2. Net discharge (cubic metres per second)

Maximum 174.412 Minimum 156.835 Mean 179.937 cubic metres per second
 Total 5676.664 million cubic metres Runoff 43.595 millimetres

3. Gross discharge (cubic metres per second)

Missing - flag 'a'

Original - no flag set

Estimate - flag 'e'

Quality Dependent
Annual Summary of Daily Values

Station number : 10101 Name : GIBBERN 4 190000

Basin no. : 1 Latitude : 15: 4: 0 S Longitude : 35:12: 0 E Altitude : 0
Area : 130200.

Year : 1993/1994

	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
1	170.99	171.62	178.90	167.37	175.09	175.09	171.46	171.46	173.19	167.22	191.26	182.73
2	167.84	171.46	178.74	165.81	176.04	174.93	173.20	164.25	173.19	167.53	181.61	180.97
3	169.57	173.04	177.15	167.33	176.99	173.35	174.93	163.09	173.35	167.53	179.85	179.33
4	173.19	173.19	177.95	176.36	177.79	173.04	173.35	172.25	173.99	167.53	179.85	174.39
5	174.77	172.40	178.58	178.58	177.31	172.56	173.19	173.19	174.14	168.79	180.31	188.59
6	173.51	173.04	173.36	178.11	178.74	175.09	173.19	173.19	175.09	181.45	189.81	223.33
7	174.77	173.19	169.57	178.74	178.90	176.84	173.19	173.19	174.93	183.85	180.81	174.65
8	173.35	173.19	169.41	176.04	179.06	176.99	173.19	173.19	173.51	184.49	180.81	180.97
9	173.19	173.04	169.26	174.30	181.77	176.99	172.25	173.19	174.93	183.85	180.81	180.81
10	173.51	171.30	173.37	174.14	184.65	176.99	171.14	172.25	175.09	185.93	180.81	181.77
11	175.73	169.41	177.31	173.04	186.42	178.90	170.51	170.83	174.14	181.29	181.77	182.73
12	174.78	167.69	177.47	171.46	185.77	180.81	170.36	174.62	172.25	180.81	183.85	182.73
13	172.56	169.57	176.20	170.36	185.42	180.81	169.41	175.09	171.30	180.97	185.45	181.77
14	172.25	172.56	177.95	169.41	186.42	179.86	171.46	175.09	171.30	182.41	185.10	183.65
15	171.30	177.15	178.74	169.41	179.08	178.58	175.09	175.09	171.30	180.97	182.25	177.45
16	172.25	175.41	177.15	169.41	173.19	175.41	176.84	175.09	171.30	180.81	189.81	180.68
17	172.25	175.09	177.95	170.36	173.19	176.04	176.99	175.09	171.30	180.81	180.97	170.14
18	171.30	177.00	178.58	169.87	173.19	177.95	176.99	175.09	171.14	180.97	182.57	179.22
19	171.30	177.95	175.41	172.88	173.19	178.90	175.88	175.09	169.57	181.77	182.57	179.22
20	172.25	176.04	175.09	174.93	173.19	178.90	173.35	175.09	170.36	182.57	181.93	182.41
21	172.25	175.09	175.25	175.09	173.19	178.90	173.19	175.09	171.30	180.98	181.77	183.53
22	171.14	175.09	176.84	175.09	173.19	177.95	173.35	175.09	171.30	176.95	179.70	181.77
23	171.94	175.09	176.99	175.09	173.19	168.47	174.77	175.09	171.30	181.13	178.43	178.27
24	173.11	176.04	176.99	175.09	174.14	167.37	173.35	175.09	171.30	184.33	182.41	178.90
25	175.41	177.95	177.15	175.09	175.09	168.63	173.19	175.09	171.30	184.65	182.73	180.49
26	175.09	178.90	178.42	175.09	176.68	171.30	173.19	175.09	171.14	185.61	181.77	180.65
27	175.09	179.90	176.20	175.09	175.57	171.62	173.19	175.09	168.63	185.58	180.81	180.34
28	175.09	178.11	175.25	175.09	176.52	221.49	173.19	175.09	167.37	185.58	181.93	181.61
29	175.09	178.74	175.09		174.46	182.50	168.33	174.93	164.87	185.58	184.49	180.31
30	174.78	178.90	173.83		175.09	173.04	170.52	173.35	163.78	183.70	184.49	180.81
31		178.90	168.79		175.09		171.46		164.09	182.10		180.31
Mean	173.16	174.68	175.77	173.17	177.38	177.31	173.02	173.48	171.35	180.54	182.14	181.05
Maximum	178.11	178.9	178.9	178.74	186.42	221.49	176.99	175.09	175.09	186.53	191.26	223.33
Minimum	167.84	167.69	168.79	165.81	173.19	167.37	168.33	163.0	163.78	167.22	173.43	160.68
Runoff	3.4471	3.5934	3.6159	3.2176	3.6489	3.5299	3.5594	3.4535	3.5249	3.7099	3.6261	3.7245

Flows in cubic metres per second

Annual statistics

Maximum 223.383 Minimum 160.678 Mean 176.090 cubic metres per second
Total 5553.179 million cubic metres Runoff 42.651 millimetres

Possible data flags

Missing - flag "-" Original - no flag set Estimate - flag "e"

Annual Discharge Statistics
 Annual Discharge Statistics

Basin no. : 1
 Area : 150200
 Latitude : 15: 41: 0 S Longitude : 35: 12: 0 E Altitude : 100

Year: 1927/1928

	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
1	186.67	182.73	169.41	167.69	175.09	172.76	171.78	186.74	182.73	175.09	192.73	173.04
2	183.83	183.69	169.41	163.79	175.09	166.44	173.99	187.33	182.73	176.04	181.77	171.30
3	191.25	184.17	169.57	170.99	175.09	174.30	174.45	186.42	182.73	176.99	189.81	170.51
4	191.25	179.32	171.14	166.75	174.93	175.09	176.68	187.25	182.73	176.99	178.74	170.36
5	190.44	179.90	169.16	166.90	171.30	175.09	175.25	193.03	182.57	176.99	175.25	169.41
6	189.47	177.31	162.69	169.89	168.63	175.09	175.25	192.22	180.97	176.99	175.09	169.57
7	188.51	178.42	168.16	167.69	169.57	175.25	176.68	190.60	180.65	176.99	175.09	170.99
8	188.51	177.31	171.14	167.53	174.15	176.84	175.25	190.44	179.06	177.15	175.09	169.57
9	190.44	178.42	171.30	166.59	178.74	177.95	175.25	190.44	178.90	174.63	175.09	171.46
10	192.38	176.36	171.93	165.65	177.00	179.06	175.88	190.44	178.90	176.36	175.05	175.09
11	191.57	176.99	169.41	165.31	174.93	180.65	175.09	190.44	178.90	176.84	175.09	177.79
12	192.22	177.15	165.96	166.43	173.35	180.81	174.93	190.44	178.90	176.04	175.09	178.74
13	192.33	178.74	168.95	165.91	172.72	180.65	177.16	190.23	176.84	174.93	175.09	177.95
14	192.38	178.90	166.91	166.43	170.83	179.86	180.81	183.67	175.25	171.62	172.57	172.15
15	192.33	173.22	169.59	165.65	173.35	173.74	180.91	187.54	177.15	171.30	172.38	176.99
16	192.22	180.82	174.93	165.81	177.32	175.41	180.97	186.58	179.74	171.46	173.19	176.99
17	190.23	175.09	174.46	167.37	179.07	174.62	182.57	186.58	177.95	173.99	173.19	176.99
18	186.90	177.79	180.66	167.53	179.22	169.89	183.05	186.58	176.99	175.09	173.19	176.99
19	185.61	174.15	183.69	167.53	179.06	170.51	185.29	187.54	176.34	175.09	173.19	176.99
20	184.97	167.85	182.73	167.69	180.65	174.14	187.71	182.51	175.25	174.14	173.19	176.99
21	183.02	160.20	182.57	169.26	180.34	175.38	192.22	189.51	175.09	173.19	173.19	176.04
22	186.74	162.83	180.34	170.51	175.57	175.09	192.38	189.51	175.09	173.19	173.35	175.09
23	188.99	177.95	174.66	173.04	176.04	174.30	193.35	183.35	174.93	172.25	174.77	174.14
24	189.96	175.88	180.97	173.99	181.14	173.99	194.32	186.74	173.35	171.14	174.30	173.04
25	183.04	174.30	187.57	186.76	179.54	173.35	174.32	186.58	173.19	169.57	175.09	171.46
26	186.74	172.25	190.29	183.42	177.79	174.93	194.32	185.61	173.35	168.94	175.09	171.14
27	183.05	172.25	184.65	172.09	175.45	175.09	194.32	183.69	175.09	173.72	174.14	169.57
28	182.73	172.40	181.93	175.57	183.53	175.09	193.35	182.73	177.63	182.73	173.19	170.36
29	182.57	171.15	171.35		183.69	175.09	192.22	182.73	177.15	182.73	173.35	172.09
30	181.93	169.41	161.91		192.38	174.62	190.76	182.73	176.84	182.73	173.99	171.46
31		169.41	162.53		180.43		190.12		175.25	182.73		171.30
Mean	188.65	175.73	173.94	169.61	176.97	175.35	183.24	187.81	177.3	175.41	175.06	173.57
Maximum	192.38	184.17	190.29	186.76	192.38	180.81	194.32	193.03	182.73	182.73	182.73	183.74
Minimum	181.93	160.2	161.91	165.65	168.63	166.44	171.72	182.73	173.19	169.94	172.57	169.41
Runoff	3.7556	3.6149	3.5761	3.1515	3.6405	3.4909	3.7696	3.7339	3.6576	3.6884	3.4852	3.5705

Annual Discharge Statistics

Maximum 194.325 Minimum 160.203 Mean 177.777 cubic metres per second
 total 5605.375 million cubic metres Runoff 43.060 millimetres

Annual Discharge Statistics

Missing - flag '-' Original - no flag set Estimate - flag 'a'

Water Discharge
Annual Summary of Daily Data

Station Number : 10001 Name : GULLS CREEK
 Basin no. : 1 Latitude : 15: 4: 0 S Longitude : 35:12: 0 E Altitude : 0
 Area : 130200

Year : 1991/1992

	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
1	411.80	381.23	365.50	388.20	393.88	388.20	318.54	318.18	204.78	184.17	177.67	172.17
2	404.53	328.77	366.62	399.34	393.88	389.34	319.44	316.19	204.78	180.68	177.99	172.17
3	401.86	390.23	364.76	398.20	393.88	388.20	320.53	311.70	204.62	179.10	179.41	172.17
4	400.72	388.20	354.76	386.69	392.93	386.88	321.61	305.78	202.83	184.49	180.36	172.17
5	399.58	385.88	366.62	384.05	392.55	384.99	322.70	299.02	201.04	187.99	178.30	170.30
6	398.63	379.92	369.05	384.99	391.61	384.99	322.70	291.56	201.85	189.32	177.83	163.42
7	402.24	368.30	372.60	386.88	391.61	385.75	322.70	289.44	202.83	188.15	179.73	168.27
8	407.39	367.18	375.78	387.07	391.61	384.99	322.70	287.14	202.83	186.40	180.68	167.65
9	399.80	371.29	378.79	386.88	391.80	386.88	322.70	283.80	202.83	185.44	179.57	168.27
10	405.68	374.85	378.22	384.99	392.55	387.07	322.70	279.42	202.83	182.42	178.94	166.71
11	405.29	379.54	378.03	385.94	391.42	386.88	320.53	284.16	202.83	178.15	179.57	166.87
12	403.39	376.16	378.03	387.07	389.53	384.99	318.36	276.10	202.83	177.83	177.99	170.14
13	405.10	375.78	378.22	387.26	389.34	384.81	318.36	259.95	202.83	177.83	177.67	171.36
14	405.29	375.97	380.10	389.15	389.15	384.81	318.36	246.04	202.57	178.94	177.04	170.45
15	404.72	355.73	380.29	389.34	387.07	384.81	318.36	130.64	226.04	181.47	176.83	173.12
16	399.01	355.47	380.29	389.34	386.13	384.81	319.44	209.50	245.97	181.79	175.94	176.26
17	397.11	355.84	380.29	389.39	387.26	385.94	320.53	246.27	205.64	182.42	175.94	179.41
18	394.07	358.99	379.16	388.02	389.15	387.07	320.53	244.91	201.85	181.63	175.94	178.88
19	393.69	362.89	377.85	386.88	389.34	387.26	320.53	244.74	202.83	181.63	175.94	181.47
20	393.31	355.85	377.10	384.99	389.34	389.15	319.26	244.74	219.92	181.63	175.94	181.63
21	396.73	350.30	378.22	384.99	389.34	389.34	315.83	244.74	203.62	181.47	175.00	161.63
22	379.92	351.22	380.10	386.88	389.53	405.37	319.98	244.74	200.88	179.88	174.05	182.26
23	369.61	351.40	380.10	387.07	392.55	421.39	320.53	244.74	200.88	179.73	174.05	189.60
24	369.05	355.47	378.22	388.20	393.88	376.40	320.53	244.74	200.88	179.73	174.05	191.20
25	370.17	359.18	380.48	398.46	393.88	323.14	320.53	237.65	200.88	179.73	174.05	190.88
26	373.53	362.15	384.62	403.39	393.88	324.87	320.53	227.23	200.88	179.57	174.05	188.79
27	375.97	362.34	384.81	399.39	393.50	325.05	320.53	219.62	200.88	177.99	173.90	190.07
28	381.23	362.34	384.81	395.97	388.58	325.78	320.53	206.25	200.88	176.88	172.33	189.27
29	384.62	362.34	355.94	393.38	387.26	324.69	320.16	205.76	198.94	171.40	172.17	189.27
30	362.55	363.27	387.07		388.56	321.61	317.64	205.60	194.90	161.30	172.17	189.32
31		362.71	387.07		387.26		318.36		190.72	174.69		187.20
Mean	393.89	367.8	377.53	389.03	390.73	375.68	320.18	256.64	204.48	180.41	175.51	178.0
Maximum	411.8	390.23	387.07	403.39	393.88	421.39	322.7	318.18	245.97	189.32	180.68	181.2
Minimum	369.05	350.3	364.76	384.05	386.13	321.61	315.83	180.64	159.72	161.3	172.17	166.71
R/Off mm	7.8414	7.5662	7.7664	7.4366	8.0379	7.479	6.5966	5.1092	4.2065	3.7114	3.5139	3.6616

Flows in cubic metres per second

Annual Statistics

Maximum 421.394 Minimum 161.293 Mean 300.429 cubic metres per second
 Total 9500.273 million cubic metres Runoff 72.967 millimetres

Possible Data Flags

Missing - flag "a"

Original - no flag set

Estimate - flag "e"

Station 1000000000
 Monthly Summary of Hydrological Data

Station Name: 1000000000
 Basin no. : 1 Latitude : 15:4:0 S Longitude : 35:12:0 E Altitude : 0
 Area : 130200

Year : 1990/1991

	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
1	393.13	329.96	322.33	339.34	433.95	459.15	565.83	632.43	503.02	451.48	428.34	435.50
2	393.13	333.60	322.88	339.53	434.15	473.91	665.83	628.84	501.39	452.85	423.52	435.70
3	393.13	335.43	329.79	392.74	432.98	475.89	665.83	623.99	498.24	454.02	419.47	439.58
4	393.13	332.51	341.49	397.30	429.69	477.67	665.83	622.30	473.11	453.83	421.20	439.97
5	393.13	331.60	346.44	400.53	427.18	482.04	665.83	620.20	472.92	450.50	421.39	439.97
6	393.13	333.42	356.27	400.53	424.86	484.82	665.83	617.46	474.30	446.98	421.39	440.94
7	392.26	333.60	404.23	399.96	423.90	495.01	663.27	614.94	477.47	444.84	421.39	440.17
8	383.28	333.60	347.95	404.72	427.57	489.00	660.70	613.47	477.07	443.47	421.59	440.36
9	391.53	333.42	340.56	412.37	473.74	486.41	660.70	610.11	470.94	442.31	423.51	444.25
10	387.88	331.60	352.87	417.55	491.62	487.20	660.49	609.69	468.37	442.31	424.67	443.03
11	393.13	331.41	432.95	429.31	476.28	493.19	658.35	605.29	468.18	442.31	424.85	439.80
12	393.13	331.41	357.48	447.00	470.94	510.14	657.92	602.36	468.18	443.08	423.90	435.70
13	393.35	331.41	404.36	431.36	457.36	603.25	654.94	601.74	467.98	435.29	424.67	434.15
14	395.77	329.23	468.24	424.09	451.48	668.22	657.71	597.98	465.81	426.60	423.90	432.79
15	397.75	327.05	369.61	420.44	445.23	661.98	657.71	598.19	463.45	426.21	423.71	430.27
16	392.70	326.32	374.13	419.90	445.03	658.57	653.45	593.81	461.09	429.31	422.55	432.40
17	393.50	320.17	421.24	433.95	450.11	657.50	651.74	592.35	457.55	430.66	421.39	430.66
18	382.40	320.53	392.95	432.98	451.48	651.10	650.47	592.35	454.22	431.05	421.20	430.27
19	342.57	320.35	376.92	429.50	449.52	650.68	650.47	592.35	454.02	435.11	419.28	418.32
20	342.57	318.36	365.13	423.13	449.91	654.51	650.68	592.35	454.02	427.44	419.08	426.60
21	344.40	316.37	364.38	409.31	456.96	660.27	652.59	593.39	453.63	437.83	418.59	419.66
22	343.47	315.01	363.64	414.79	458.93	660.70	651.96	593.81	452.26	438.61	416.97	420.43
23	342.38	314.21	373.54	409.89	461.28	659.14	651.74	595.10	457.36	436.28	416.59	422.36
24	342.36	314.21	364.57	417.60	472.14	655.79	650.47	597.56	458.73	432.98	414.67	421.39
25	342.20	316.01	375.03	436.86	474.30	659.35	651.74	599.65	458.73	430.85	441.92	420.24
26	337.62	316.19	362.17	434.34	459.52	664.33	653.02	599.86	458.73	430.27	461.09	416.78
27	329.77	315.65	394.81	433.18	449.53	668.18	653.02	598.60	458.73	428.73	450.31	415.53
28	329.23	315.50	394.81	433.95	443.28	668.40	648.77	597.35	458.34	430.66	441.92	413.33
29	329.23	316.19	395.94		448.55	668.40	639.21	577.47	453.05	430.47	454.03	409.88
30	331.05	316.37	387.26		455.61	667.11	635.40	556.40	449.52	429.69	442.12	411.22
31		318.54	339.15		465.81		633.91		449.52	430.66		414.28
Mean	369.75	324.46	373.65	417.35	451.38	588.5	655.01	602.41	455.48	437.99	426.93	428.86
Maximum	397.75	335.43	468.24	447.0	491.62	563.4	665.83	632.43	503.02	454.02	461.09	444.25
Minimum	329.23	313.5	322.33	339.34	423.9	469.16	633.91	556.4	449.52	426.21	414.67	409.88
R/Off mn	7.5603	6.6746	7.6864	7.7546	9.2856	11.216	13.475	11.973	9.5756	9.0101	8.5003	8.2223

Flows in cubic metres per second

Annual Statistics

Maximum 663.399 Minimum 313.497 Mean 461.800 cubic metres per second
 Total 14563.310 million cubic metres Sumoff 111.853 millimetres

Properties of Data

Missing - flag "-"

Original - no flag set

Estimate - flag "e"

WATER RESOURCES BOARD
 REPORT ON ESTIMATION OF FLOW BY METHOD OF ANALYSIS

WATER RESOURCES BOARD
 Basin no. : 1 Latitude : 15: 4: 0 S Longitude : 35:12: 0 E Altitude : 10
 Area : 130290.

Year : 1999/2000

	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
1	621.88	611.59	532.57	735.90	750.15	790.16	805.16	754.23	701.56	632.34	470.31	446.64
2	606.73	618.89	533.93	737.93	759.34	783.46	806.46	753.46	695.80	630.63	459.81	445.29
3	605.76	624.51	535.37	732.60	759.85	781.66	808.79	750.65	687.79	630.63	457.76	442.58
4	604.54	627.69	540.59	726.27	759.85	782.43	804.64	747.85	657.04	629.16	459.55	441.22
5	606.97	627.69	541.54	720.45	759.06	778.57	799.98	747.60	637.04	626.22	455.03	441.45
6	605.76	627.20	546.27	720.20	753.72	778.57	796.62	747.34	637.04	624.27	452.54	443.93
7	604.30	622.31	545.74	720.45	750.91	779.60	789.39	744.79	637.04	619.14	454.53	446.42
8	602.85	619.15	551.03	724.75	750.40	778.31	782.94	744.54	636.79	616.21	454.81	446.64
9	602.85	571.24	652.39	729.30	747.34	778.57	777.03	744.28	634.29	527.02	454.81	446.64
10	604.30	503.17	711.62	732.09	742.00	784.23	774.97	741.74	633.79	415.28	455.94	446.64
11	601.39	519.13	712.63	732.35	741.49	786.29	771.89	740.98	631.50	346.94	456.40	446.64
12	535.21	509.20	720.21	731.84	741.49	787.58	766.25	734.38	631.05	293.82	457.53	446.64
13	531.80	515.91	723.23	726.52	739.71	790.42	761.13	731.59	630.55	290.34	457.53	438.76
14	534.01	518.47	718.68	723.46	735.50	794.81	754.23	722.22	675.57	255.84	457.53	420.81
15	587.14	517.54	725.01	727.79	739.71	794.29	753.46	717.67	675.07	285.03	457.53	419.69
16	590.76	497.28	737.68	735.65	741.74	793.77	752.95	719.69	674.82	288.68	457.99	419.25
17	579.45	494.50	764.72	742.00	745.81	793.52	759.34	717.67	672.35	291.14	461.18	414.57
18	603.09	501.68	790.44	754.49	749.13	789.39	759.85	719.95	671.84	293.60	460.49	412.13
19	604.30	502.61	825.70	759.85	755.51	785.78	769.08	720.96	669.60	293.60	461.63	411.24
20	604.06	512.40	829.34	759.59	761.13	781.66	762.92	713.14	671.34	293.60	448.23	406.36
21	601.15	518.01	823.09	757.04	759.85	781.40	761.39	706.84	663.15	293.60	436.72	401.23
22	596.07	513.47	812.43	755.25	760.10	781.14	763.17	705.03	653.50	292.37	436.04	398.63
23	595.34	518.47	767.82	753.72	767.28	778.83	763.81	708.35	640.44	336.23	438.29	402.33
24	593.17	518.47	748.87	753.72	771.89	781.40	771.38	712.13	637.00	439.09	438.74	406.14
25	593.41	518.47	740.22	754.43	767.78	789.39	763.69	706.59	638.97	585.87	441.00	405.04
26	586.17	518.71	736.44	760.10	767.53	799.46	761.38	702.32	636.76	600.45	441.22	399.74
27	575.36	522.46	736.66	752.19	770.35	799.72	758.31	702.07	636.51	533.78	441.22	394.45
28	591.24	524.10	732.35	747.60	769.32	795.58	755.25	702.07	636.51	490.34	441.45	393.13
29	595.83	524.10	729.56		777.29	793.77	755.25	702.07	636.51	437.55	443.93	393.13
30	602.60	524.57	728.29		790.16	794.81	757.04	702.07	626.76	426.17	446.42	393.13
31		530.68	722.22		799.68		759.08		637.49	476.97		393.13
Mean	596.53	544.19	694.22	739.56	757.27	786.95	771.99	725.48	667.59	448.74	451.88	421.41
Maximum	606.97	627.69	829.34	760.1	790.68	799.72	808.79	754.23	701.56	632.34	470.31	446.64
Minimum	575.36	494.5	532.57	720.2	735.9	778.31	752.95	702.07	636.51	255.84	436.04	393.13
R/Off an	11.377	11.195	14.231	13.741	15.578	15.666	15.831	14.443	13.733	9.2312	3.9959	3.6591

Flow in cubic metres per second

Annual distribution

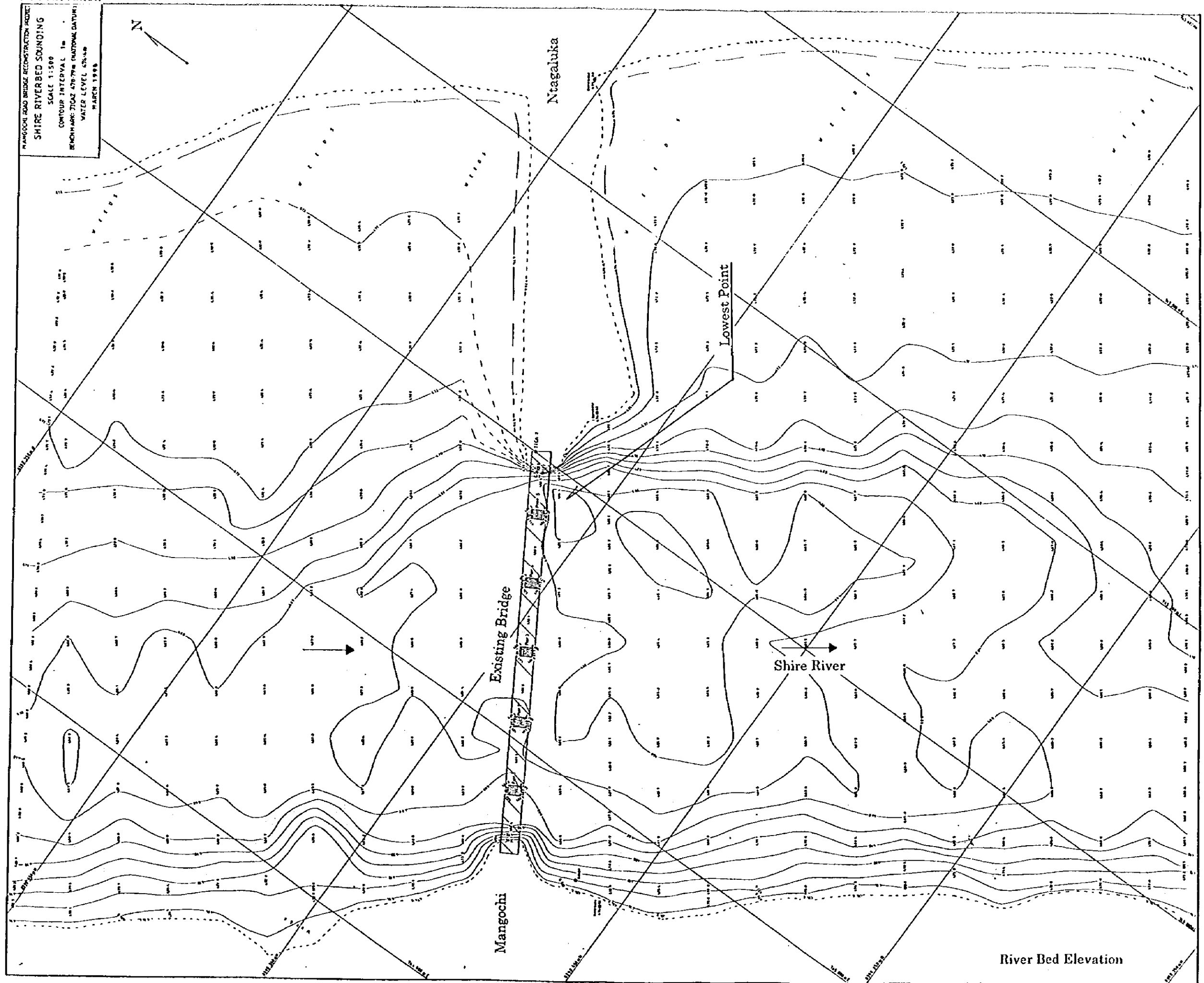
Maximum 829.344 Minimum 255.844 Mean 532.881 cubic metres per second
 Total 19958.540 million cubic metres Runoff 153.291 millimetres

Observation status: E: Error

Missing - flag '-'

Original - no flag set

Estimate - flag 'e'



River Bed Elevation

APPENDIX 5
TRAFFIC FORECASTS

Traffic Count Survey Results

Site 1: 12-Hour Traffic Count Results on M10 North of M3 Junction, Northbound, on 10 March 1998

Category	Time of Day												Total for All Categories	Total for All Vehicles	Total for All Mot. Veh.	Total for All MV (not MC)
	07:00-08:00	08:00-09:00	09:00-10:00	10:00-11:00	11:00-12:00	12:00-13:00	13:00-14:00	14:00-15:00	15:00-16:00	16:00-17:00	17:00-18:00	18:00-19:00				
Pedestrian	141	87	88	108	82	78	48	52	64	117	72	11	948	625	-	-
Bicycle	118	45	73	44	60	55	28	39	36	49	45	12	625	36	36	-
Motorcycle	10	4	4	6	3	4	1	1	6	18	28	19	132	132	132	102
Passenger Car/Sedan	17	4	13	3	11	4	6	3	7	6	1	5	60	60	60	247
4WD Wagon/Landcruiser	12	5	4	7	3	3	4	3	7	6	1	4	247	247	247	50
Pickup Truck	43	21	24	16	11	22	16	21	19	22	32	4	50	50	50	8
Minibus	2	2	3	11	3	1	2	1	4	2	6	8	8	8	8	0
Standard Bus		1	2			1				1			0	0	0	0
Standard Bus with Trailer					3	5	7	3	4	3	1	7	46	46	46	46
2-Axle Truck (Excluding Pickups)	7	5	2	1	3	1	1	1	1	3	1	1	6	6	6	6
3-Axle Truck					1	1	1	1	1	1	1	4	4	4	4	4
4-Axle Truck					1	1							0	0	0	0
5-Axle Truck													0	0	0	0
6-Axle Truck													0	0	0	0
Total	350	172	213	196	198	175	113	136	141	229	188	60	2,162	1,214	589	553

Site 1: 12-Hour Traffic Count Results on M10 North of M3 Junction, Southbound, on 10 March 1998

Category	Time of Day												Total for All Categories	Total for All Vehicles	Total for All Mot. Veh.	Total for All MV (not MC)
	07:00-08:00	08:00-09:00	09:00-10:00	10:00-11:00	11:00-12:00	12:00-13:00	13:00-14:00	14:00-15:00	15:00-16:00	16:00-17:00	17:00-18:00	18:00-19:00				
Pedestrian	205	100	125	144	95	35	50	40	50	45	35	20	944	358	-	-
Bicycle	75	26	65	49	33	40	13	22	22	5	8	6	358	35	35	86
Motorcycle	8	2	3	5	1	3	2	4	2	5	1	1	86	86	86	22
Passenger Car/Sedan	14	6	13	12	7	9	4	5	7	8	1	6	22	22	22	245
4WD Wagon/Landcruiser	3	2	4	4	4	4	3	1	1	3	1	6	245	245	245	96
Pickup Truck	27	21	30	24	18	10	15	22	25	31	16	9	96	96	96	9
Minibus	7	13	11	10	4	3	9	6	8	10	3	9	9	9	9	0
Standard Bus	4				1	1							0	0	0	0
Standard Bus with Trailer					4	3	2	2	4	4	1	1	56	56	56	56
2-Axle Truck (Excluding Pickups)	9	3	2	22	4	1	2	2	4	2	1	7	9	9	9	0
3-Axle Truck		2		4	1				2				0	0	0	0
4-Axle Truck													0	0	0	0
5-Axle Truck													0	0	0	0
6-Axle Truck													0	0	0	0
Total	352	175	249	274	168	104	98	102	121	111	71	35	1,860	915	558	523

Site 1: 12-Hour Traffic Count Results on M10 North of M3 Junction, Both Directions, on 10 March 1998

Category	Time of Day												Total for All Categories	Total for All Vehicles	Total for All Mot. Veh.	Total for All MV (not MC)
	07:00-08:00	08:00-09:00	09:00-10:00	10:00-11:00	11:00-12:00	12:00-13:00	13:00-14:00	14:00-15:00	15:00-16:00	16:00-17:00	17:00-18:00	18:00-19:00				
Pedestrian	346	187	213	252	177	113	98	92	114	162	107	31	1,892	983	-	-
Bicycle	193	71	138	93	113	95	41	61	58	54	54	12	983	71	71	218
Motorcycle	18	4	7	11	4	7	3	5	2	7	2	2	218	218	218	82
Passenger Car/Sedan	31	10	26	15	18	13	10	8	13	26	29	19	82	82	82	492
4WD Wagon/Landcruiser	15	7	4	11	7	3	7	4	8	9	2	6	492	492	492	146
Pickup Truck	70	42	54	40	29	32	31	43	44	53	48	13	146	146	146	17
Minibus	9	15	14	21	7	4	9	18	12	11	3	0	17	17	17	0
Standard Bus	4	1	2	0	0	2	2	1	0	1	0	0	0	0	0	0
Standard Bus with Trailer	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2-Axle Truck (Excluding Pickups)	16	8	2	23	7	8	9	5	8	7	2	7	102	102	102	15
3-Axle Truck	0	2	2	4	2	1	1	0	2	0	0	0	15	15	15	4
4-Axle Truck	0	0	0	0	1	1	0	1	1	0	0	0	4	4	4	0
5-Axle Truck	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6-Axle Truck	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	702	347	462	470	365	279	211	238	262	331	259	95	4,022	2,130	1,147	1,076

Site 2: 12-Hour Traffic Count Results on T385 West of M3 Junction, Eastbound, on 10 March 1998

Category	Time of Day												Total for All Categories	Total for All Vehicles	Total for All Mot. Veh.	Total for All MV (not MC)
	07:00-08:00	08:00-09:00	09:00-10:00	10:00-11:00	11:00-12:00	12:00-13:00	13:00-14:00	14:00-15:00	15:00-16:00	16:00-17:00	17:00-18:00	18:00-19:00				
Pedestrian	205	164	86	111	120	95	91	95	110	120	78	47	1322	-	-	-
Bicycle	45	81	75	105	90	46	49	56	62	51	37	1	767	45	45	-
Motorcycle	12	5	3	3	6	1	3	4	4	3	6	1	45	37	37	37
Passenger Car/Sedan	6	1	2	3	6	1	3	1	3	4	6	2	52	52	52	52
4WD Wagon/Landcruiser	5	4	9	7	5	1	5	12	8	8	6	1	115	115	115	115
Pickup Truck	23	13	4	18	11	6	6	12	8	8	1	1	9	9	9	9
Mimbus	1				2		1						0	0	0	0
Standard Bus													0	0	0	0
Standard Bus with Trailer													0	0	0	0
2-Axle Truck (Excluding Pickups)	5	2	2	1	3	2	2	3	2	3	2	2	24	24	24	24
3-Axle Truck													1	1	1	1
4-Axle Truck													1	1	1	1
5-Axle Truck													0	0	0	0
6-Axle Truck													0	0	0	0
Total	304	271	182	249	242	151	165	171	191	193	140	114	2,373	1,051	284	239

Site 2: 12-Hour Traffic Count Results on T385 West of M3 Junction, Westbound, on 10 March 1998

Category	Time of Day												Total for All Categories	Total for All Vehicles	Total for All Mot. Veh.	Total for All MV (not MC)
	07:00-08:00	08:00-09:00	09:00-10:00	10:00-11:00	11:00-12:00	12:00-13:00	13:00-14:00	14:00-15:00	15:00-16:00	16:00-17:00	17:00-18:00	18:00-19:00				
Pedestrian	215	120	155	110	60	95	100	90	100	160	160	75	1,440	-	-	-
Bicycle	140	72	75	15	2	71	80	70	63	75	90	50	861	64	64	64
Motorcycle	12	7	3	5	2	3	5	1	2	5	8	2	45	45	45	45
Passenger Car/Sedan	18	4	4	2	3	4	3	1	2	5	4	2	31	31	31	31
4WD Wagon/Landcruiser	6	3	2	2	2	4	3	1	1	2	3	4	133	133	133	133
Pickup Truck	21	30	4	12	9	8	3	11	7	11	13	1	13	13	13	13
Mimbus	2	1				2	2	1	2	1			0	0	0	0
Standard Bus													0	0	0	0
Standard Bus with Trailer													0	0	0	0
2-Axle Truck (Excluding Pickups)	6	2	1	3	3	1	1	3	2	2	5	2	31	31	31	31
3-Axle Truck	1					1							3	3	3	3
4-Axle Truck													2	2	2	2
5-Axle Truck													0	0	0	0
6-Axle Truck													0	0	0	0
Total	421	235	245	149	139	193	196	179	180	261	284	141	2,623	1,183	322	258

Site 2: 12-Hour Traffic Count Results on T385 West of M3 Junction, Both Directions, on 10 March 1998

Category	Time of Day												Total for All Categories	Total for All Vehicles	Total for All Mot. Veh.	Total for All MV (not MC)
	07:00-08:00	08:00-09:00	09:00-10:00	10:00-11:00	11:00-12:00	12:00-13:00	13:00-14:00	14:00-15:00	15:00-16:00	16:00-17:00	17:00-18:00	18:00-19:00				
Pedestrian	420	284	241	221	180	190	191	185	210	280	238	122	2,762	-	-	-
Bicycle	185	153	150	120	158	117	129	126	125	126	177	112	1,628	109	109	109
Motorcycle	24	12	6	8	2	9	13	5	4	8	12	6	109	82	82	82
Passenger Car/Sedan	26	1	6	5	9	3	4	1	6	8	10	3	82	83	83	83
4WD Wagon/Landcruiser	11	7	11	9	7	5	8	2	4	6	9	4	248	248	248	248
Pickup Truck	44	43	8	30	20	14	9	23	15	19	19	2	22	22	22	22
Mimbus	3	1	1	0	2	2	3	1	3	2	0	0	0	0	0	0
Standard Bus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Standard Bus with Trailer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2-Axle Truck (Excluding Pickups)	11	4	3	4	3	3	3	6	4	5	7	2	55	55	55	55
3-Axle Truck	1	0	1	1	0	1	0	0	0	0	0	0	4	4	4	4
4-Axle Truck	0	1	0	0	0	0	1	1	0	0	0	0	3	3	3	3
5-Axle Truck	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6-Axle Truck	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	725	506	427	398	381	344	361	350	371	454	424	255	4,996	2,234	606	497

Site 3: 12-Hour Traffic Count Results on M3 South of M10 Junction, Northbound, on 10 March 1998

Category	Time of Day												Total for All Categories	Total for All Vehicles	Total for All Mot. Veh.	Total for All MV (not MC)
	07:00-08:00	08:00-09:00	09:00-10:00	10:00-11:00	11:00-12:00	12:00-13:00	13:00-14:00	14:00-15:00	15:00-16:00	16:00-17:00	17:00-18:00	18:00-19:00				
Pedestrian	245	120	88	90	60	110	115	80	35	1098	-	-	745	-	-	-
Bicycle	146	92	71	56	53	64	51	34	21	745	-	-	37	37	37	-
Motorcycle	11	3	3	4	2	3	4	4	3	76	76	76	47	47	76	76
Passenger Car/Sedan	9	2	2	4	2	4	6	5	1	47	47	47	261	261	261	261
4WD Wagon/Landcruiser	49	33	27	16	22	20	19	19	17	261	261	261	59	59	59	59
Pickup Truck	9	3	2	2	8	6	2	2	1	5	5	5	5	5	5	5
Minibus					2					0	0	0	0	0	0	0
Standard Bus					2					0	0	0	0	0	0	0
Standard Bus with Trailer					4					52	52	52	2	2	2	2
2-Axle Truck (Excluding Pickups)	16	2	3	5	4	2	2	6	1	2	2	2	1	1	1	1
3-Axle Truck					1					1	1	1	1	1	1	1
4-Axle Truck					1					0	0	0	0	0	0	0
5-Axle Truck					1					1	1	1	1	1	1	1
6-Axle Truck					1					1	1	1	1	1	1	1
Total	489	138	255	198	202	219	206	155	84	2,384	1,286	541	304	304	304	304

Site 3: 12-Hour Traffic Count Results on M3 South of M10 Junction, Southbound, on 10 March 1998

Category	Time of Day												Total for All Categories	Total for All Vehicles	Total for All Mot. Veh.	Total for All MV (not MC)
	07:00-08:00	08:00-09:00	09:00-10:00	10:00-11:00	11:00-12:00	12:00-13:00	13:00-14:00	14:00-15:00	15:00-16:00	16:00-17:00	17:00-18:00	18:00-19:00				
Pedestrian	90	165	189	212	138	148	154	254	181	2043	-	-	1926	-	-	-
Bicycle	95	90	116	67	138	104	96	148	62	1326	-	-	49	49	49	-
Motorcycle	2	6	14	2	14	1	1	2	4	91	91	91	91	91	91	91
Passenger Car/Sedan	12	12	4	21	8	1	5	16	2	101	101	101	382	382	382	382
4WD Wagon/Landcruiser	9	30	8	9	7	14	7	29	8	127	127	127	9	9	9	9
Pickup Truck	46	72	42	41	32	22	13	14	2	9	9	9	9	9	9	9
Minibus	10	8	10	13	10	2	2	1	1	1	1	1	1	1	1	1
Standard Bus	4	2		1						42	42	42	16	16	16	16
Standard Bus with Trailer				3	4	5	4	1	3	3	3	3	3	3	3	3
2-Axle Truck (Excluding Pickups)	8	4	6	8	1	1	3	3	0	0	0	0	0	0	0	0
3-Axle Truck										2	2	2	2	2	2	2
4-Axle Truck										2	2	2	2	2	2	2
5-Axle Truck										2	2	2	2	2	2	2
6-Axle Truck										2	2	2	2	2	2	2
Total	276	393	394	386	320	352	297	354	260	4,192	2,169	823	774	774	774	774

Site 3: 12-Hour Traffic Count Results on M3 South of M10 Junction, Both Directions, on 10 March 1998

Category	Time of Day												Total for All Categories	Total for All Vehicles	Total for All Mot. Veh.	Total for All MV (not MC)
	07:00-08:00	08:00-09:00	09:00-10:00	10:00-11:00	11:00-12:00	12:00-13:00	13:00-14:00	14:00-15:00	15:00-16:00	16:00-17:00	17:00-18:00	18:00-19:00				
Pedestrian	305	165	312	277	302	198	210	243	216	3,141	-	-	2,071	-	-	-
Bicycle	241	182	206	168	123	191	148	212	83	2,071	-	-	86	86	86	-
Motorcycle	6	9	20	5	6	16	5	3	6	167	167	167	167	167	167	167
Passenger Car/Sedan	23	15	8	27	19	15	9	25	7	148	148	148	643	643	643	643
4WD Wagon/Landcruiser	18	32	11	11	11	10	7	18	11	25	25	25	18	18	18	18
Pickup Truck	95	105	69	57	42	54	23	49	48	186	186	186	14	14	14	14
Minibus	19	11	12	20	10	18	29	20	7	14	14	14	1	1	1	1
Standard Bus	4	2	0	0	1	2	2	0	0	1	1	1	1	1	1	1
Standard Bus with Trailer	0	0	0	0	0	0	0	0	0	94	94	94	18	18	18	18
2-Axle Truck (Excluding Pickups)	24	6	11	11	7	8	7	2	6	4	4	4	4	4	4	4
3-Axle Truck	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4-Axle Truck	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5-Axle Truck	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6-Axle Truck	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	765	531	649	584	522	512	441	573	344	6,576	3,435	1,364	1,278	1,278	1,278	1,278

Site A: 24-Hour Traffic Count Results at Mangochi Bridge, Eastbound, on 10 March 1998

Category	12-Hour Totals												Total for All Categories	Total for All Vehicles	Total for All Mot. Veh.	Total for All MV (not MC)
	Time of Day															
	07:00-08:00	08:00-09:00	09:00-10:00	10:00-11:00	11:00-12:00	12:00-13:00	13:00-14:00	14:00-15:00	15:00-16:00	16:00-17:00	17:00-18:00	18:00-19:00				
Pedestrian	75	113	182	184	119	72	76	132	192	267	173	35	1620	-	-	-
Bicycle	72	67	56	62	69	60	35	42	90	148	116	33	850	-	-	-
Motorcycle	2	2	3	5	2	2	2	1	3	2	1	2	25	25	25	14
Passenger Car/Sedan													14	14	14	14
4WD Wagon/Landcruiser	7	6	12	7	5	8	9	7	9	3	2	3	27	27	27	27
Pickup Truck													83	83	83	83
Minibus		1	1	1				1	2	1	1	1	8	8	8	8
Standard Bus													0	0	0	0
Standard Bus with Trailer													0	0	0	0
2-Axle Truck (Excluding Pickups)	3	2	1	1	3	1	1	4	4	2			19	18	18	18
3-Axle Truck								1					1	1	1	1
4-Axle Truck													0	0	0	0
5-Axle Truck													0	0	0	0
6-Axle Truck									1				1	1	1	1
Total	159	194	260	265	201	148	128	185	307	426	300	74	2,647	1,027	177	152

Site A: 24-Hour Traffic Count Results at Mangochi Bridge, Westbound, on 10 March 1998

Category	12-Hour Totals												Total for All Categories	Total for All Vehicles	Total for All Mot. Veh.	Total for All MV (not MC)
	Time of Day															
	07:00-08:00	08:00-09:00	09:00-10:00	10:00-11:00	11:00-12:00	12:00-13:00	13:00-14:00	14:00-15:00	15:00-16:00	16:00-17:00	17:00-18:00	18:00-19:00				
Pedestrian	206	305	250	202	194	101	128	140	293	142	177	83	2221	-	-	-
Bicycle	214	195	104	80	84	20	120	60	75	56	54	49	1111	1111	23	23
Motorcycle	1	4	2	1	2	3	1	3	2	1	2	2	23	23	9	9
Passenger Car/Sedan													11	11	11	11
4WD Wagon/Landcruiser	2	1	1	2	1	1	1	1	2	1	1	7	77	77	77	77
Pickup Truck	7	5	6	5	5	4	6	9	7	12	4	7	11	11	11	11
Minibus	1	1	1	1			2	1		2	2		0	0	0	0
Standard Bus													0	0	0	0
Standard Bus with Trailer													0	0	0	0
2-Axle Truck (Excluding Pickups)	2	1	4	4	1		4	3	2	1			22	22	22	22
3-Axle Truck								1					3	3	3	3
4-Axle Truck													1	1	1	1
5-Axle Truck													0	0	0	0
6-Axle Truck													0	0	0	0
Total	433	511	368	294	288	130	262	218	384	216	242	143	3,489	1,268	157	134

Site A: 24-Hour Traffic Count Results at Mangochi Bridge, Both Directions, March 1998

Category	12-Hour Totals												Total for All Categories	Total for All Vehicles	Total for All Mot. Veh.	Total for All MV (not MC)
	Time of Day															
	07:00-08:00	08:00-09:00	09:00-10:00	10:00-11:00	11:00-12:00	12:00-13:00	13:00-14:00	14:00-15:00	15:00-16:00	16:00-17:00	17:00-18:00	18:00-19:00				
Pedestrian	281	418	432	386	313	173	204	272	486	409	350	178	3,941	-	-	-
Bicycle	266	262	160	142	153	80	155	102	165	204	170	82	1,961	1,961	48	48
Motorcycle	3	6	5	6	2	5	3	4	5	2	3	4	23	23	23	23
Passenger Car/Sedan													38	38	38	38
4WD Wagon/Landcruiser	2	3	5	3	4	4	4	2	4	4	3	0	160	160	160	160
Pickup Truck	14	11	18	12	10	12	15	16	16	14	12	10	19	19	19	19
Minibus	1	2	2	1	0	1	2	2	2	3	2	1	0	0	0	0
Standard Bus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Standard Bus with Trailer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2-Axle Truck (Excluding Pickups)	5	3	5	5	4	1	5	3	6	3	0	0	40	40	40	40
3-Axle Truck	0	0	0	0	0	0	0	1	0	1	0	0	3	3	3	3
4-Axle Truck	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1
5-Axle Truck	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1
6-Axle Truck	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1
Total	592	705	628	559	489	278	390	403	691	642	542	217	6,136	2,395	334	286

Site A: 24-Hour Traffic Count Results at Mangochi Bridge, Eastbound, on 10 March 1998

Category	24-Hour Totals												Total		
	Time of Day														
	19:00-20:00	20:00-21:00	21:00-22:00	22:00-23:00	23:00-24:00	00:00-01:00	01:00-02:00	02:00-03:00	03:00-04:00	04:00-05:00	05:00-06:00	06:00-07:00		Categories	Total for All Vehicles
Pedestrian	37	23	10	6	1	3	2	2	2	7	37	67	1,815	924	-
Bicycle	7	8	1	1	1	1	1	1	1	1	1	40	26	28	28
Motorcycle	1	3	3	2	1	1	1	1	1	1	1	3	23	23	23
Passenger Car/Sedan	3	3	1	1	1	1	1	1	1	2	2	9	32	32	32
4WD Wagon/Landcruiser	8	5	4	3	2	1	1	1	1	1	1	14	118	118	118
Pickup Truck	1											2	14	14	14
Minibus												0	0	0	0
Standard Bus												0	0	0	0
Standard Bus with Trailer												2	22	22	22
2-Axle Truck (Excluding Pickups)				1								1	1	1	1
3-Axle Truck												0	0	0	0
4-Axle Truck												0	0	0	0
5-Axle Truck												0	0	0	0
6-Axle Truck												1	1	1	1
Total	57	39	16	14	4	4	2	2	3	10	57	124	2,978	1,163	239

Site A: 24-Hour Traffic Count Results at Mangochi Bridge, Westbound, on 10 March 1998

Category	24-Hour Totals												Total		
	Time of Day														
	19:00-20:00	20:00-21:00	21:00-22:00	22:00-23:00	23:00-24:00	00:00-01:00	01:00-02:00	02:00-03:00	03:00-04:00	04:00-05:00	05:00-06:00	06:00-07:00		Categories	Total for All Vehicles
Pedestrian	12	4	2	2	1	3	3	3	3	9	102	194	2,547	1,230	-
Bicycle	9	5	7	1	1	1	1	1	1	1	1	74	26	26	26
Motorcycle												1	14	14	14
Passenger Car/Sedan	1	4	1	1	1	1	1	1	1	4	4	3	20	20	20
4WD Wagon/Landcruiser	6	8	4	1	1	1	1	1	1	1	1	104	104	104	104
Pickup Truck	1											15	15	15	15
Minibus												0	0	0	0
Standard Bus												0	0	0	0
Standard Bus with Trailer												2	28	28	28
2-Axle Truck (Excluding Pickups)												2	2	2	2
3-Axle Truck												3	3	3	3
4-Axle Truck												1	1	1	1
5-Axle Truck												0	0	0	0
6-Axle Truck												0	0	0	0
Total	30	22	15	4	3	3	0	3	1	9	132	275	3,990	1,443	273

Site A: 24-Hour Traffic Count Results at Mangochi Bridge, Both Directions, March 1998

Category	24-Hour Totals												Total		
	Time of Day														
	19:00-20:00	20:00-21:00	21:00-22:00	22:00-23:00	23:00-24:00	00:00-01:00	01:00-02:00	02:00-03:00	03:00-04:00	04:00-05:00	05:00-06:00	06:00-07:00		Categories	Total for All Vehicles
Pedestrian	49	27	12	6	3	3	2	3	2	16	139	261	4,362	2,154	-
Bicycle	16	13	8	2	1	1	0	0	0	1	38	114	2,154	54	54
Motorcycle	1	0	0	0	0	0	0	0	0	0	2	1	37	37	37
Passenger Car/Sedan	3	3	1	3	0	0	0	0	0	0	0	3	52	52	52
4WD Wagon/Landcruiser	1	4	2	2	1	1	0	0	0	2	6	12	222	222	222
Pickup Truck	14	13	8	4	1	1	1	1	2	0	1	2	29	29	29
Minibus	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Standard Bus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Standard Bus with Trailer	0	0	0	0	0	0	0	0	0	0	0	4	50	50	50
2-Axle Truck (Excluding Pickups)	1	0	0	1	1	0	0	0	0	0	0	3	3	3	3
3-Axle Truck	0	0	0	0	0	0	0	0	0	0	0	0	3	3	3
4-Axle Truck	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
5-Axle Truck	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
6-Axle Truck	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
Total	87	61	31	18	7	7	2	4	4	19	189	399	6,968	2,606	452

Site B: 24-Hour Traffic Count Results on M3 in Chiponde, Eastbound, on 10 March 1998

Category	Time of Day												12-Hour Totals		
	07:00-08:00	08:00-09:00	09:00-10:00	10:00-11:00	11:00-12:00	12:00-13:00	13:00-14:00	14:00-15:00	15:00-16:00	16:00-17:00	17:00-18:00	18:00-19:00	Total for All Categories	Total for All Vehicles	Total for All Mot. Veh. MV (not MC)
	295	241	338	217	181	69	84	110	93	124	63	53	1815	772	772
Pedestrian	40	69	67	94	129	60	52	75	72	78	36	36	1	1	1
Bicycle				1											
Motorcycle															
Passenger Car/Sedan					1	1	1	2		1	1		6	6	6
4WD Wagon/Landcruiser				1	2	1	1			1			7	7	7
Pickup Truck	4	3	2	1	2	1	1	1		1		2	19	19	19
Minibus					1								1	1	1
Standard Bus					1								1	1	1
Standard Bus with Trailer															
2-Axle Truck (Excluding Pickups)	2	1									2		5	5	5
3-Axle Truck		1											1	1	1
4-Axle Truck													0	0	0
5-Axle Truck													0	0	0
6-Axle Truck													0	0	0
Total	341	317	407	314	317	132	139	188	165	204	104	2	2,630	815	43

Site B: 24-Hour Traffic Count Results on M3 in Chiponde, Westbound, on 10 March 1998

Category	Time of Day												12-Hour Totals		
	07:00-08:00	08:00-09:00	09:00-10:00	10:00-11:00	11:00-12:00	12:00-13:00	13:00-14:00	14:00-15:00	15:00-16:00	16:00-17:00	17:00-18:00	18:00-19:00	Total for All Categories	Total for All Vehicles	Total for All Mot. Veh. MV (not MC)
	162	111	330	215	146	87	126	202	126	143	35	44	1,998	1,323	1,323
Pedestrian															
Bicycle															
Motorcycle															
Passenger Car/Sedan					1	1	2	2	1	2	1		6	6	6
4WD Wagon/Landcruiser					1	1	2	2	2	2			8	8	8
Pickup Truck	1	2	2	4	3	3	4	4	4	3			25	25	25
Minibus					3			1					5	5	5
Standard Bus													1	1	1
Standard Bus with Trailer															
2-Axle Truck (Excluding Pickups)	1	1	1	1	1	2	3	2	3	3			17	17	17
3-Axle Truck					1			2	2	1			7	7	7
4-Axle Truck													0	0	0
5-Axle Truck													1	1	1
6-Axle Truck													1	1	1
Total	276	439	306	545	210	212	226	327	300	370	80	5	3,296	1,398	75

Site B: 24-Hour Traffic Count Results on M3 in Chiponde, Both Directions, March 1998

Category	Time of Day												12-Hour Totals		
	07:00-08:00	08:00-09:00	09:00-10:00	10:00-11:00	11:00-12:00	12:00-13:00	13:00-14:00	14:00-15:00	15:00-16:00	16:00-17:00	17:00-18:00	18:00-19:00	Total for All Categories	Total for All Vehicles	Total for All Mot. Veh. MV (not MC)
	457	571	553	662	327	156	175	224	219	267	98	4	3,713	2,095	2,095
Pedestrian	151	171	157	186	186	180	178	277	235	294	80	0	2,095	2,095	2,095
Bicycle															
Motorcycle															
Passenger Car/Sedan					1	1	2	4	0	2	1	0	12	12	12
4WD Wagon/Landcruiser					2	1	2	2	2	3	1	0	15	15	15
Pickup Truck	5	5	2	5	2	4	5	5	4	4	1	2	44	44	44
Minibus					4			1	1	0	0	0	6	6	6
Standard Bus					1			0	0	0	0	0	2	2	2
Standard Bus with Trailer															
2-Axle Truck (Excluding Pickups)	3	2	0	1	1	2	3	2	3	3	2	0	22	22	22
3-Axle Truck					1			0	0	1	0	0	8	8	8
4-Axle Truck					0			0	0	0	0	0	0	0	0
5-Axle Truck					1			0	0	0	0	0	1	1	1
6-Axle Truck					0			0	0	0	0	0	3	3	3
Total	617	756	713	859	527	344	365	515	465	574	184	7	5,926	2,213	118

Site B: 24-Hour Traffic Count Results on M3 in Chiponde, Eastbound, on 10 March 1998

Category	24-Hour Totals												Total for All Categories	Total for All Veh.	Total for All MV (not MC)	
	Time of Day															
	19:00-20:00	20:00-21:00	21:00-22:00	22:00-23:00	23:00-24:00	00:00-01:00	01:00-02:00	02:00-03:00	03:00-04:00	04:00-05:00	05:00-06:00	06:00-07:00				
Pedestrian	39	17	10	3	2	1	2	2	1	1	19	33	1,941	837	-	-
Bicycle	15	1									12	34	837	1	1	1
Motorcycle														6	6	6
Passenger Car/Sedan														8	8	8
4WD Wagon/Landcruiser	1							1				3	23	23	23	23
Pickup Truck														1	1	1
Minibus														1	1	1
Standard Bus														0	0	0
Standard Bus with Trailer														7	7	7
2-Axle Truck (Excluding Pickups)	1											1	1	1	1	1
3-Axle Truck														0	0	0
4-Axle Truck														0	0	0
5-Axle Truck														0	0	0
6-Axle Truck														2	2	2
Total	56	18	10	5	2	1	2	2	1	1	31	71	2,828	887	50	45

Site B: 24-Hour Traffic Count Results on M3 in Chiponde, Westbound, on 10 March 1998

Category	24-Hour Totals												Total for All Categories	Total for All Veh.	Total for All MV (not MC)	
	Time of Day															
	19:00-20:00	20:00-21:00	21:00-22:00	22:00-23:00	23:00-24:00	00:00-01:00	01:00-02:00	02:00-03:00	03:00-04:00	04:00-05:00	05:00-06:00	06:00-07:00				
Pedestrian	38	18	11	11	1	1	1	1	1	1	12	40	2,029	1,382	-	-
Bicycle	6										10	40	1,382	4	4	4
Motorcycle														6	6	6
Passenger Car/Sedan														8	8	8
4WD Wagon/Landcruiser												1	27	27	27	27
Pickup Truck														5	5	5
Minibus														1	1	1
Standard Bus														0	0	0
Standard Bus with Trailer														18	18	18
2-Axle Truck (Excluding Pickups)												1	18	18	18	18
3-Axle Truck														0	0	0
4-Axle Truck														0	0	0
5-Axle Truck														1	1	1
6-Axle Truck														1	1	1
Total	44	18	12	11	0	1	0	2	0	1	22	82	3,489	1,460	78	74

Site B: 24-Hour Traffic Count Results on M3 in Chiponde, Both Directions, March 1998

Category	24-Hour Totals												Total for All Categories	Total for All Veh.	Total for All MV (not MC)	
	Time of Day															
	19:00-20:00	20:00-21:00	21:00-22:00	22:00-23:00	23:00-24:00	00:00-01:00	01:00-02:00	02:00-03:00	03:00-04:00	04:00-05:00	05:00-06:00	06:00-07:00				
Pedestrian	77	35	21	14	0	3	2	0	0	1	31	73	3,970	2,219	-	-
Bicycle	21	1	1	2	1	0	0	1	0	1	22	74	2,219	5	5	5
Motorcycle	0	0	0	0	0	0	0	0	0	0	0	0	0	12	12	12
Passenger Car/Sedan	0	0	0	0	0	0	0	0	0	0	0	0	0	16	16	16
4WD Wagon/Landcruiser	1	0	0	0	0	0	0	0	0	0	0	4	50	50	50	50
Pickup Truck	0	0	0	0	0	0	0	0	0	0	0	0	0	6	6	6
Minibus	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	2
Standard Bus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Standard Bus with Trailer	0	0	0	0	0	0	0	0	0	0	0	0	0	25	25	25
2-Axle Truck (Excluding Pickups)	1	0	0	0	0	0	0	0	0	0	0	2	25	25	25	25
3-Axle Truck	0	0	0	0	0	0	0	0	0	0	0	0	0	8	8	8
4-Axle Truck	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
5-Axle Truck	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	3
6-Axle Truck	0	0	0	0	0	0	0	0	0	0	0	0	0	153	153	153
Total	100	36	22	16	1	3	2	3	0	2	53	153	5,317	2,347	128	128

Site C: 24-Hour Traffic Count Results on M6 West of M1 Junction, Eastbound, 17 March 1998

Category	Time of Day												12-Hour Totals			
	07:00-08:00	08:00-09:00	09:00-10:00	10:00-11:00	11:00-12:00	12:00-13:00	13:00-14:00	14:00-15:00	15:00-16:00	16:00-17:00	17:00-18:00	18:00-19:00	Total for All Categories	Total for All Vehicles	Total for All Mot. Veh. MV (not MC)	
Pedestrian	47	25	9	5	13	8	2	7	13	4	10	9	152	48	-	
Bicycle	7	7	1	1	1	2	4	2	2	2	6	3	48	6	-	
Motorcycle	2	1	1	1	2	6	1	2	4	1	2	3	23	23	23	
Passenger Car/Sedan	2	1	2	2	3	2	3	1	2	2	1	1	17	17	17	
4WD Wagon/Landcruiser	2	2	3	6	3	1	4	3	6	2	2	5	36	36	36	
Pickup Truck	7	4	4	5	3	3	4	2	5	4	6	3	50	50	50	
Minibus	2	2	2	2	1	1	4	2	2	4	6	3	4	4	4	
Standard Bus	2	2	2	2	1	1	1	1	1	1	2	3	0	0	0	
Standard Bus with Trailer	2	2	2	2	1	1	1	1	1	1	2	3	12	12	12	
2-Axle Truck (Excluding Pickups)	1	1	1	1	1	1	1	1	1	1	1	1	4	4	4	
3-Axle Truck	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
4-Axle Truck	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
5-Axle Truck	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
6-Axle Truck	2	2	2	3	5	3	3	4	4	4	5	2	2	2	2	
Total	67	46	27	30	28	28	21	24	47	20	34	28	400	248	200	

Site C: 24-Hour Traffic Count Results on M6 West of M1 Junction, Westbound, 17 March 1998

Category	Time of Day												12-Hour Totals			
	07:00-08:00	08:00-09:00	09:00-10:00	10:00-11:00	11:00-12:00	12:00-13:00	13:00-14:00	14:00-15:00	15:00-16:00	16:00-17:00	17:00-18:00	18:00-19:00	Total for All Categories	Total for All Vehicles	Total for All Mot. Veh. MV (not MC)	
Pedestrian	16	17	24	8	19	28	16	9	8	6	8	24	183	67	-	
Bicycle	10	5	6	5	3	1	3	6	8	4	9	7	67	5	-	
Motorcycle	3	2	2	4	2	3	2	2	2	3	2	1	25	25	25	
Passenger Car/Sedan	2	2	2	4	1	1	2	1	2	1	1	1	19	19	19	
4WD Wagon/Landcruiser	3	2	2	4	1	1	2	3	5	2	4	6	42	42	42	
Pickup Truck	3	2	3	7	6	4	2	4	4	4	2	3	45	45	45	
Minibus	3	7	3	4	3	6	2	4	4	4	2	3	7	7	7	
Standard Bus	3	3	3	3	3	1	1	1	1	1	1	1	2	2	2	
Standard Bus with Trailer	1	1	1	1	1	1	1	1	1	1	1	1	10	10	10	
2-Axle Truck (Excluding Pickups)	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	
3-Axle Truck	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
4-Axle Truck	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
5-Axle Truck	5	1	4	4	2	5	5	7	9	5	5	3	51	51	51	
6-Axle Truck	44	37	41	39	36	51	31	36	43	26	31	44	459	276	209	
Total	44	37	41	39	36	51	31	36	43	26	31	44	459	276	209	

Site C: 24-Hour Traffic Count Results on M6 West of M1 Junction, Both Directions, 17 March 1998

Category	Time of Day												12-Hour Totals			
	07:00-08:00	08:00-09:00	09:00-10:00	10:00-11:00	11:00-12:00	12:00-13:00	13:00-14:00	14:00-15:00	15:00-16:00	16:00-17:00	17:00-18:00	18:00-19:00	Total for All Categories	Total for All Vehicles	Total for All Mot. Veh. MV (not MC)	
Pedestrian	63	42	33	13	32	36	18	16	21	10	18	33	335	115	-	
Bicycle	17	12	7	12	3	3	7	3	8	6	15	10	115	11	-	
Motorcycle	0	0	0	1	3	0	0	3	4	0	0	0	11	11	11	
Passenger Car/Sedan	5	3	3	5	2	9	3	4	6	4	4	0	48	48	48	
4WD Wagon/Landcruiser	2	2	4	6	4	3	3	2	5	2	2	1	36	36	36	
Pickup Truck	5	2	3	13	6	5	6	11	6	4	5	11	78	78	78	
Minibus	10	11	7	9	6	9	6	6	9	8	8	6	95	95	95	
Standard Bus	0	5	3	0	1	1	1	1	1	0	0	0	11	11	11	
Standard Bus with Trailer	0	0	0	1	0	0	0	0	0	0	0	0	2	2	2	
2-Axle Truck (Excluding Pickups)	0	2	0	2	0	3	1	2	4	3	2	3	22	22	22	
3-Axle Truck	1	1	0	0	0	2	0	1	1	0	0	0	6	6	6	
4-Axle Truck	0	0	0	0	0	0	0	0	1	0	0	0	1	1	1	
5-Axle Truck	1	0	0	0	0	0	0	0	0	0	0	2	3	3		
6-Axle Truck	7	3	7	7	7	8	8	11	13	9	10	6	96	96	96	
Total	111	83	68	69	64	79	52	60	90	46	65	72	859	524	409	

Site C: 24-Hour Traffic Count Results on M6 West of M1 Junction, Eastbound, 17 March 1998

Category	24-Hour Totals												Total for All Categories	Total for All Mot. Veh. MV (not MC)
	Time of Day													
	19:00-20:00	20:00-21:00	21:00-22:00	22:00-23:00	23:00-24:00	00:00-01:00	01:00-02:00	02:00-03:00	03:00-04:00	04:00-05:00	05:00-06:00	06:00-07:00		
Pedestrian	7	3	3	1	1	2	2	1	0	7	6	3	176	55
Bicycle	2											3	6	6
Motorcycle													24	24
Passenger Car/Sedan	1											1	18	18
4WD Wagon/Landcruiser	3	4				1						5	46	46
Pickup Truck	4												59	59
Minibus													6	6
Standard Bus				2									0	0
Standard Bus with Trailer													17	17
2-Axle Truck (Excluding Pickups)		2	2	1								1	5	5
3-Axle Truck													1	1
4-Axle Truck													2	2
5-Axle Truck	7		1						2	2		3	58	58
6-Axle Truck													297	242
Total	24	9	5	1	0	5	2	1	0	7	6	17	473	297

Site C: 24-Hour Traffic Count Results on M6 West of M1 Junction, Westbound, 17 March 1998

Category	24-Hour Totals												Total for All Categories	Total for All Mot. Veh. MV (not MC)
	Time of Day													
	19:00-20:00	20:00-21:00	21:00-22:00	22:00-23:00	23:00-24:00	00:00-01:00	01:00-02:00	02:00-03:00	03:00-04:00	04:00-05:00	05:00-06:00	06:00-07:00		
Pedestrian	18	3	2							3		5	214	69
Bicycle												2	6	6
Motorcycle	2	1											28	28
Passenger Car/Sedan							1					1	24	24
4WD Wagon/Landcruiser	2	1	1							1		5	45	45
Pickup Truck	2												52	52
Minibus	2												7	7
Standard Bus													2	2
Standard Bus with Trailer													16	16
2-Axle Truck (Excluding Pickups)	4	1							2	2		4	3	3
3-Axle Truck													1	1
4-Axle Truck													1	1
5-Axle Truck	3	1	1						2	7		4	71	71
6-Axle Truck													375	256
Total	31	7	4	0	3	0	1	0	2	11	20	20	539	375

Site C: 24-Hour Traffic Count Results on M6 West of M1 Junction, Both Directions, 17 March 1998

Category	24-Hour Totals												Total for All Categories	Total for All Mot. Veh. MV (not MC)
	Time of Day													
	19:00-20:00	20:00-21:00	21:00-22:00	22:00-23:00	23:00-24:00	00:00-01:00	01:00-02:00	02:00-03:00	03:00-04:00	04:00-05:00	05:00-06:00	06:00-07:00		
Pedestrian	25	6	2	0	0	3	2	0	0	9	6	8	390	124
Bicycle	2	0	0	0	0	1	0	0	0	0	0	5	12	12
Motorcycle	0	1	0	0	0	0	0	0	0	0	0	0	52	52
Passenger Car/Sedan	3	0	0	0	0	0	1	0	0	0	0	2	42	42
4WD Wagon/Landcruiser	0	1	1	0	2	0	0	0	0	0	0	2	91	91
Pickup Truck	5	4	0	0	0	1	0	0	0	0	0	10	111	111
Minibus	6	0	0	0	0	0	0	0	0	0	0	0	13	13
Standard Bus	0	0	2	0	0	0	0	0	0	0	0	0	2	2
Standard Bus with Trailer	0	0	0	0	0	0	0	0	0	0	0	0	33	33
2-Axle Truck (Excluding Pickups)	4	3	2	1	0	0	0	0	0	0	0	2	8	8
3-Axle Truck	0	0	0	0	0	0	0	0	0	0	0	0	2	2
4-Axle Truck	0	0	0	0	0	0	0	0	0	0	0	0	3	3
5-Axle Truck	10	1	2	0	0	0	0	0	4	7	7	7	129	129
6-Axle Truck													622	498
Total	55	16	9	1	3	5	3	1	4	18	37	37	1,012	622

Site D: 24-Hour Traffic Count Results on M1 North of M6 Junction, Northbound, 10 March 1998

Category	Time of Day												12-Hour Totals		
	07:00-08:00	08:00-09:00	09:00-10:00	10:00-11:00	11:00-12:00	12:00-13:00	13:00-14:00	14:00-15:00	15:00-16:00	16:00-17:00	17:00-18:00	18:00-19:00	Categories	Total for All Vehicles	Total for All Mot. Veh. MV (not MC)
Pedestrian	122	29	27	25	27	30	55	34	33	23	26	75	506	135	-
Bicycle	13	7	8	8	3	3	13	10	9	14	17	30	135	18	18
Motorcycle	1	4	2	6	10	2	6	12	20	5	3	3	90	90	90
Passenger Car/Sedan	8	4	3	6	8	3	8	5	4	6	2	1	49	49	49
4WD Wagon/Landcruiser	4	2	2	5	5	8	11	4	5	7	4	3	60	60	60
Pickup Truck	4	2	2	5	5	3	5	7	5	4	2	3	61	61	61
Minibus	7	7	6	6	3	3	5	4	1	1	2	6	25	25	25
Standard Bus	4	1	1	3	3	1	3	4	1	1	1	6	0	0	0
Standard Bus with Trailer	2	5	3	3	1	4	5	5	3	1	3	6	41	41	41
2-Axle Truck (Excluding Pickups)	2	5	3	2	2	2	2	1	1	1	1	8	15	15	15
3-Axle Truck													2	2	2
4-Axle Truck													8	8	8
5-Axle Truck													25	25	25
6-Axle Truck													529	529	529
Total	167	60	60	63	57	57	115	86	84	68	65	153	1,035	394	376

Site D: 24-Hour Traffic Count Results on M1 North of M6 Junction, Southbound, 10 March 1998

Category	Time of Day												12-Hour Totals		
	07:00-08:00	08:00-09:00	09:00-10:00	10:00-11:00	11:00-12:00	12:00-13:00	13:00-14:00	14:00-15:00	15:00-16:00	16:00-17:00	17:00-18:00	18:00-19:00	Categories	Total for All Vehicles	Total for All Mot. Veh. MV (not MC)
Pedestrian	50	58	38	14	33	24	39	31	42	2	11	3	345	86	-
Bicycle	6	23	7	6	13	12	1	6	1	1	3	4	86	30	30
Motorcycle	1	1	1	3	6	13	3	12	6	6	9	8	75	75	75
Passenger Car/Sedan	3	12	6	3	6	8	2	12	4	5	5	2	59	59	59
4WD Wagon/Landcruiser	1	5	3	2	6	8	1	10	4	1	2	2	51	51	51
Pickup Truck	7	5	5	2	6	8	1	3	6	3	2	2	49	49	49
Minibus	13	5	5	2	3	9	2	4	1	3	2	2	28	28	28
Standard Bus	1	1	1	2	2	15	2	4	1	3	3	3	3	3	3
Standard Bus with Trailer	1	5	4	2	2	6	2	2	3	4	3	3	32	32	32
2-Axle Truck (Excluding Pickups)													5	5	5
3-Axle Truck													2	2	2
4-Axle Truck													2	2	2
5-Axle Truck													21	21	21
6-Axle Truck													788	443	443
Total	88	115	68	33	75	117	55	69	73	29	40	26	357	357	357

Site D: 24-Hour Traffic Count Results on M1 North of M6 Junction, Both Directions, 10 March 1998

Category	Time of Day												12-Hour Totals		
	07:00-08:00	08:00-09:00	09:00-10:00	10:00-11:00	11:00-12:00	12:00-13:00	13:00-14:00	14:00-15:00	15:00-16:00	16:00-17:00	17:00-18:00	18:00-19:00	Categories	Total for All Vehicles	Total for All Mot. Veh. MV (not MC)
Pedestrian	172	87	65	39	60	54	94	65	75	25	37	78	851	221	-
Bicycle	19	30	15	14	16	18	14	16	13	15	20	34	221	48	48
Motorcycle	2	1	2	0	0	18	6	2	2	1	5	9	48	165	165
Passenger Car/Sedan	11	16	9	9	16	15	9	12	26	11	13	18	165	108	108
4WD Wagon/Landcruiser	5	7	7	8	12	11	10	17	8	11	7	3	111	111	111
Pickup Truck	11	7	7	7	11	16	12	14	9	8	6	3	110	110	110
Minibus	20	12	11	8	9	12	5	10	11	7	2	6	53	53	53
Standard Bus	5	1	1	2	3	16	3	8	2	4	2	0	3	3	3
Standard Bus with Trailer	3	10	7	5	3	10	5	7	6	5	6	6	73	73	73
2-Axle Truck (Excluding Pickups)	0	0	0	0	0	0	0	0	0	0	0	0	20	20	20
3-Axle Truck	0	0	0	0	0	0	0	0	0	0	0	0	4	4	4
4-Axle Truck	0	0	0	0	0	0	0	0	0	0	0	0	10	10	10
5-Axle Truck	7	4	4	1	2	6	4	2	3	6	6	5	46	46	46
Total	255	175	128	96	132	174	170	155	157	97	105	179	1,823	751	703

24-Hour Traffic Count Results on M1 North of M6 Junction, Northbound, 10 March 1998

Category	24-Hour Totals												Total for All Categories	Total for All Vehicles	Total for All Mot. Veh. MV (not MC)
	Time of Day														
	19:00-20:00	20:00-21:00	21:00-22:00	22:00-23:00	23:00-24:00	00:00-01:00	01:00-02:00	02:00-03:00	03:00-04:00	04:00-05:00	05:00-06:00	06:00-07:00			
Pedestrian	56	27	20	51	27	5	1	1	5	12	3	20	731	145	-
Bicycle	5	2											20	20	-
Motorcycle	4	1	8	13	1		1			2	5	3	128	128	128
Passenger Car/Sedan	4	4	5	10	1		1			1	3	3	73	73	73
4WD Wagon/Landcruiser	3	2	15	4	1		3			1	2	2	95	95	95
Pickup Truck	2	1										1	66	66	66
Minibus	3	2					1					1	31	31	31
Standard Bus	7	5	16	13					4	1	1	1	88	88	88
2-Axle Truck (Excluding Pickups)	1	3	1				1				1	1	16	16	16
3-Axle Truck	3	2											9	9	9
4-Axle Truck	2	7	20	4	1				6		2	2	10	10	10
5-Axle Truck	2	71	111	23	33	7	2	6	15	4	25	35	1,479	748	603
6-Axle Truck	2	43	71	20	4	1	2	6	15	4	25	35	1,479	748	603
Total	91	43	71	111	23	33	7	2	6	4	25	35	1,479	748	603

24-Hour Traffic Count Results on M1 North of M6 Junction, Southbound, 10 March 1998

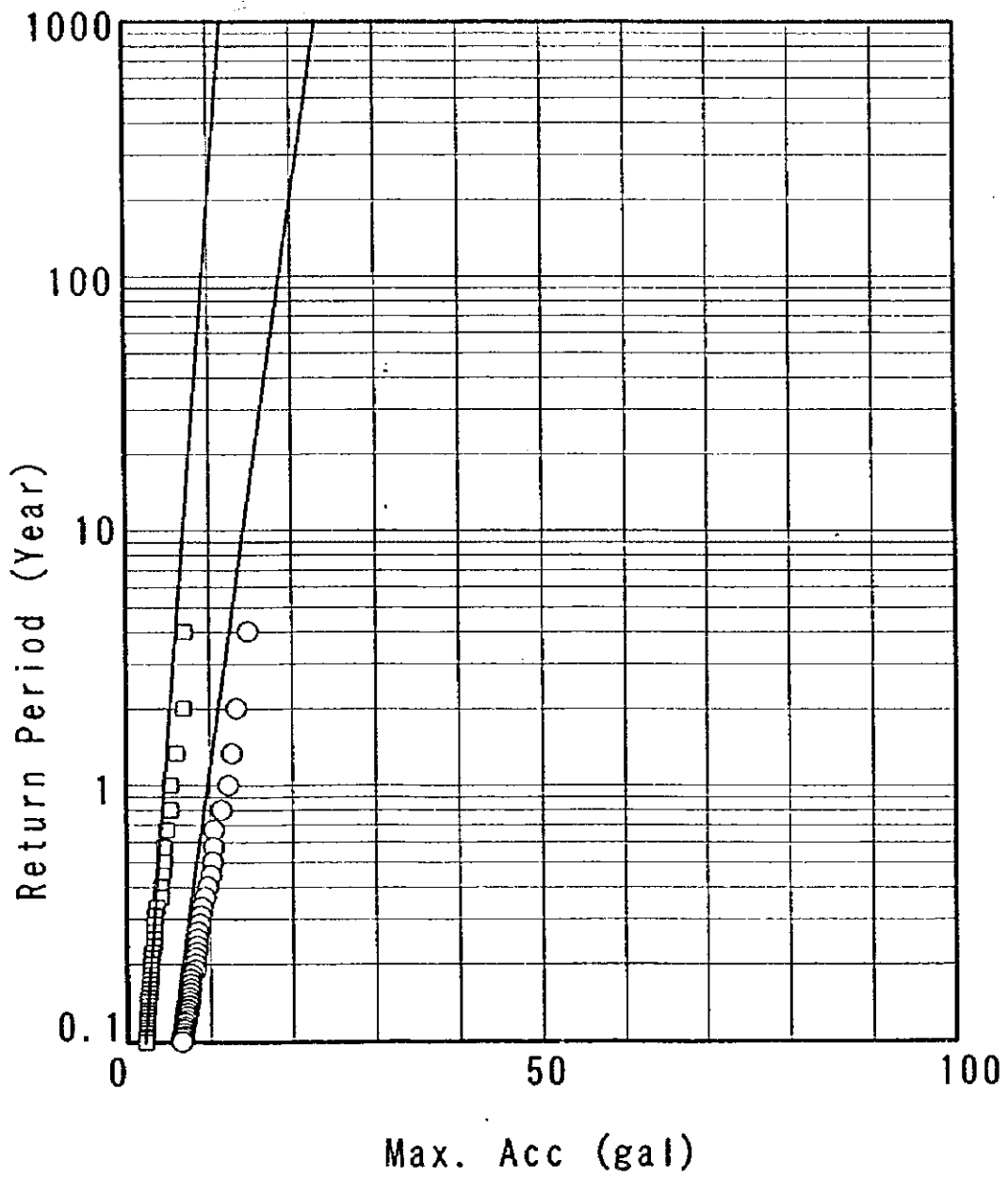
Category	24-Hour Totals												Total for All Categories	Total for All Vehicles	Total for All Mot. Veh. MV (not MC)
	Time of Day														
	19:00-20:00	20:00-21:00	21:00-22:00	22:00-23:00	23:00-24:00	00:00-01:00	01:00-02:00	02:00-03:00	03:00-04:00	04:00-05:00	05:00-06:00	06:00-07:00			
Pedestrian	30	35	23	1	1	3	2	11	8	11	25	474	113	-	-
Bicycle	5	1										32	32	32	-
Motorcycle	17	2	3			2			1	1	1	101	101	101	101
Passenger Car/Sedan	15	3	2	1				1				81	81	81	81
4WD Wagon/Landcruiser	3	1	8	1		2			1	1	7	77	77	77	77
Pickup Truck	3	2				1				2	2	59	59	59	59
Minibus	3	2					1					31	31	31	31
Standard Bus	10	7	2				1		2	1	2	58	58	58	58
2-Axle Truck (Excluding Pickups)	13	1	1								1	21	21	21	21
3-Axle Truck	7	2	2			3				1	1	17	17	17	17
4-Axle Truck	12	2	1				3		1	1	1	19	19	19	19
5-Axle Truck	12	6	12	10	2	4	3		1	1	1	73	73	73	73
6-Axle Truck	12	6	12	10	2	4	3		1	1	1	73	73	73	73
Total	130	63	54	13	6	14	7	7	2	4	26	51	1,159	685	572

24-Hour Traffic Count Results on M1 North of M6 Junction, Both Directions, 10 March 1998

Category	24-Hour Totals												Total for All Categories	Total for All Vehicles	Total for All Mot. Veh. MV (not MC)
	Time of Day														
	19:00-20:00	20:00-21:00	21:00-22:00	22:00-23:00	23:00-24:00	00:00-01:00	01:00-02:00	02:00-03:00	03:00-04:00	04:00-05:00	05:00-06:00	06:00-07:00			
Pedestrian	86	62	43	51	29	8	1	1	5	23	45	1,205	258	-	-
Bicycle	10	3	0	1	1	0	0	0	0	11	11	52	52	52	52
Motorcycle	3	0	0	0	0	0	0	0	0	6	4	229	229	229	229
Passenger Car/Sedan	21	3	11	13	1	2	1	0	0	2	3	154	154	154	154
4WD Wagon/Landcruiser	19	3	7	11	0	0	5	0	1	1	3	172	172	172	172
Pickup Truck	6	3	23	5	1	3	0	0	0	2	3	125	125	125	125
Minibus	5	3	0	0	0	0	1	0	0	0	1	62	62	62	62
Standard Bus	4	3	0	0	0	0	0	0	0	0	0	3	3	3	3
2-Axle Truck (Excluding Pickups)	17	12	18	13	1	0	0	0	0	2	3	146	146	146	146
3-Axle Truck	14	1	1	0	0	0	0	0	0	0	1	26	26	26	26
4-Axle Truck	10	3	2	0	0	3	1	1	1	1	1	29	29	29	29
5-Axle Truck	12	4	1	0	0	0	0	0	0	0	1	140	140	140	140
6-Axle Truck	14	6	19	30	6	5	3	3	6	1	3	140	140	140	140
Total	221	106	125	124	39	21	3	13	18	8	51	86	2,638	1,433	1,175

APPENDIX 6
SEISMIC DATA

6.1 Seismic Analysis



Date	Year	Month	Date	Hour	Min.	Sec	Lat	Lon	Depth	Magnitude
1989		4	17	4	21	23	14.73	33.98	15	3.1
		4	20	18	18	18	13.54	37.34	0	3.8
		5	2	15	47	43	12.56	28.70	0	3.5
		5	14	1	17	34	13.33	32.56	15	3.4
		5	23	11	2	6	42.40	36.71	15	6.0
		6	3	18	40	45	14.13	34.38	0	3.6
		6	21	23	55	26	13.39	33.94	15	3.4
		7	9	3	42	39	11.36	33.36	0	3.2
		7	15	11	5	44	3.71	41.38	15	4.7
		7	16	15	59	4	14.89	34.21	15	3.3
		7	29	23	45	47	13.33	33.55	0	3.3
		7	31	0	59	33	13.91	34.24	15	3.1
		8	11	4	34	18	14.99	32.17	35	3.1
		9	3	1	11	26	11.64	34.51	15	4.0
		9	5	20	48	5	10.32	41.01	15	4.2
		9	18	21	38	37	13.37	34.24	15	3.5
		9	23	11	40	52	13.18	33.86	15	3.2
		9	23	12	0	28	12.01	34.10	15	3.3
		9	25	22	17	8	8.90	33.16	15	3.9
		9	26	0	54	50	10.08	36.57	15	3.6
		9	26	2	22	30	14.70	34.32	15	2.6
		10	6	20	42	27	12.49	33.92	15	3.1
		10	20	18	56	7	11.22	32.29	3	3.4
		10	28	18	40	50	13.47	33.88	36	2.7
		10	30	21	56	41	13.58	34.03	35	3.0
		11	1	11	37	49	15.26	35.81	15	2.8
		11	17	7	7	2	13.56	33.48	0	3.6
		11	20	23	56	39	10.78	33.80	15	3.8
		12	15	9	56	14	13.74	33.75	3	3.3
1990		1	9	19	1	59	12.90	31.76	15	3.5
		2	17	7	19	27	13.36	32.62	15	3.0
		2	17	7	24	29	13.34	32.50	15	3.2
		2	18	1	2	51	13.37	32.55	15	3.1
		2	22	10	31	44	13.64	34.06	12	3.1
		2	28	20	7	23	13.31	36.07	28	3.5
		2	28	20	56	23	13.73	34.18	15	3.7
		3	1	22	58	48	13.78	34.16	33	3.9
		3	6	23	34	25	13.60	34.07	12	2.6
		3	9	17	59	42	13.67	33.48	6	3.0
		3	13	23	4	38	24.93	20.83	15	5.0
		3	30	1	41	30	13.26	36.05	0	3.7
		4	4	0	46	9	9.63	37.47	15	3.8
		4	27	17	57	54	14.77	34.12	0	2.7
		5	2	10	43	29	11.47	33.93	1	1.9
		6	19	20	32	17	13.36	33.33	29	2.0
		6	27	19	34	47	11.80	35.03	15	2.5
		7	2	21	27	59	14.69	36.66	0	2.3
		7	9	15	13	7	24.24	32.34	15	5.3
		7	26	5	16	47	18.39	24.48	15	4.2
		11	3	0	34	30	12.15	41.12	15	3.9
1991		1	16	17	12	50	23.61	35.91	15	3.6
		2	22	22	9	47	14.52	35.87	15	2.8
		3	27	11	53	59	6.95	29.33	36	4.4
		4	2	19	53	34	14.06	33.81	0	3.0
		5	10	1	12	45	17.31	25.61	0	4.0
		5	16	2	56	13	19.74	40.44	15	2.6
		5	30	9	35	5	13.28	32.30	15	3.4
		6	23	21	32	47	17.33	31.77	15	4.4
		7	14	9	16	43	18.01	42.97	15	2.9
		7	21	11	26	16	16.92	34.74	32	2.7
		7	24	13	54	59	18.01	33.76	14	4.2

1992

9	1	22	35	59	15.09	36.25	15	3.8
9	6	16	7	38	0.51	9.60	0	4.8
10	9	17	22	14	0.70	25.92	0	4.6
10	13	2	57	41	12.41	35.45	15	3.1
10	19	21	33	9	17.47	34.39	15	3.1
10	25	16	16	17	15.31	34.74	36	3.1
12	25	2	30	7	14.18	34.10	15	3.1
12	28	21	59	21	12.58	34.52	36	3.2
1	4	19	59	38	15.46	33.11	7	2.8
1	4	20	48	31	7.10	20.75	0	3.7
1	7	8	31	11	15.24	34.27	12	3.6
1	9	10	24	46	15.05	33.80	1	3.1
1	11	2	57	20	15.22	35.22	0	3.2
1	15	12	19	11	8.60	40.47	0	3.7
1	19	22	23	7	5.82	35.78	15	3.7
2	15	18	45	31	12.91	33.96	15	3.3
3	1	11	15	27	5.17	22.77	15	4.7
3	7	0	43	8	25.82	26.80	32	4.6
3	13	17	18	10	36.69	60.65	15	5.2
4	1	9	20	18	9.85	28.36	0	4.4
4	13	0	54	57	16.67	34.17	1	2.9
4	15	1	42	52	15.07	34.07	15	3.1
4	24	7	15	56	17.42	34.58	15	3.1
5	6	1	3	2	13.93	35.92	15	4.2
5	9	11	43	52	19.66	39.92	36	3.4
5	17	2	38	34	10.47	34.90	15	3.9
5	17	3	10	9	9.07	25.51	0	4.2
5	19	12	32	55	17.18	34.15	15	2.9
5	20	12	30	8	17.81	33.61	15	3.2
5	21	5	0	2	35.93	92.57	15	6.5
5	27	5	31	52	17.87	26.17	15	3.7
5	31	5	42	8	9.89	28.82	0	3.9
6	2	21	13	36	19.44	35.40	0	2.9
6	2	22	7	19	31.40	84.78	15	5.1
6	6	18	34	3	27.67	27.16	0	4.9
6	6	23	5	26	11.31	35.30	0	3.1
6	9	0	32	58	23.71	102.49	15	5.3
6	12	9	23	16	14.11	34.99	4	3.2
6	15	2	59	10	18.29	36.34	15	3.1
6	19	18	49	36	14.29	34.41	0	2.4
6	20	16	36	52	15.27	34.51	6	3.1
6	23	0	9	26	11.79	35.99	15	2.5
7	3	8	20	54	25.87	28.61	0	3.5
7	5	23	57	22	14.68	33.49	12	2.8
7	13	8	21	2	14.82	36.08	15	2.9
7	13	10	43	20	15.61	34.42	2	3.0
7	18	13	16	25	8.05	31.62	15	3.6
7	22	17	36	59	18.15	34.93	15	3.0
7	31	23	37	53	8.30	29.95	11	3.8
8	1	23	43	39	16.75	35.00	7	2.7
8	7	6	34	33	26.42	28.51	15	3.6
8	7	18	33	54	0.32	20.07	15	4.5
8	19	2	5	48	34.74	78.46	597	7.1
8	19	3	22	29	18.00	32.83	0	3.6
8	26	15	15	43	26.13	26.92	15	3.3
8	30	20	26	1	17.44	23.74	15	3.3
9	1	15	51	25	26.97	28.05	15	3.8
9	2	10	45	17	18.42	29.35	15	2.8
9	9	4	7	52	14.82	34.64	15	3.0
9	11	14	21	11	3.77	28.42	15	5.1
9	15	0	29	55	6.16	26.41	35	4.2
9	16	18	34	46	6.24	37.02	0	4.3
9	16	19	23	59	27.42	31.68	15	3.7

9	19	14	20	16	7.17	26.75	5	4.3
9	23	0	53	40	6.51	27.14	0	4.5
9	25	0	39	39	7.49	26.14	15	4.5
10	9	19	25	29	16.69	34.47	15	3.3
10	11	19	35	28	44.75	68.70	15	6.3
10	13	16	21	37	10.40	3.75	15	5.5
10	17	14	6	47	26.15	28.52	15	4.3
10	21	15	5	27	6.43	26.71	15	4.2
10	23	21	25	4	13.64	117.56	15	6.6
10	26	7	46	15	12.67	34.56	0	3.4
10	30	3	5	2	10.48	35.32	15	4.1
11	6	19	14	16	5.79	24.92	15	3.5
11	21	5	7	43	31.75	22.94	0	5.4
11	30	8	30	39	16.73	29.98	15	4.0
12	1	13	23	23	16.69	35.66	3	3.7
12	9	1	37	17	17.15	35.92	15	3.5
12	12	5	29	49	14.40	132.10	513	7.9
12	13	6	33	3	10.55	34.28	15	4.0
12	14	5	47	29	6.57	28.15	18	4.4
12	20	20	52	30	14.63	130.37	198	9.0
12	28	3	17	51	14.19	32.03	15	3.9

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*****
*
* PROGRAM ACCMAX INPUT DATA *
*
*****

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The position of Mangochi Bridge

0
0
0
0
1
Longitude --- 35.00 00
Latitude --- 14.30 00

Distance from the Epicenter

0
0
0
0
1
0 ~ 1000 km

*** ** Record of Earthquake and Maximum Acceleration *** **

0	NO.	Date	Lo.	La.	H	M	D	AMAX(1)	AMAX(2)	H -- Depth of the Seismic Center(km)	M -- Magnitude	D -- Distance(km)	Lo.-- Longitude	La.-- Latitude
1	1989.	4.17 4:21	33.97	14.72	15.0	3.1	113.8	7.45	3.08					
2	1989.	4.20 18:18	37.33	13.53	.0	3.8	273.6	5.90	2.45					
3	1989.	5.2 15:47	28.70	12.55	.0	3.5	714.6	2.68	.82					
4	1989.	5.14 1:17	32.55	13.32	15.0	3.4	295.1	4.63	1.68					
5	1989.	5.23 11:2	36.70	42.40	15.0	6.0	3095.7	3.27	1.45					
6	1989.	6.3 18:40	34.37	14.12	.0	3.6	80.3	11.75	6.04					
7	1989.	6.21 23:55	33.93	13.38	15.0	3.4	168.8	6.68	2.76					
8	1989.	7.9 3:42	33.35	11.35	.0	3.2	391.4	3.49	1.12					
9	1989.	7.15 11:5	41.37	3.70	15.0	4.7	1382.5	3.05	1.12					
10	1989.	7.16 15:59	34.20	14.88	15.0	3.3	95.9	9.12	4.14					
11	1989.	7.29 23:45	33.55	13.32	.0	3.3	204.0	5.63	2.16					
12	1989.	7.31 0:59	34.23	13.90	15.0	3.1	106.0	7.79	3.27					
13	1989.	8.11 4:34	32.17	14.98	35.0	3.1	309.5	3.89	1.28					
14	1989.	9.3 1:11	34.50	11.63	15.0	4.0	321.4	5.83	2.47					
15	1989.	9.5 20:48	41.00	10.32	15.0	4.2	799.0	3.48	1.26					
16	1989.	9.18 21:38	34.23	13.37	15.0	3.5	150.1	7.56	3.29					
17	1989.	9.23 11:40	33.85	13.17	15.0	3.2	192.7	5.57	2.10					
18	1989.	9.23 12:0	34.10	12.00	15.0	3.3	293.0	4.44	1.57					
19	1989.	9.25 22:17	33.15	8.90	15.0	3.9	650.8	3.46	1.21					

20	1989	9.26	0:54	36.57	10.07	15.0	3.6	518.7	3.50	1.18
21	1989	9.26	2:22	34.32	14.70	15.0	2.6	76.8	7.48	2.91
22	1989	10.6	20:42	33.92	12.48	15.0	3.1	251.8	4.45	1.54
23	1989	10.20	18:56	32.28	11.22	3.0	3.4	467.4	3.41	1.11
24	1989	10.28	18:40	33.87	13.47	36.0	2.7	167.4	4.80	1.62
25	1989	10.30	21:56	34.02	13.57	35.0	3.0	148.0	6.00	2.27
26	1989	11.1	11:37	35.40	15.25	15.0	2.8	119.5	2.34	2.82
27	1989	11.17	7:7	33.87	13.55	0	3.6	196.0	6.67	2.82
28	1989	11.20	23:56	33.80	10.77	15.0	3.8	432.7	4.34	1.62
29	1989	12.15	9:56	33.75	13.73	3.0	3.3	159.3	6.61	2.68
30	1990	1.9	19:1	31.75	12.90	15.0	3.5	393.2	4.01	1.40
31	1990	2.17	7:19	32.62	13.35	15.0	3.0	287.0	3.89	1.27
32	1990	2.17	7:24	32.50	13.33	15.0	3.2	299.1	4.17	1.43
33	1990	2.18	1:2	32.55	13.37	15.0	3.1	292.7	4.03	1.35
34	1990	2.22	10:31	34.05	13.63	12.0	3.1	140.3	6.52	2.57
35	1990	2.28	20:7	36.07	13.30	28.0	3.5	175.7	6.83	2.87

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0	NO.	Date	Lo.	La.	H	M	D	AMAX(1)	AMAX(2)	H -- Depth of the Seismic Center(km)
36	1990	2.28	20:56	34.17	13.72	15.0	3.7	124.8	4.50	M -- Magnitude
37	1990	3.1	22:58	34.15	13.77	33.0	3.9	122.4	5.34	D -- Distance(km)
38	1990	3.6	23:34	34.07	13.60	12.0	2.6	141.6	1.74	Lo.-- Longitude
39	1990	3.9	17:59	33.47	13.67	6.0	3.0	189.3	5.12	La.-- Latitude
40	1990	3.13	23:4	20.82	24.92	15.0	5.0	1877.8	2.85	
41	1990	3.30	1:41	36.05	13.25	0	3.7	178.7	3.30	
42	1990	4.4	0:46	37.47	9.62	15.0	3.8	602.7	1.20	
43	1990	4.27	17:57	34.12	14.77	0	2.7	99.5	2.53	
44	1990	5.2	10:43	33.92	11.47	1.0	1.9	355.2	2.00	
45	1990	6.19	20:32	33.32	13.35	29.0	2.0	221.8	.45	
46	1990	6.27	19:34	35.02	11.80	15.0	2.5	298.4	.83	
47	1990	7.2	21:27	36.65	14.68	0	2.3	178.8	1.13	
48	1990	7.9	15:13	32.33	24.23	15.0	5.3	1112.4	2.17	
49	1990	7.26	5:16	24.47	18.38	15.0	4.2	1202.8	.87	
50	1990	11.3	0:34	41.12	12.15	15.0	3.9	711.1	1.11	
51	1991	1.16	17:12	35.90	23.60	15.0	3.6	1011.0	2.23	
52	1991	2.22	22:9	35.87	14.52	15.0	2.8	93.4	2.89	
53	1991	3.27	11:53	29.32	6.95	36.0	4.4	1039.8	1.16	
54	1991	4.2	19:53	33.80	14.05	0	3.0	138.6	2.41	
55	1991	5.10	1:12	25.60	17.30	0	4.0	1052.1	.84	
56	1991	5.16	2:56	40.43	19.73	15.0	2.6	817.5	.36	
57	1991	5.30	9:35	32.30	13.27	15.0	3.4	321.9	1.56	
58	1991	6.23	21:32	31.77	17.32	15.0	4.4	465.4	2.40	
59	1991	7.14	9:16	42.97	18.00	15.0	2.9	934.6	1.68	
60	1991	7.21	11:26	34.73	16.92	32.0	2.7	268.7	1.07	
61	1991	7.24	13:54	33.75	18.00	14.0	4.2	409.4	2.31	
62	1991	9.1	22:35	36.25	15.08	15.0	3.8	149.1	4.17	

No.	Date	Lo.	La.	H	M	D	AMAX(1)	AMAX(2)	H -- Depth of the Seismic Center(km)
63	1991. 9. 6 16: 7	9.60	-50	.0	4.8	3192.6	1.80	.56	
64	1991.10. 9 17:22	25.92	.70	.0	4.6	1822.7	2.40	.81	
65	1991.10.13 2:57	35.45	12.40	15.0	3.1	237.2	4.63	1.62	
66	1991.10.19 21:33	34.38	17.47	15.0	3.1	334.6	3.69	1.19	
67	1991.10.25 16:16	34.73	15.30	36.0	3.1	93.0	8.45	3.64	
68	1991.12.25 2:30	34.10	14.17	15.0	3.1	103.8	7.89	3.32	
69	1991.12.28 21:59	34.52	12.57	36.0	3.2	220.0	5.11	1.87	
70	1992. 1. 4 19:59	33.10	15.45	7.0	2.8	229.6	4.10	1.33	

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No.	Date	Lo.	La.	H	M	D	AMAX(1)	AMAX(2)	M -- Magnitude	D -- Distance(km)	Lo.-- Longitude	La.-- Latitude
71	1992. 1. 4 20:48	20.75	7.10	.0	3.7	1757.4	1.60	.42				
72	1992. 1. 7 8:31	34.27	15.23	12.0	3.6	113.1	9.50	4.54				
73	1992. 1. 9 10:24	33.80	15.05	.0	3.1	142.7	6.45	2.53				
74	1992. 1.11 2:57	35.22	15.22	.0	3.2	82.6	9.53	4.34				
75	1992. 1.15 12:19	40.47	8.60	.0	3.7	883.0	2.56	.78				
76	1992. 1.19 22:23	35.77	5.82	15.0	3.7	963.2	2.41	.72				
77	1992. 2.15 18:45	33.95	12.90	15.0	3.7	210.1	5.52	2.11				
78	1992. 3. 1 11:15	22.77	5.17	15.0	4.7	1590.0	2.66	.93				
79	1992. 3. 7 0:43	26.80	25.82	32.0	4.6	1515.8	2.73	.95				
80	1992. 3.13 17:18	60.65	36.68	15.0	5.2	3536.5	2.04	.69				
81	1992. 4. 1 9:20	28.35	9.85	.0	4.4	886.9	3.57	1.34				
82	1992. 4.13 0:54	34.17	16.67	1.0	2.9	255.6	4.01	1.30				
83	1992. 4.15 1:42	34.07	15.07	15.0	3.1	118.3	7.27	2.97				
84	1992. 4.24 7:15	34.57	17.42	15.0	3.1	325.8	3.76	1.22				
85	1992. 5. 6 1: 3	35.92	13.92	15.0	4.2	118.0	12.32	6.93				
86	1992. 5. 9 11:43	39.92	19.65	36.0	3.4	773.0	2.43	.70				
87	1992. 5.17 2:38	34.90	10.47	15.0	3.9	445.9	4.47	1.70				
88	1992. 5.17 3:10	25.50	9.07	.0	4.2	1195.6	2.65	.87				
89	1992. 5.19 12:32	34.15	17.17	15.0	2.9	308.6	3.54	1.10				
90	1992. 5.20 12:30	33.60	17.80	15.0	3.2	394.3	3.47	1.11				
91	1992. 5.21 5: 0	92.57	35.92	15.0	6.5	6167.0	2.60	1.12				
92	1992. 5.27 5:31	26.17	17.87	15.0	3.7	1014.3	2.33	.69				
93	1992. 5.31 5:42	28.82	9.88	.0	3.9	843.8	2.90	.95				
94	1992. 6. 2 21:13	35.40	19.43	.0	2.9	547.2	2.41	.66				
95	1992. 6. 2 22: 7	84.77	31.40	15.0	5.1	5381.8	1.46	.44				
96	1992. 6. 6 18:34	27.15	27.67	.0	4.9	1668.1	2.95	1.10				
97	1992. 6. 6 23: 5	35.30	11.30	.0	3.1	355.2	3.55	1.13				
98	1992. 6. 9 0:32	102.48	23.70	15.0	5.3	7108.9	1.33	.39				
99	1992. 6.12 9:23	34.98	14.10	4.0	3.2	44.2	13.76	7.12				
100	1992. 6.15 2:59	36.33	18.28	15.0	3.1	441.9	3.06	.93				
101	1992. 6.19 18:49	34.40	14.28	.0	2.4	68.9	7.25	2.72				
102	1992. 6.20 16:36	34.50	15.27	6.0	3.1	100.4	8.06	3.42				
103	1992. 6.23 0: 9	35.98	11.78	15.0	2.5	318.6	2.86	.79				
104	1992. 7. 3 8:20	28.60	25.87	.0	3.5	1423.4	1.68	.43				
105	1992. 7. 5 23:57	33.48	14.57	12.0	2.8	164.3	5.10	1.78				

H -- Depth of the Seismic Center(km)
M -- Magnitude
D -- Distance(km)
Lo.-- Longitude
La.-- Latitude

141 1992.12.12 5:29 128.67 14.40 513.0 7.9 9998.2 3.65 2.11
142 1992.12.13 6:33 34.27 10.55 15.0 4.0 443.8 4.70 1.85
143 1992.12.14 5:47 28.15 6.57 18.0 4.4 1152.6 2.99 1.05
144 1992.12.20 20:52 128.67 14.62 198.0 9.0 9992.1 6.18 4.90
145 1992.12.28 3:17 32.02 14.18 15.0 3.9 323.4 5.54 2.27

*** ** Estimate of the Maximum Acceleration *** **

NO.	AMAX(1)	F	TR	NO.	AMAX(2)	F	TR	F=M(times)/N(years)	F means the probability that a Earthquake will occur over the estimated acceleration
1	13.76	.250	4.000	1	7.12	.250	4.000	4.000	TR = 1/F
2	12.32	.500	2.000	2	6.93	.500	2.000	2.000	
3	11.75	.750	1.333	3	6.04	.750	1.333	1.333	
4	11.31	1.000	1.000	4	5.34	1.000	1.000	1.000	
5	10.43	1.250	.800	5	5.34	1.250	.800	.800	
6	9.53	1.500	.667	6	4.90	1.500	
7	9.50	1.750	.571	7	4.54	1.750	.500	.500	
8	9.36	2.000	.500	8	4.50	2.000	.444	.444	
9	9.12	2.250	.444	9	4.34	2.250	.400	.400	
10	8.77	2.500	.400	10	4.17	2.500	.364	.364	
11	8.45	2.750	.364	11	4.14	2.750	.333	.333	
12	8.06	3.000	.333	12	3.64	3.000	.308	.308	
13	7.89	3.250	.308	13	3.42	3.250	.286	.286	
14	7.79	3.500	.286	14	3.32	3.500	.267	.267	
15	7.56	3.750	.267	15	3.30	3.750	.250	.250	
16	7.48	4.000	.250	16	3.29	4.000	.235	.235	
17	7.45	4.250	.235	17	3.27	4.250	.222	.222	
18	7.43	4.500	.222	18	3.08	4.500	.211	.211	
19	7.30	4.750	.211	19	2.97	4.750	.200	.200	
20	7.27	5.000	.200	20	2.91	5.000	.190	.190	
21	7.25	5.250	.190	21	2.89	5.250	.182	.182	
22	6.83	5.500	.182	22	2.87	5.500	.174	.174	
23	6.69	5.750	.174	23	2.82	5.750	.167	.167	
24	6.68	6.000	.167	24	2.76	6.000	.160	.160	
25	6.67	6.250	.160	25	2.72	6.250	.154	.154	
26	6.61	6.500	.154	26	2.68	6.500	.148	.148	
27	6.54	6.750	.148	27	2.57	6.750	.143	.143	
28	6.52	7.000	.143	28	2.53	7.000	.138	.138	
29	6.45	7.250	.138	29	2.52	7.250	.133	.133	
30	6.31	7.500	.133	30	2.52	7.500	.129	.129	
31	6.26	7.750	.129	31	2.47	7.750	.125	.125	
32	6.25	8.000	.125	32	2.45	8.000	.121	.121	
33	6.18	8.250	.121	33	2.44	8.250	.118	.118	
34	6.00	8.500	.118	34	2.43	8.500	.114	.114	
35	5.95	8.750	.114	35	2.41	8.750			

0	NO.	Date	Lo.	La.	H	M	D	AMAX(1)	AMAX(2)	H -- Depth of the Seismic Center(km)
	106	1992. 7. 13 8:21	36.07	14.82	15.0	2.9	120.0	6.54	2.52	M -- Magnitude
	107	1992. 7. 13 10:43	34.42	15.60	2.0	3.0	136.8	6.31	2.43	D -- Distance(km)
	108	1992. 7. 18 13:16	31.62	8.05	15.0	3.6	802.6	2.60	.79	Lo.-- Longitude
	109	1992. 7. 22 17:36	34.92	18.15	15.0	3.0	403.7	3.10	.85	La.-- Latitude
	110	1992. 7. 31 23:37	29.95	8.30	11.0	3.8	878.8	2.69	1.14	
	111	1992. 8. 1 23:43	35.00	16.75	7.0	2.7	248.8	3.71	.45	
	112	1992. 8. 7 6:34	28.50	26.42	15.0	3.6	1481.6	1.72	.61	
	113	1992. 8. 7 18:33	20.07	.32	15.0	4.5	2270.0	1.97	2.21	
	114	1992. 8. 19 2: 5	78.45	34.73	597.0	7.1	4884.5	4.06	1.34	
	115	1992. 8. 19 3:22	32.82	18.00	.0	3.6	451.8	3.83	1.35	
	116	1992. 8. 26 15:15	26.92	26.12	15.0	3.3	1536.2	1.45	.42	
	117	1992. 8. 30 20:26	23.73	17.43	15.0	3.3	1247.7	1.67	.50	
	118	1992. 9. 1 15:51	28.05	26.97	15.0	3.8	1556.5	1.83	.46	
	119	1992. 9. 2 10:45	29.35	18.42	15.0	2.8	742.1	1.87	5.34	
	120	1992. 9. 9 4: 7	34.63	14.82	15.0	3.0	52.7	11.31	1.52	
	121	1992. 9. 11 14:21	28.42	3.77	15.0	5.1	1388.3	3.68	.80	
	122	1992. 9. 15 0:29	26.40	6.15	35.0	4.2	1317.2	2.48	1.17	
	123	1992. 9. 16 18:34	37.02	6.23	.0	4.3	939.7	3.27	.49	
	124	1992. 9. 16 19:23	31.67	27.42	15.0	3.7	1470.3	1.81	.92	
	125	1992. 9. 19 14:20	26.75	7.17	5.0	4.3	1211.5	2.75	1.07	
	126	1992. 9. 23 0:53	27.13	6.50	.0	4.5	1233.0	2.99	1.06	
	127	1992. 9. 25 0:39	26.13	7.48	15.0	4.5	1239.8	2.98	1.82	
	128	1992. 10. 9 19:25	34.47	16.68	15.0	3.3	248.1	4.95	1.26	
	129	1992. 10. 11 19:35	68.70	44.75	15.0	6.3	4616.7	2.88	.90	
	130	1992. 10. 13 16:21	3.75	10.40	15.0	5.5	3421.5	2.41	.79	
	131	1992. 10. 17 14: 6	28.52	26.15	15.0	4.3	1454.9	2.43	.82	
	132	1992. 10. 21 15: 5	26.70	6.42	15.0	4.2	1272.9	2.54	.87	
	133	1992. 10. 23 21:25	117.55	13.63	15.0	6.6	8852.2	2.13	2.29	
	134	1992. 10. 26 7:46	34.55	12.67	.0	3.4	208.4	5.82	1.98	
	135	1992. 10. 30 3: 5	35.32	10.47	15.0	4.1	447.1	4.91	.42	
	136	1992. 11. 6 19:14	24.92	5.78	15.0	3.5	1464.1	1.65	1.22	
	137	1992. 11. 21 5: 7	22.93	31.75	.0	5.4	2270.0	3.04	1.42	
	138	1992. 11. 30 8:30	29.97	16.72	15.0	4.0	592.3	3.87	2.44	
	139	1992. 12. 1 13:23	35.65	16.68	3.0	3.7	251.2	5.95	1.74	
	140	1992. 12. 9 1:37	35.92	17.15	15.0	3.5	309.0	4.71		

0 NO. Date Lo. La. H M D AMAX(1) AMAX(2)

0
0

NO.	AMAX(1)	F	TR	NO.	AMAX(2)	F	TR
36	5.90	9.000	.111	36	2.40	9.000	.111
37	5.83	9.250	.108	37	2.34	9.250	.108
38	5.82	9.500	.105	38	2.31	9.500	.105
39	5.63	9.750	.103	39	2.29	9.750	.103
40	5.57	10.000	.100	40	2.27	10.000	.100
41	5.54	10.250	.098	41	2.27	10.250	.098
42	5.52	10.500	.095	42	2.21	10.500	.095
43	5.51	10.750	.093	43	2.17	10.750	.093
44	5.46	11.000	.091	44	2.16	11.000	.091
45	5.12	11.250	.089	45	2.11	11.250	.089
46	5.11	11.500	.087	46	2.11	11.500	.087
47	5.10	11.750	.085	47	2.10	11.750	.085
48	5.10	12.000	.083	48	1.98	12.000	.083
49	4.95	12.250	.082	49	1.87	12.250	.082
50	4.91	12.500	.080	50	1.85	12.500	.080
51	4.80	12.750	.078	51	1.83	12.750	.078
52	4.71	13.000	.077	52	1.82	13.000	.077
53	4.71	13.250	.075	53	1.78	13.250	.075
54	4.70	13.500	.074	54	1.74	13.500	.074
55	4.63	13.750	.073	55	1.74	13.750	.073
56	4.63	14.000	.071	56	1.70	14.000	.071
57	4.47	14.250	.070	57	1.68	14.250	.070
58	4.45	14.500	.069	58	1.62	14.500	.069
59	4.44	14.750	.068	59	1.62	14.750	.068
60	4.37	15.000	.067	60	1.62	15.000	.067
61	4.34	15.250	.066	61	1.57	15.250	.066
62	4.17	15.500	.065	62	1.56	15.500	.065
63	4.10	15.750	.063	63	1.54	15.750	.063
64	4.06	16.000	.063	64	1.52	16.000	.063
65	4.03	16.250	.062	65	1.45	16.250	.062
66	4.01	16.500	.061	66	1.43	16.500	.061
67	4.01	16.750	.060	67	1.42	16.750	.060
68	3.89	17.000	.059	68	1.40	17.000	.059
69	3.89	17.250	.058	69	1.35	17.250	.058
70	3.87	17.500	.057	70	1.34	17.500	.057

F=M(times)/N(years)

F means the probability that a Earthquake will occur over the estimated acceleration

TR = 1/F

0
0

NO.	AMAX(1)	F	TR	NO.	AMAX(2)	F	TR
71	3.83	17.750	.056	71	1.34	17.750	.056
72	3.80	18.000	.056	72	1.33	18.000	.056
73	3.76	18.250	.055	73	1.30	18.250	.055
74	3.71	18.500	.054	74	1.28	18.500	.054

F=M(times)/N(years)

F means the probability that a Earthquake will occur over the estimated acceleration

TR = 1/F

1

75	3.69	18.750	.053	76	1.27	18.750	.053
76	3.68	19.000	.053	76	1.26	19.000	.053
77	3.65	19.250	.052	77	1.26	19.250	.052
78	3.57	19.500	.051	78	1.22	19.500	.051
79	3.54	19.750	.050	79	1.22	19.750	.051
80	3.52	20.000	.049	80	1.21	20.000	.050
81	3.50	20.250	.049	81	1.20	20.250	.049
82	3.49	20.500	.048	82	1.19	20.500	.049
83	3.48	20.750	.048	83	1.18	20.750	.048
84	3.47	21.000	.047	84	1.17	21.000	.048
85	3.46	21.250	.047	85	1.16	21.250	.047
86	3.46	21.500	.046	86	1.14	21.500	.047
87	3.41	21.750	.045	87	1.13	21.750	.046
88	3.27	22.000	.045	88	1.13	22.000	.045
89	3.26	22.250	.044	89	1.12	22.250	.045
90	3.20	22.500	.043	90	1.12	22.500	.044
91	3.10	22.750	.043	91	1.12	22.750	.044
92	3.06	23.000	.042	92	1.11	23.000	.043
93	3.04	23.250	.042	93	1.11	23.250	.043
94	2.99	23.500	.041	94	1.11	23.500	.043
95	2.98	23.750	.041	95	1.10	23.750	.042
96	2.95	24.000	.040	96	1.10	24.000	.042
97	2.90	24.250	.040	97	1.07	24.250	.041
98	2.88	24.500	.040	98	1.07	24.500	.041
99	2.86	24.750	.040	99	1.06	24.750	.040
100	2.86	25.000	.039	100	1.06	25.000	.040
101	2.86	25.250	.039	101	1.05	25.250	.040
102	2.86	25.500	.038	102	.95	25.500	.039
103	2.86	25.750	.038	103	.95	25.750	.039
104	2.86	26.000	.038	104	.93	26.000	.038
105	2.86	26.250	.038	105	.93	26.250	.038

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NO.	AMAX(1)	F	TR	NO.	AMAX(2)	F	TR
106	2.85	26.500	.038	106	.93	26.500	.038
107	2.75	26.750	.037	107	.93	26.750	.037
108	2.73	27.000	.037	108	.90	27.000	.037
109	2.69	27.250	.037	109	.87	27.250	.037
110	2.68	27.500	.036	110	.87	27.500	.036
111	2.66	27.750	.036	111	.87	27.750	.036
112	2.65	28.000	.036	112	.85	28.000	.036
113	2.64	28.250	.035	113	.84	28.250	.035
114	2.62	28.500	.035	114	.83	28.500	.035
115	2.60	28.750	.035	115	.82	28.750	.035
116	2.60	29.000	.034	116	.82	29.000	.034
117	2.56	29.250	.034	117	.81	29.250	.034
118	2.54	29.500	.034	118	.80	29.500	.034

0
0

F=M(times)/N(years)

F means the probability that a Earthquake
will occur over the estimated acceleration
TR = 1/F

NO.	AMAX(1)	F	TR	NO.	AMAX(2)	F	TR
119	2.48	29.750	.034	111	.79	29.750	.034
120	2.43	30.000	.033	120	.79	30.000	.033
121	2.43	30.250	.033	121	.79	30.250	.033
122	2.41	30.500	.033	122	.78	30.500	.033
123	2.41	30.750	.033	123	.74	30.750	.033
124	2.41	31.000	.032	124	.72	31.000	.032
125	2.40	31.250	.032	125	.70	31.250	.032
126	2.33	31.500	.032	126	.69	31.500	.032
127	2.23	31.750	.031	127	.69	31.750	.031
128	2.13	32.000	.031	128	.66	32.000	.031
129	2.04	32.250	.031	129	.64	32.250	.031
130	2.00	32.500	.031	130	.61	32.500	.031
131	1.97	32.750	.031	131	.56	32.750	.031
132	1.87	33.000	.030	132	.50	33.000	.030
133	1.83	33.250	.030	133	.49	33.250	.030
134	1.81	33.500	.030	134	.46	33.500	.030
135	1.80	33.750	.030	135	.45	33.750	.030
136	1.72	34.000	.029	136	.45	34.000	.029
137	1.68	34.250	.029	137	.44	34.250	.029
138	1.68	34.500	.029	138	.43	34.500	.029
139	1.67	34.750	.029	139	.42	34.750	.029
140	1.65	35.000	.029	140	.42	35.000	.029

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F=M(times)/N(years)
 F means the probability that a Earthquake
 will occur over the estimated acceleration
 TR = 1/F

NO.	AMAX(1)	F	TR	NO.	AMAX(2)	F	TR
141	1.60	35.250	.028	141	.42	35.250	.028
142	1.59	35.500	.028	142	.40	35.500	.028
143	1.46	35.750	.028	143	.39	35.750	.028
144	1.45	36.000	.028	144	.36	36.000	.028
145	1.33	36.250	.028	145	.35	36.250	.028

1

Magnitude

F=M(times)/N(years)
 F means the probability that a Earthquake
 will occur over the estimated magnitude
 TR = 1/F

NO.	MAGNITUDE	F	TR
1	9.00	.250	4.000
2	7.90	.500	2.000
3	7.10	.750	1.333
4	6.60	1.000	1.000
5	6.50	1.250	.800
6	6.30	1.500	.667
7	6.00	1.750	.571
8	5.50	2.000	.500
9	5.40	2.250	.444

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0

10	5.30	2.500	.400
11	5.30	2.750	.364
12	5.20	3.000	.333
13	5.10	3.250	.308
14	5.10	3.500	.286
15	5.00	3.750	.267
16	4.90	4.000	.250
17	4.80	4.250	.235
18	4.70	4.500	.222
19	4.70	4.750	.211
20	4.60	5.000	.200
21	4.60	5.250	.190
22	4.50	5.500	.182
23	4.50	5.750	.174
24	4.50	6.000	.167
25	4.40	6.250	.160
26	4.40	6.500	.154
27	4.40	6.750	.148
28	4.40	7.000	.143
29	4.30	7.250	.138
30	4.30	7.500	.133
31	4.30	7.750	.129
32	4.20	8.000	.125
33	4.20	8.250	.121
34	4.20	8.500	.118
35	4.20	8.750	.114

0

NO.	MAGNITUDE	F	TR
36	4.20	9.000	.111
37	4.20	9.250	.108
38	4.20	9.500	.105
39	4.10	9.750	.103
40	4.00	10.000	.100
41	4.00	10.250	.098
42	4.00	10.500	.095
43	4.00	10.750	.093
44	3.90	11.000	.091
45	3.90	11.250	.089
46	3.90	11.500	.087
47	3.90	11.750	.085
48	3.90	12.000	.083
49	3.90	12.250	.082
50	3.80	12.500	.080
51	3.80	12.750	.078
52	3.80	13.000	.077
53	3.80	13.250	.075

$F = M(\text{times})/N(\text{years})$

F means the probability that a Earthquake will occur over the estimated magnitude

TR = 1/F

54	3.80	13.500	.074
55	3.80	13.750	.073
56	3.70	14.000	.071
57	3.70	14.250	.070
58	3.70	14.500	.069
59	3.70	14.750	.068
60	3.70	15.000	.067
61	3.70	15.250	.066
62	3.70	15.500	.065
63	3.70	15.750	.063
64	3.60	16.000	.063
65	3.60	16.250	.062
66	3.60	16.500	.061
67	3.60	16.750	.060
68	3.60	17.000	.059
69	3.60	17.250	.058
70	3.60	17.500	.057

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F=M(times)/N(years)
F means the probability that a Earthquake
will occur over the estimated magnitude
TR = 1/F

NO.	MAGNITUDE	F	TR
71	3.60	17.750	.056
72	3.50	18.000	.056
73	3.50	18.250	.055
74	3.50	18.500	.054
75	3.50	18.750	.053
76	3.50	19.000	.053
77	3.50	19.250	.052
78	3.50	19.500	.051
79	3.40	19.750	.051
80	3.40	20.000	.050
81	3.40	20.250	.049
82	3.40	20.500	.049
83	3.40	20.750	.048
84	3.40	21.000	.048
85	3.30	21.250	.047
86	3.30	21.500	.047
87	3.30	21.750	.046
88	3.30	22.000	.045
89	3.30	22.250	.045
90	3.30	22.500	.044
91	3.30	22.750	.044
92	3.30	23.000	.043
93	3.20	23.250	.043
94	3.20	23.500	.043
95	3.20	23.750	.042
96	3.20	24.000	.042
97	3.20	24.250	.041

98	3.20	24.500	.041
99	3.20	24.750	.040
100	3.10	25.000	.040
101	3.10	25.250	.040
102	3.10	25.500	.039
103	3.10	25.750	.039
104	3.10	26.000	.038
105	3.10	26.250	.038

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F=M(times)/N(years)
 F means the probability that a Earthquake
 will occur over the estimated magnitude
 TR = 1/F

NO.	MAGNITUDE	F	TR
106	3.10	26.500	.038
107	3.10	26.750	.037
108	3.10	27.000	.037
109	3.10	27.250	.037
110	3.10	27.500	.036
111	3.10	27.750	.036
112	3.10	28.000	.036
113	3.10	28.250	.035
114	3.10	28.500	.035
115	3.10	28.750	.035
116	3.00	29.000	.034
117	3.00	29.250	.034
118	3.00	29.500	.034
119	3.00	29.750	.034
120	3.00	30.000	.033
121	3.00	30.250	.033
122	3.00	30.500	.033
123	2.90	30.750	.033
124	2.90	31.000	.032
125	2.90	31.250	.032
126	2.90	31.500	.032
127	2.90	31.750	.031
128	2.80	32.000	.031
129	2.80	32.250	.031
130	2.80	32.500	.031
131	2.80	32.750	.031
132	2.80	33.000	.030
133	2.70	33.250	.030
134	2.70	33.500	.030
135	2.70	33.750	.030
136	2.70	34.000	.029
137	2.60	34.250	.029
138	2.60	34.500	.029
139	2.60	34.750	.029
140	2.50	35.000	.029

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0

NO.	MAGNITUDE	F	TR
141	2.50	35.250	.028
142	2.40	35.500	.028
143	2.30	35.750	.028
144	2.00	36.000	.028
145	1.90	36.250	.028

F=M(times)/N(years)

F means the probability that a Earthquake
will occur over the estimated magnitude

TR = 1/F

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