Table A.9 Rainfall Characteristics for Station RST027 Skopje

LOCATION	Vardar	GAUGING STATION	RST027_Skopje
STATION ID	25	ELEVATION	240
REGISTRY NUMBER		SUBBASIN	B1-2
LATITUDE	42° 01'	LONGITUDE	21° 25'
AVERAGE ANNUAL TOTAL	493.8		

Total Monthly Rainfall — Units: mm

Year	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1961	23.2	3.2	63.8	63.8	87.3	43.7	52.7	3.8	11.8	9.2	83.5	32.1
1962	20.5	40.4	119.2	60.8	15.6	73.8	13.2	19.6	15.0	68.1	189.3	105.3
1963	92.3	75.8	56.7	45.1	59.8	23.6	11.3	23.0	9.2	135.4	46.5	42.2
1964	7.3	4.8	56.5	30.5	95.7	31.5	57.8	23.9	105.0	49.9	47.4	30.9
1965	31.2	44.3	16.3	18.5	54.3	34.2	19.1	36.8	5.3	-	40.2	70.6
1966	38.7	25.4	30.4	37.2	20.8	20.7	22.7	9.2	14.6	24.1	63.8	86.3
1967	51.2	4.0	36.2	74.6	90.6	69.1	72.4	4.9	31.5	27.0	15.4	65.3
1968	52.4	29.2	28.6	25.0	56.7	125.3	0.3	38.4	9.4	18.7	63.3	38.2
1969	46.6	50.0	70.6	46.5	6.2	46.3	7.2	25.3	20.6	-	2.7	145.4
1970	34.6	41.0	26.5	16.2	57.9	6.8	92.2	3.4	18.0	61.0	8.9	25.4
1971	71.9	27.9	73.0	14.3	55.1	35.7	50.0	2.9	87.0	13.5	10.4	32.7
1972	41.8	41.7	29.7	47.3	58.0	44.9	44.0	36.2	87.2	90.7	28.3	2.4
1973	37.6	35.8	76.2	51.0	57.0	22.7	71.8	67.1	-	-	-	-
1974	35.9	79.9	29.9	55.4	91.5	44.6	5.7	29.8	70.6	32.1	43.2	36.3
1975	17.4	9.3	51.1	22.5	73.8	98.8	8.3	33.1	18.0	78.6	28.4	11.1
1976	56.1	28.7	4.2	44.3	124.8	79.4	64.3	64.2	22.2	110.7	-	-
1977	24.9	42.4	13.1	20.5	24.4	29.3	10.4	42.4	11.9	13.7	49.4	18.2
1978	19.7	26.2	57.6	52.1	62.3	3.8	5.8	18.4	76.5	20.5	21.2	72.7
1979	31.2	32.2	9.8	59.2	107.5	12.7	14.0	56.1	29.6	29.0	164.5	26.2
1980	57.6	20.7	22.3	18.9	106.6	25.3	12.7	12.2	30.2	93.6	31.3	62.7
1981	24.0	18.5	17.4	65.4	11.8	51.4	76.4	52.5	91.3	95.3	108.3	58.3
1982	4.7	37.5	44.3	51.3	35.5	4.9	48.4	41.4	17.3	48.8	55.4	35.8
1983	1.4	17.6	22.5	43.2	47.8	124.1	57.7	28.4	38.9	24.3	69.5	102.3
1984	31.4	89.9	46.8	37.0	39.1	29.1	24.2	44.7	28.8	7.4	37.6	36.7
1985	78.7	31.1	28.4	22.7	46.4	45.6	13.4	11.0	12.2	16.0	143.8	10.9
1986	82.4	-	34.6	20.8	42.1	60.4	51.2	6.4	12.1	35.0	21.7	23.2
1987	47.8	32.6	85.9	43.7	47.2	33.3	0.5	26.5	19.7	41.1	63.4	39.1
1988	10.8	34.3	37.0	20.4	32.1	49.3	14.0	-	11.7	29.8	86.5	46.4
1989	2.7	5.7	21.3	48.6	177.8	74.1	30.2	39.4	11.7	42.0	31.7	39.2
1990	2.2	15.9	12.0	69.3	24.1	18.7	23.5	17.1	11.9	9.6	12.8	158.2
1991	26.3	85.6	31.7	75.6	46.8	9.7	150.0	3.2	40.5	48.0	43.9	5.9
1992	13.5	6.7	18.4	161.9	35.2	110.3	42.4	2.4	15.7	35.4	62.9	74.3
1993	55.8	26.8	63.8	13.6	22.8	12.7	19.7	21.9	18.8	37.6	63.2	31.3
1994	57.3	32.6	1.4	42.7	40.6	24.3	50.2	17.3	11.7	31.6	8.4	69.8
1995	70.8	20.1	60.4	44.7	70.4	48.7	74.4	49.8	85.0	0.3	42.9	137.6
1996	63.0	61.0	36.4	38.2	51.4	21.4	7.7	18.6	134.5	12.9	34.2	56.9
AVERAGE	37.9	33.7	39.8	44.5	57.7	44.2	36.7	26.6	35.3	42.1	53.6	53.8
STD DEV	24.3	22.6	25.6	26.9	35.1	32.2	32.2	18.2	33.6	32.9	43.2	38.9

N Wet	Av Annual	Max 1-day	DayNo.	Max 2-day	Max 3-day	Max 4-day
82	478.1	29.0	190	44.9	51.7	51.9
116	740.8	63.3	305	77.1	78.0	82.6
136	618.9	47.3	278	51.8	53.5	54.8
109	541.2	46.0	247	52.0	52.2	56.0
106	370.8	18.7	168	21.1	21.5	22.0
114	393.9	21.2	348	33.7	35.6	37.3
87	542.2	42.8	142	56.0	68.5	68.6
108	485.5	29.1	156	56.8	56.8	56.8
114	467.4	31.2	336	38.2	43.6	45.7
102	391.9	36.0	199	36.0	36.0	36.0
108	474.4	38.0	1	47.5	49.7	75.7
126	552.2	35.2	156	35.8	38.1	38.7
85	419.2	20.7	133	33.2	35.5	42.5
120	554.9	49.0	251	49.0	49.0	52.0
110	450.4	33.6	177	38.6	41.6	42.3
97	598.9	74.2	292	98.0	98.8	99.4
86	300.6	31.8	219	32.2	33.4	33.4
96	436.8	24.8	79	31.2	34.5	40.9
106	572.0	125.2	323	130.8	137.1	138.3
113	494.1	22.5	295	36.9	43.0	46.4
109	670.6	73.6	320	81.3	86.1	86.1
95	425.3	26.2	135	38.0	49.3	49.6
106	577.7	30.7	144	52.8	62.9	68.9
110	452.7	45.6	41	53.0	56.0	56.7
92	460.2	30.5	324	48.2	52.3	57.7
94	389.9	23.4	17	24.0	25.7	26.8
93	480.8	28.7	82	48.5	52.5	53.5
93	372.3	25.8	138	28.1	31.1	33.5
91	524.4	109.2	137	110.4	116.2	118.0
97	375.3	29.8	341	38.1	38.8	44.5
109	567.2	77.2	197	77.2	77.2	90.0
88	579.1	50.0	346	77.3	80.3	81.1
82	388.0	32.0	277	44.6	54.7	54.7
98	387.9	35.0	127	49.9	59.4	59.7
115	705.1	34.7	336	46.9	52.2	70.1
121	536.2	32.5	150	37.1	37.4	37.4

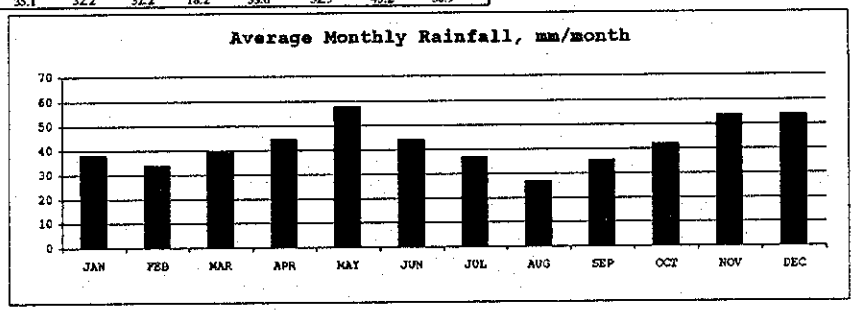

Table A.10 Mean Monthly Temperature for the Meteorological Network Stations (1961-1990)

Units: °C

No	Station Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average
1	MST27_Gevgelija	3.30	5.30	8.70	13.40	18.30	21.90	24.90	24.10	20.10	14.20	8.90	4.70	13.98
2	MST02_Valandovo	3.50	5.70	9.20	14.00	18.80	22.80	25.30	24.40	21.00	15.10	9.40	4.90	14.51
3	MST30_D. Kapija	1.60	4.60	8.60	13.50	18.30	22.20	24.50	24.00	20.10	14.10	8.20	3.20	13.58
4	MST01_Veles	1.70	4.00	8.00	13.20	18.00	21.90	24.40	24.00	20.10	13.50	7.80	3.40	13.33
5	MST14_N.Dojran	3.40	5.20	8.30	12.90	18.00	22.10	24.60	24.10	20.60	15.00	9.60	5.20	14.08
6	MST04_Strumica	0.90	3.70	7.90	12.90	17.70	21.50	23.60	22.90	19.00	12.90	7.10	2.20	12.69
7	MST35_Trubarevo	0.14	3.02	7.48	12.31	17.20	20.67	22.71	22.10	18.04	12.11	6.37	1.58	11.98
8	MST07_Skopje Pet.	-0.10	2.90	7.30	12.30	17.10	20.70	23.10	22.80	18.70	12.50	6.40	1.40	12.09
9	MST33_Amzabegovo	0.90	3.50	7.50	12.40	17.30	21.10	23.50	23.10	19.20	13.10	7.20	2.50	12.61
10	MST23_Kavadarci	1.30	4.10	8.10	13.30	18.30	22.10	24.30	23.80	19.80	13.90	7.80	3.00	13.32
11	MST24_Katlanovo	0.10	3.10	7.10	11.90	16.70	20.50	22.60	22.10	18.00	12.20	6.40	1.70	11.87
12	MST08_Skopje Zaj.	0.49	3.15	7.76	12.44	17.26	20.90	23.34	22.79	18.94	13.29	6.98	2.27	12.47
13	MST34_Shtip	0.70	3.50	7.50	12.50	17.30	21.10	23.40	23.00	19.20	13.40	7.40	2.40	12.62
14	MST18_Kumanovo	0.00	2.80	6.70	11.90	16.70	20.20	22.20	21.90	18.00	12.00	6.30	1.50	11.68
15	MST21_Kochani	1.40	4.10	8.30	13.10	17.80	21.40	23.50	23.10	19.40	13.90	7.90	2.90	13.07
16	MST10_Radovis	1.20	3.30	7.00	11.90	16.60	20.60	23.00	22.50	18.60	12.70	7.20	2.60	12.27
17	MST03_Tetovo	-1.10	1.80	6.50	11.40	15.80	19.20	21.30	20.80	16.90	11.10	5.60	0.70	10.83
18	MST26_Gostivar	-1.20	1.50	5.90	10.70	15.40	18.80	20.40	19.80	16.10	10.80	5.40	0.60	10.35
19	MST16_M. Brod	0.20	2.30	5.80	10.20	14.50	17.90	19.80	19.30	16.00	10.80	5.80	1.40	10.33
20	MST19_Bitola	-0.80	1.90	6.30	11.10	15.70	19.50	21.70	21.10	17.20	11.40	6.20	1.00	11.03
21	MST22_Kichevo	-0.10	2.30	6.10	10.60	14.90	18.50	20.70	20.20	16.60	11.30	6.20	1.50	10.73
22	MST28_Delchevo	-0.50	1.60	5.30	10.30	15.00	18.30	20.30	19.80	16.00	10.20	5.30	1.20	10.23
23	MST20_Kratovo	0.30	2.50	6.10	10.90	15.40	18.70	21.00	21.10	17.60	12.20	6.80	2.00	11.22
24	MST11_Prilep	-0.30	2.00	6.00	10.80	15.60	19.20	21.50	21.20	17.50	11.80	6.50	1.60	11.12
25	MST29_Debar	0.50	2.20	6.40	10.90	15.40	18.90	21.60	21.30	17.70	12.40	7.00	2.20	11.38
26	MST25_K. Palanka	-0.60	1.40	5.00	9.80	14.40	17.60	19.80	19.40	15.90	10.70	5.80	1.20	10.03
27	MST05_Struga	0.90	2.20	5.60	9.80	14.50	18.20	20.60	20.10	16.40	11.30	6.50	2.70	10.73
28	MST13_Ohrid	1.70	2.70	5.80	9.90	14.60	18.30	20.70	20.40	16.90	11.90	7.20	3.30	11.12
29	MST32_Berovo	-1.50	0.20	3.60	8.10	13.00	16.30	18.20	17.60	13.90	8.60	4.20	0.30	8.54
30	MST09_Resen	0.10	1.30	4.20	8.80	13.40	16.80	18.90	18.30	14.90	9.90	5.60	1.90	9.51
31	MST19_Krushevo	-1.30	-0.50	2.60	7.10	12.00	15.60	17.90	17.90	14.60	9.30	4.70	0.40	8.36
32	MST15_Mavrovo	-2.10	-1.60	1.40	5.80	10.60	14.20	16.10	15.80	12.70	7.80	3.80	-0.70	6.98
33	MST17_Lazaropole	-1.90	-1.50	1.40	5.60	10.40	13.60	15.90	15.50	12.20	7.70	3.40	-0.50	6.82
34	MST12_Pop. Shapka	-3.60	-3.50	-1.10	2.80	7.80	11.10	13.20	13.20	10.20	5.70	1.70	-1.70	4.65
35	MST06_Solunska Gl.	-8.88	-8.40	-7.12	-3.54	1.87	5.44	7.99	7.89	5.07	1.31	-5.90	-6.82	-0.92
	Average	0.01	2.07	5.75	10.43	15.19	18.79	21.04	20.61	16.95	11.43	6.08	1.65	10.83

Table A.11 Mean Monthly Wind Speed (m/sec) for the Meteorological Network Stations (1961-1990)

Units: m/sec

No	Station Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average
1	MST27_Gevgelija	2.26	2.03	1.95	1.76	1.57	1.69	1.88	1.58	1.46	1.34	1.58	2.02	1.76
2	MST02_Valandovo	2.08	2.13	2.17	2.03	1.87	2.13	2.16	1.96	1.77	1.59	1.70	1.93	1.96
3	MST30_D. Kapija	1.39	1.86	2.19	2.12	1.69	1.39	1.28	1.31	1.30	1.41	1.52	1.22	1.56
4	MST01_Veles	1.75	1.88	2.24	2.03	1.75	1.67	1.74	1.64	1.59	1.53	1.60	1.68	1.76
5	MST14_N.Dojran	2.46	2.26	1.89	1.72	1.37	1.74	1.78	1.41	1.40	1.46	2.22	2.49	1.85
6	MST04_Strumica	0.99	1.17	1.43	1.43	1.17	1.19	1.09	1.02	0.91	0.74	0.79	0.76	1.06
7	MST35_Trubarevo	0.72	0.80	0.90	0.89	0.79	0.75	0.72	0.70	0.67	0.67	0.67	0.67	0.75
8	MST07_Skopje Pet.	1.20	1.57	1.83	1.83	1.57	1.61	1.70	1.54	1.36	1.21	1.14	1.09	1.47
9	MST33_Amzabegovo	1.04	1.23	1.25	1.00	0.80	0.86	0.96	0.82	0.76	0.79	0.88	0.90	0.94
10	MST23_Kavadarci	0.70	0.87	1.13	1.07	0.75	0.77	0.67	0.68	0.73	0.66	0.59	0.64	0.77
11	MST24_Katlanovo	0.32	0.40	0.44	0.38	0.27	0.27	0.31	0.28	0.29	0.26	0.32	0.30	0.32
12	MST08_Skopje Zaj.	1.95	2.33	2.58	2.50	2.39	2.33	2.40	2.35	2.31	2.01	2.11	1.99	2.27
13	MST34_Shtip	2.18	2.42	2.74	2.66	2.10	2.08	2.09	1.85	1.70	1.74	1.95	1.88	2.12
14	MST18_Kumanovo	1.85	1.90	2.01	2.35	1.99	2.04	1.74	1.66	1.60	1.64	1.89	1.77	1.87
15	MST21_Kochani	0.98	1.27	1.45	1.50	1.40	1.37	1.25	1.03	1.07	1.04	0.86	0.83	1.17
16	MST10_Radovis	2.27	2.13	2.21	2.15	2.01	1.92	1.98	1.74	1.62	1.52	1.92	2.04	1.96
17	MST03_Tetovo	0.51	0.64	0.71	0.77	0.58	0.60	0.60	0.52	0.48	0.51	0.52	0.46	0.57
18	MST26_Gostivar	0.88	1.23	1.51	1.82	1.46	1.46	1.04	0.89	0.80	0.84	0.84	0.83	1.13
19	MST16_M. Brod	0.51	0.62	0.68	0.76	0.69	0.64	0.56	0.58	0.55	0.55	0.55	0.50	0.60
20	MST19_Bitola	1.41	1.77	2.07	2.17	1.90	1.93	1.67	1.54	1.34	1.38	1.43	1.34	1.66
21	MST22_Kichevo	1.92	2.06	2.29	2.31	2.04	1.99	1.96	1.82	1.62	1.62	1.79	1.83	1.94
22	MST28_Delchevo	1.40	1.68	1.81	1.90	1.61	1.64	1.68	1.53	1.53	1.43	1.44	1.37	1.58
23	MST20_Kratovo	1.41	1.49	1.50	1.45	1.31	1.16	1.19	1.09	1.15	1.20	1.32	1.24	1.29
24	MST11_Prilep	2.04	1.89	1.73	1.87	1.60	1.60	1.42	1.39	1.24	1.23	1.62	2.02	1.64
25	MST29_Debar	1.73	1.88	1.97	1.89	1.66	1.50	1.52	1.55	1.50	1.67	1.56	1.54	1.66
26	MST25_K. Palanka	2.22	2.38	2.45	2.36	2.23	2.14	2.27	2.39	2.49	2.54	2.25	2.18	2.33
27	MST05_Struga	1.80	1.68	1.68	1.75	1.48	1.47	1.56	1.46	1.52	1.67	1.65	1.77	1.62
28	MST13_Ohrid	1.93	1.95	1.93	1.79	1.47	1.52	1.57	1.61	1.69	1.90	1.91	1.95	1.77
29	MST32_Berovo	0.99	1.20	1.27	1.33	1.10	1.06	1.02	0.85	0.87	0.91	0.96	0.94	1.04
30	MST09_Resen	0.89	1.03	0.94	0.97	0.73	0.66	0.60	0.62	0.56	0.76	0.82	0.96	0.79
31	MST19_Krushevo	1.90	1.90	2.00	2.40	2.00	2.00	1.70	1.70	1.60	1.60	1.90	1.80	1.88
32	MST15_Mavrovo	1.48	1.45	1.48	1.61	1.51	1.46	1.28	1.21	1.30	1.42	1.55	1.67	1.45
33	MST17_Lazaropole	2.03	2.09	2.11	2.16	2.00	2.02	1.95	1.95	2.00	2.03	2.05	1.97	2.03
34	MST12_Pop. Shapka	2.04	1.89	1.73	1.87	1.60	1.60	1.42	1.39	1.24	1.23	1.62	2.02	1.64
35	MST06_Solunska Gl.	5.99	6.90	6.18	6.01	4.88	4.89	4.15	3.89	4.48	5.88	6.32	7.29	5.57
	Average	1.64	1.77	1.84	1.85	1.58	1.58	1.51	1.42	1.39	1.43	1.54	1.60	1.59

Table A.12 Maximum Wind Speed (m/sec) and its Direction in Major Stations Measured by Anemograph

Units: Direction m/sec

No	Year	MST08	MST19	MST13	MST17	MST11	MST34	MST25	MST32	MST27
1	1961	SW 21.8								
2	1962	SSW 19.1								
3	1963	WSW 21.6								
4	1964	WNW 22.7								
5	1965	W 20.5	S 30.2							
6	1966	N 30.0	S 26.9							
7	1967	NNE 25.6								
8	1968	NNE 6.90	N 22.8							
9	1969	SE 26.3	W 27.8							
10	1970	N 29.9	SSW 30.2	S 26.6	WSW 28.8		S 30.2			
11	1971	N 27.0	SW 25.2	SE 23.2	S 23.8		ESE 28.0			
12	1972	NNW 31.0	WSW 28.0	SE 25.4	N 20.0		S 28.2			
13	1973	NE 26.3	NNW 27.0	SE 26.2	WSW 21.5		SE 33.4			
14	1974	NE 26.9	S 35.4	S 23.6	SSE 23.6					
15	1975	NW 27.7	S 23.4	SE 30.4	NNW 22.6		SE 32.7			
16	1976	NW 26.5	N 24.6	WSW 25.4	NNE 29.8		N 32.4			
17	1977	E 26.5	WSW 24.7	SE 30.5	WSW 30.8		SE; SSE 28.9			
18	1978	SE 20.2	W 24.6	SW 27.5	NE; ENE 30.2		SSE 36.7			
19	1979	NNE 19.0	W 25.2	S 29.2	S 27.7		SE 29.9			
20	1980	NNE 17.0	SE 22.6	SSW 24.6	NNW 32.8	SSE 23.3	SE; SW 27.8			
21	1981	NNE 23.0	W 24.2	S 25.8	SSW 22.6	NNE 23.3	SE 28.9			N 21.0
22	1982	N 18.0	WNW 19.7	SSW 21.6	WNW 23.2	N 25.0	NW 32.8	S 24.9		N 22.3
23	1983	NE 23.0	W 25.3	S 20.6	SSW 28.4	SSE 26.4	NW 38.2	SSW 23.2		N 22.0
24	1984	NNE 22.5	W 19.0	SSE 20.9	SSE 21.0	SE 19.7	SSE 26.0	SSW 22.6	NNE 15.8	
25	1985	N 21.8	N 21.0	SE 26.5	ESE 23.7	SE 21.3	N 25.2	SSW 23.1		
26	1986	E 24.0	W 21.8	SE 24.5	NW 30.4	N 19.8	SE 24.0	S 23.1		
27	1987	NNE 22.1	S 21.1	S 19.4	ENE 22.2	N 21.2	SSE 28.3	ENE 22.6		
28	1988	NE 23.5	S 23.8	SSE 15.5	N 25.4	N 21.3	NW 30.0	S 23.1	N 17.5	N 19.2
29	1989	S 25.0	WNW 21.5	WNW 23.6	W 25.5	SSW 23.4	SE 31.4	SSE 30.0	S 14.4	
30	1990	NNE 29.8	N 23.2	ESE 20.4	NNW 24.8	N 24.0	NW 28.4	S 23.7	NNE 16.5	

N: North
W: West
E: East
S: South

Table A.13 Mean Monthly Sunshine Duration (hours) for the Main Meteorological Network Stations (1961-1990)

Units: hours

No	Station Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average
1	MST27_Gevgelija	3.61	4.05	4.91	6.70	7.72	9.24	10.52	9.94	8.21	5.56	4.06	3.37	6.49
2	MST14_N.Dojran	3.20	3.95	4.80	6.46	8.00	9.56	10.76	10.09	7.97	5.52	3.62	3.08	6.42
3	MST04_Strumica	2.73	3.92	4.83	6.36	7.77	8.99	10.27	9.52	7.77	5.73	3.64	2.57	6.17
4	MST08_Skopje Zajche	2.32	3.57	4.44	6.44	7.46	8.50	10.29	9.74	8.02	5.66	3.04	1.95	5.95
5	MST34_Shtip	2.84	4.02	5.17	6.60	7.80	9.14	10.49	9.96	8.26	6.09	3.82	2.53	6.39
6	MST19_Bitola	2.62	3.82	5.01	6.64	8.08	9.71	10.78	10.07	8.03	5.69	3.70	2.45	6.38
7	MST11_Prilep	2.71	3.84	4.88	6.28	7.61	9.28	10.43	9.93	8.19	5.94	3.87	2.53	6.29
8	MST25_Kriva Palanka	3.21	4.25	4.98	6.21	7.45	8.71	10.07	9.61	7.95	6.23	4.01	2.83	6.29
9	MST13_Ohrid	2.94	3.86	4.83	6.21	7.73	9.14	9.98	9.60	7.73	5.71	3.79	2.53	6.17
10	MST32_Berovo	3.36	4.09	4.95	6.27	7.64	8.81	10.20	9.72	8.04	6.14	4.13	2.98	6.36
11	MST15_Mavrovo	3.09	3.67	4.62	5.62	6.74	7.47	9.13	8.76	7.12	5.66	3.98	2.94	5.73
12	MST17_Lazaropole	3.36	3.77	4.54	5.39	6.36	7.46	9.34	8.84	7.54	5.56	3.90	3.06	5.76
13	MST12_Popova Shapka	3.35	4.77	4.47	5.76	5.57	6.83	8.59	8.70	6.98	5.65	4.11	3.90	5.72
14	MST06_Solunska Gl.	3.95	4.14	4.54	4.56	5.60	7.32	8.80	7.88	7.09	5.60	4.13	3.45	5.59
	Average	3.09	3.98	4.78	6.11	7.25	8.58	9.97	9.45	7.78	5.77	3.84	2.87	6.12

Table A.14 Mean Monthly Cloud for the Meteorological Network Stations (1961-1990)

Units: (0~10)

No	Station Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average
1	MST27_Gevgelija	5.56	5.56	5.64	4.97	4.51	3.77	2.68	2.49	3.12	4.17	5.38	5.41	4.44
2	MST02_Valandovo	5.45	5.68	5.56	5.03	4.66	3.67	2.71	2.62	2.91	4.15	5.24	5.35	4.42
3	MST30_D. Kapija	6.58	6.13	5.86	5.44	5.14	4.23	2.84	2.70	3.22	4.39	6.03	6.71	4.94
4	MST01_Veles	7.33	6.95	6.67	6.30	6.01	5.35	4.29	4.18	4.48	5.58	6.81	7.53	5.96
5	MST14_N.Dojran	5.81	5.68	5.73	5.05	4.70	4.47	2.33	2.41	2.89	4.49	5.63	5.75	4.58
6	MST04_Strumica	5.66	5.39	5.24	4.62	4.29	3.42	2.25	2.26	2.63	3.74	4.89	5.51	4.16
7	MST35_Trubarevo	7.11	6.52	6.10	5.77	5.50	4.70	3.53	3.37	3.88	5.00	6.43	7.33	5.44
8	MST07_Skopje Pet.	6.79	6.30	5.96	5.57	5.26	4.39	3.26	3.04	3.89	4.64	6.03	6.82	5.16
9	MST33_Amzabegovo	5.66	4.87	4.67	4.16	3.91	3.08	2.14	2.02	2.37	3.28	4.98	5.80	3.91
10	MST23_Kavadarci	6.64	6.02	5.74	5.09	4.56	3.91	2.56	2.43	3.03	3.97	5.76	6.68	4.70
11	MST24_Katlanovo	7.07	6.58	6.03	5.55	5.18	4.29	3.31	3.20	3.46	4.81	6.16	6.94	5.21
12	MST08_Skopje Zaj.	6.06	6.14	6.10	5.44	5.16	4.78	2.81	2.56	3.26	4.23	5.91	6.60	4.92
13	MST34_Shtip	6.36	6.03	5.88	5.55	5.29	4.44	3.06	2.89	3.35	4.36	5.87	6.49	4.96
14	MST18_Kumanovo	6.98	6.24	5.72	5.25	5.01	4.15	3.16	2.87	3.22	4.20	5.97	7.04	4.98
15	MST21_Kochani	6.43	6.02	5.95	5.65	5.38	4.58	3.38	3.24	3.61	4.37	5.82	6.62	5.09
16	MST10_Radovis	5.85	5.87	5.40	5.13	4.80	3.86	2.76	2.66	2.93	4.13	5.35	5.80	4.54
17	MST03_Tetovo	7.13	6.60	6.19	5.99	5.48	5.09	3.73	3.57	4.03	5.15	6.30	7.10	5.53
18	MST26_Gostivar	6.97	6.56	6.18	5.82	5.52	4.83	3.61	3.70	3.97	4.90	6.28	7.11	5.45
19	MST16_M. Brod	6.94	6.76	6.52	6.14	6.15	5.13	3.84	3.62	4.61	5.69	6.72	7.30	5.78
20	MST19_Bitola	6.78	6.53	6.22	5.88	5.56	4.61	3.41	3.24	3.83	4.89	6.03	6.73	5.31
21	MST22_Kichevo	6.85	6.65	6.40	7.97	5.91	4.88	3.58	3.47	4.11	5.38	6.35	7.02	5.72
22	MST28_Delchevo	5.88	5.65	5.62	5.20	5.11	4.33	3.21	2.90	3.27	3.98	5.29	6.02	4.70
23	MST20_Kratovo	5.87	5.73	5.46	5.08	4.81	4.19	2.97	2.90	3.34	3.97	5.13	6.04	4.63
24	MST11_Prilep	6.62	6.15	6.00	5.51	5.15	4.23	3.01	2.95	3.46	4.50	5.71	6.36	4.97
25	MST29_Debar	6.92	6.30	6.26	6.10	5.43	4.61	3.12	3.24	3.97	4.83	6.26	6.90	5.33
26	MST25_K. Palanka	6.51	6.36	6.32	6.14	5.86	5.11	3.64	3.39	3.80	4.60	5.83	6.47	5.34
27	MST05_Struga	6.07	5.99	5.73	5.43	4.73	3.91	2.78	2.80	3.33	4.30	5.63	6.18	4.74
28	MST13_Ohrid	6.46	6.26	5.89	5.76	5.10	4.21	2.66	2.82	3.43	4.56	5.78	6.47	4.95
29	MST32_Berovo	6.12	6.09	6.07	5.71	5.56	4.66	3.39	3.14	4.64	4.44	5.67	6.17	5.14
30	MST09_Resen	6.45	6.49	6.09	5.63	4.99	4.05	2.67	2.74	3.36	4.47	5.46	6.35	4.90
31	MST19_Krushevo	6.24	6.45	6.28	5.90	5.52	4.73	3.37	3.27	3.86	4.92	5.85	6.40	5.23
32	MST15_Mavrovo	6.17	6.36	6.15	5.56	5.22	4.66	3.60	3.51	4.14	5.09	5.95	6.38	5.23
33	MST17_Lazaropole	6.15	6.43	6.31	6.19	5.66	4.82	3.42	3.43	4.01	4.89	5.96	6.27	5.30
34	MST12_Pop. Shapka	4.96	5.30	5.46	5.35	5.04	4.41	3.29	3.30	3.45	4.36	4.94	5.24	4.59
35	MST06_Solunska Gl.	5.49	6.13	6.22	6.62	6.51	5.64	4.41	4.43	4.50	5.02	5.76	5.84	5.55
	Average	6.34	6.14	5.93	5.62	5.22	4.43	3.16	3.07	3.58	4.55	5.80	6.42	5.02

Table A.15 Mean Monthly Relative Humidity for the Meteorological Network Stations (1961-1990)

Units: (%)

No	Station Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average
1	MST27_Gevgelija	79.62	77.20	74.57	69.97	67.77	60.93	57.00	59.87	66.53	74.53	80.10	81.00	70.76
2	MST02_Valandovo	77.04	74.50	70.71	66.21	66.04	61.86	57.75	59.75	64.50	70.36	77.50	77.39	68.63
3	MST30_D. Kapija	80.10	74.77	69.20	63.50	63.00	58.50	54.37	55.77	62.57	70.50	78.43	81.93	67.72
4	MST01_Veles	81.57	78.25	72.18	66.89	65.50	76.96	58.11	59.50	64.96	72.93	79.46	81.46	71.48
5	MST14_N.Dojran	78.86	78.04	76.32	70.86	68.70	63.79	58.43	60.14	64.70	73.48	79.14	79.21	70.97
6	MST04_Strumica	86.42	82.46	76.34	70.80	69.70	64.70	60.59	63.14	69.25	76.43	84.21	87.52	74.30
7	MST35_Trubarevo	82.04	76.71	69.13	64.63	66.08	61.75	57.08	57.71	63.92	71.00	80.08	84.17	69.52
8	MST07_Skopje Pet.	83.88	80.78	75.39	70.38	69.85	65.92	61.00	61.58	66.96	73.67	81.26	83.80	72.87
9	MST33_Amzabegovo	82.65	80.00	73.28	67.40	66.96	63.43	59.17	60.92	65.60	71.80	80.54	82.96	71.23
10	MST23_Kavadarci	85.48	82.92	79.12	74.04	75.31	72.72	67.96	69.00	74.58	79.88	84.80	85.96	77.65
11	MST24_Katlanovo	81.88	74.25	67.13	62.38	63.13	60.75	55.38	55.75	61.13	70.13	79.50	83.63	67.92
12	MST08_Skopje Zaj.	80.00	74.90	67.70	62.73	63.40	58.97	53.40	54.30	59.43	67.57	77.83	82.00	66.85
13	MST34_Shtip	83.81	82.77	74.64	67.24	64.76	64.12	60.12	60.36	67.48	74.08	81.28	84.76	72.12
14	MST18_Kumanovo	79.39	77.25	72.14	67.29	66.11	63.39	60.46	62.14	67.19	71.79	77.68	81.46	70.52
15	MST21_Kochani	83.79	81.38	74.76	68.72	68.83	64.72	58.93	60.66	64.10	71.76	81.17	83.66	71.87
16	MST10_Radovis	84.36	81.18	73.00	66.68	68.14	66.43	63.86	65.89	72.07	77.75	83.00	84.74	73.92
17	MST03_Tetovo	79.50	79.81	78.22	71.78	69.96	68.63	67.89	69.89	74.50	78.04	80.96	81.33	75.04
18	MST26_Gostivar	83.44	81.59	76.07	73.11	73.19	71.30	67.15	68.73	75.00	80.04	83.04	84.63	76.44
19	MST16_M. Brod	82.60	78.10	70.87	64.57	64.77	60.17	55.53	57.10	64.17	72.00	79.03	83.23	69.34
20	MST19_Bitola	84.57	80.07	72.89	67.68	68.68	67.21	63.43	65.32	71.14	76.14	80.11	84.44	73.47
21	MST22_Kichevo	81.17	80.17	76.30	71.28	71.64	71.07	66.97	68.17	71.72	76.28	80.34	81.89	74.75
22	MST28_Delchevo	83.00	79.18	75.82	68.07	69.57	68.11	64.14	62.61	66.21	72.14	78.18	82.71	72.48
23	MST20_Kratovo	80.37	75.60	68.87	63.17	63.07	59.60	55.63	55.80	61.87	69.47	76.23	80.50	67.51
24	MST11_Prilep	79.63	77.85	72.41	66.41	66.74	66.70	62.96	62.30	67.04	72.11	77.44	82.44	71.17
25	MST29_Debar	76.33	72.60	67.90	63.07	65.87	65.33	60.73	59.93	64.17	69.40	75.07	77.67	68.17
26	MST25_K. Palanka	82.50	81.20	78.84	75.16	74.00	71.31	67.00	68.36	74.60	78.58	82.81	83.40	76.48
27	MST05_Struga	78.57	75.40	71.60	68.27	68.57	65.83	60.70	61.57	66.37	71.10	76.97	79.23	70.35
28	MST13_Ohrid	81.23	79.57	75.70	71.30	72.23	70.70	66.43	67.87	72.17	76.07	80.10	82.67	74.67
29	MST32_Berovo	79.75	79.54	76.43	70.82	68.32	67.57	65.57	68.62	72.32	77.00	78.96	80.54	73.79
30	MST09_Resen	78.79	79.29	77.36	71.11	71.00	67.86	62.96	64.04	68.43	75.68	79.18	80.43	73.01
31	MST19_Krushevo	78.93	76.63	76.57	71.43	70.59	69.74	65.93	66.78	71.85	75.42	75.26	77.59	73.06
32	MST15_Mavrovo	79.23	78.03	74.33	71.43	71.27	70.86	67.17	68.69	73.40	75.30	77.07	80.03	73.90
33	MST17_Lazaropole	73.23	75.68	75.10	71.41	71.55	70.72	68.03	67.14	70.52	73.13	72.40	72.59	71.79
34	MST12_Pop. Shapka	82.18	84.61	86.11	87.94	87.89	83.61	79.00	81.47	81.94	78.24	84.12	82.88	83.33
35	MST06_Solunska Gl.	5.49	6.13	6.22	6.62	6.51	5.64	4.41	4.43	4.50	5.02	5.76	5.84	5.55
	Average	78.90	76.53	72.09	67.27	67.11	64.88	60.44	61.58	66.48	71.97	77.40	79.71	70.36

Table A.16 List of Registered Hydrological Network Stations (1/3)

Station	Upstream	Downstream	Distance Km	Area Km^2	Latitude	Longitude
ST001_Vrutok	Vardar	Aegean Sea	300	1	41°46' 10"	20°51' 01"
ST002_Raven	Vardar	Aegean Sea	285			
ST003_Balin Dol	Vardar	Aegean Sea		342.6	41°42' 30"	20°56' 21"
ST004_Sarakinci	Vardar	Aegean Sea	256	1083	41°53' 10"	21°03' 55"
ST005_Jegunovce	Vardar	Aegean Sea	240			
ST006_Radusha	Vardar	Aegean Sea	226.7		42°05' 10"	21°13' 05"
ST007_Vlae	Vardar	Aegean Sea	199			
ST008_Skopje	Vardar	Aegean Sea	194.4	4650	41°' 42' 44"	21°26' 50"
ST009_Taor	Vardar	Aegean Sea	179			
ST010_Veles	Vardar	Aegean Sea	127.8	8820	41°42' 51"	21°42' 25"
ST011_Nogaevci	Vardar	Aegean Sea	107.4			
ST012_S. Gradsko	Vardar	Aegean Sea	99.8	NA	41°35' 13"	21°56' 57"
ST013_Krivolak	Vardar	Aegean Sea	63			
ST014_D. Kapija	Vardar	Aegean Sea		21350	41°24' 18"	22°16' 05"
ST015_Udovo	Vardar	Aegean Sea	34.5	21418	41°22' 33"	22°23' 51"
ST016_Gevgelija	Vardar	Aegean Sea		22301	41°08' 54"	22°31' 50"
ST017_Vrutok	Dufska	Vardar	0.3			
ST018_Lakavica	Lakavica	Vardar	4.2	172.8	41°45' 00"	20°55' 45"
ST019_Negotino	Mazdracha	Vardar	10	74.91	41°53' 06"	20°52' 07"
ST020_Tetovo	Pena	Vardar		157.75	42°01' 13"	20°57' 22"
ST021_Tearce	Bistrica	Vardar	9	37.6	42°05' 00"	21°04' 15"
ST022_Izvor	Treska	Vardar				
ST023_M. Brod	Treska	Vardar	86.5	886	41°30' 19"	21°13' 03"
ST024_Modrishte	Treska	Vardar	62.5	1184	41°38' 27"	21°14' 47"
ST025_Zdunje	Treska	Vardar	35.9	1605	41°49' 00"	21°10' 15"
ST026_Sv. Bogorodica	Treska	Vardar	7.4	1880	41°57' 52"	21°18' 25"
ST027_Saraj	Treska	Vardar				
ST028_Kichevo	Kichevska	Treska	2.8	309.5	41°30' 50"	20°58' 30"
ST029_Belica	Belichka	Treska				
ST030_Bardovci	Lepenec	Vardar		621	42°09' 00"	21°17' 53"
ST031_Mar. Manastir	Markova	Vardar	16	48.74	41°53' 27"	21°24' 12"
ST032_Krisha	Kadina	Vardar				
ST033_Smestica	Kadina	Vardar	0.3	183	41°50' 22"	21°38' 05"
ST034_Pelince	Pchinja	Vardar	76.2	567		
ST035_Kat. Banja	Pchinja	Vardar	13	2794	41°53' 46"	21°42' 04"
ST036_Zidlovo	Kriva	Pchinja		78.6		
ST037_Kriva Palanka	Kriva	Pchinja	60.2	223	42°12' 07"	22°20' 23"
ST038_Trnovec	Kriva	Pchinja	31.9	614.4	42°08' 07"	22°06' 30"
ST039_Glaznja	Lipkovska	Kumanovska		74.6		
ST040_Kumanovo Lip.	Lipkovska	Kumanovska	10	212	42°08' 24"	21°45' 31"
ST041_Kumanovo	Konjarka	Kumanovska		135	42°09' 16"	21°43' 21"
ST042_Dobroshane	Kumanovska	Pchinja	1			

Table A.16 List of Registered Hydrological Network Stations (2/3)

Station	Upstream	Downstream	Distance Km	Area Km^2	Latitude	Longitude
ST043_Drenovo	Topolka	Vardar				
ST044_Veles	Topolka	Vardar	0.3	319.4	41°42' 07"	21°47' 33"
ST045_Nezilovo	Babuna	Vardar				
ST046_Bogomila	Babuna	Vardar	45	107	41°35' 45"	21°29' 03"
ST047_Babuna stop.	Babuna	Vardar	2.3	608	41°40' 40"	21°48' 15"
ST048_Berovo	Bregalnica	Vardar	196.3	87.5	41°42' 13"	22°51' 48"
ST049_Budinarci	Bregalnica	Vardar	184.6	378	41°46' 10"	22°46' 05"
ST050_Ochi Pale	Bregalnica	Vardar	146	845.6	41°58' 32"	22°44' 15"
ST051_Istibanja	Bregalnica	Vardar		1289	41°56' 53"	22°' 32' 40"
ST052_Shtip	Bregalnica	Vardar	57.8	2897	41°43' 56"	27°10' 52"
ST053_Ubogo	Bregalnica	Vardar	6.6	4286	41°38' 25"	21°57' 19"
ST054_M. Kamenica	Kamenica	Bregalnica		105	41°59' 29"	22°35' 35"
ST055_Laki	Osojnica	Bregalnica	18.5	73.3	41°48' 51"	22°38' 40"
ST056_Orizari	Orizarska	Bregalnica		NA	41°55' 50"	22°27' 17"
ST057_Zletovo	Zletovska	Bregalnica	24	172	41°01' 07"	22°15' 53"
ST058_Gabrievci	Kriva Lakavica	Bregalnica				
ST059_Orel	Mavrovica	S. Nikolska				
ST060_Dolenci	Crna	Vardar	200	216.5	41°18' 19"	21°06' 00"
ST061_Buchin	Crna	Vardar	174	670.8	41°16' 41"	21°20' 07"
ST062_Topolchani	Crna	Vardar				
ST063_Novaci	Crna	Vardar	125	2545	41°02' 36"	21°27' 07"
ST064_Skochivir	Crna	Vardar	100	3975	40° 58' 08"	21°38' 29"
ST065_Rasimbegov	Crna	Vardar	70	4526	41°11' 46"	21°43' 10"
ST066_Vozarci	Crna	Vardar	21	5374	41°25' 30"	21°55' 42"
ST067_Crnilishte	Strovija	Borotinsko				
ST068_Borotino	Borotinsko Blat	Crna	6.5	771	41°17' 25"	21°23' 57"
ST069_Malovishte	Shemnica	Crna				
ST070_Lisolaj	Shemnica	Crna	12.1	233	41°07' 30"	21°17' 53"
ST071_Bitola	Dragor	Crna		117	41°01' 50"	21°20' 23"
ST072_Brod	Eleshka	Crna	0.05	866.3	40°56' 57"	21° 32' 53"
ST073_Drenovo	Raec	Crna		223	41°26' 04"	21°49' 18"
ST074_Vatasha	Vatashka	Vardar		59.2	41°26' 04"	22°01' 15"
ST075_Konopishte	Boshava	Vardar	29.5	62.7	41°14' 23"	22°06' 52"
ST076_Chiflik(Ergela)	Boshava	Vardar	6	267.6	41°22' 37"	22°12' 45"
ST077_Chiflik	Doshnica	Boshava	1.5	186	41°23' 05"	22°13' 38"
ST078_Chalakli	Anska	Vardar				
ST079_Kovanci	Kovanska	Vardar				
ST080_Gornichet	Konska	Vardar	10	85.64	41°09' 15"	22°26' 08"
ST081_Brajchino	Brajchinska	Prespa	5	61.5	40°54' 04"	21°09' 30"
ST082_Resen	Golema	Prespa	9.4	68	41°05' 00"	21°01' 06"
ST083_Stenje	Prespa	Ohrid		1374.93	40°57' 02"	20°54' 24"
ST084_Asamati	Prespa	Ohrid		NA	40°59' 08"	21°03' 15"

Table A.16 List of Registered Hydrological Network Stations (3/3)

Station	Upstream	Downstream	Distance Km	Area Km^2	Latitude	Longitude
ST085_Nakolec	Prespa	Ohrid		NA	40°53' 28"	21°06' 28"
ST086_Sveti Naum	Crn Drim sprin	Ohrid		NA	40°54' 54"	20°44' 45"
ST087_Struga	Crni Drim	Beli Drim		952.6	41°10' 06"	20°41' 01"
ST088_Lozani	Crni Drim	Crni Drim				
ST089_HP Shpilje	Crni Drim	Crni Drim	0.6	4225.4	41°29' 06"	20°30' 05"
ST090_Botun	Sateska	Crni Drim	14.4	356.7	41°16' 39"	20°47' 13"
ST091_Kosel	Koselska	Ohrid	8	98.49	41°10' 24"	20° 50' 23"
ST092_Ljubanishta	Cherava	Ohrid				
ST093_Sveti Naum	Ohrid	Crni Drim		NA	40°54' 54"	20°44' 01"
ST094_Peshtani	Ohrid	Ohrid		NA	41°01' 03"	20°48' 55"
ST095_Ohrid	Ohrid	Ohrid		2340	41°06' 42"	20°48' 11"
ST096_Kalishta	Ohrid	Ohrid				
ST097_Volkovija	Nichpurska	Radika	36	196.7	41°43' 19"	20°40' 23"
ST098_Boshkov	Radika	Crni Drim	10	750.86	41°32' 46"	20°36' 15"
ST099_Volkovija	Mavrovska	Nichpurska	0.2	122.6	41°43' 15"	20°40' 38"
ST100_Volkovija	Ribnichka	Radika	0.5	73	41°42' 30"	20°39' 19"
ST101_Elenski Skok	Mala	Radika		200.1	41°32' 59"	20°37' 23"
ST102_Radovish	Radovishka	Strumica	7	54.2	41°38' 26"	22°28' 05"
ST103_Sushevo	Strumica	Struma	37.6			
ST104_Novo Selo	Strumica	Struma	9	1401	41°24' 11"	22°52' 17"
ST105_Smolarski Most	Strumica	Struma				
ST106_Smiljanci	Smiljanska	Strumica	9.25	81	41°38' 28"	22° 35' 15"
ST107_Dobrashinci	Turija	Strumica		214.8	41°32' 12"	22°39' 58"
ST108_Dvorishte	Cironska	Lebnica		94.2	NA	NA
ST109_Mrdaja	Dojran	Dojran		270	NA	NA
ST110_Dojran	Dojran	Dojran		270	41°13' 15"	22°42' 53"

Table A.17 Conditions of the Hydrological Surface Water Stations Network (1/3)

Station	Location	Data Availability					Condition	Const.	Data Period	
		H	T(°C)	Q	Sed	Limn.		Year	From	To
ST001_Vrutok	Vardar	+	+	+			bad	1945	1958	1961
									1974	1985
ST002_Raven	Vardar	Under Construction								
ST003_Balin Dol	Vardar	+				+	bad	1948	1967	1976
									1995	1997
ST004_Sarakinci	Vardar	+		+			destroyed	1938	1949	1971
									1980	1985
ST005_Jegunovce	Vardar	+	+	+	+	+	bad	1969	1979	1990
ST006_Radusha	Vardar	+		+	+	+	good	1949	1949	1996
ST007_Vlae	Vardar					+	good	1983	1984	1992
ST008_Skopje	Vardar	+	+	+	+	+	good	1923	1949	1996
ST009_Taor	Vardar					+	good	1978	1991	1996
ST010_Veles	Vardar	+	+	+	+	+	good	1923	1958	1996
ST011_Nogaevci	Vardar	+		+			good	1990	1990	1996
ST012_S. Gradsko	Vardar	+		+			destroyed	1962	1949	1996
ST013_Krivolak	Vardar	+					good from 1984	1982	1984	1996
ST014_D. Kapija	Vardar	+	+	+	+	+	good	1950	1955	1996
ST015_Udovo	Vardar	+		+			Not Regular	1952	1975	1995
ST016_Gevgelija	Vardar	+	+	+	+	+	good	1923	1950	1996
ST017_Vrutok	Dufska	+	+	+			good till 1985	1955	1976	1985
ST018_Lakavica	Lakavica	+		+			good	1945	1950	1985
ST019_Negotino	Mazdracha	+		+			shut down	1959	1960	1972
ST020_Tetovo	Pena	+		+			good till 1982	1948	1953	1982
ST021_Tearce	Bistrica	+				+	good	1948	1979	1987
ST022_Izvor	Treska	+					good	1979	1984	1993
ST023_M. Brod	Treska	+	+	+	+	+	good	1947	1950	1996
ST024_Modrishte	Treska	+		+			bad	1948	1960	1984
ST025_Zdunje	Treska	+	+	+	+	+	good	1948	1950	1996
ST026_Sv. Bogorodica	Treska	+	+	+		+	good	1951	1950	1996
ST027_Saraj	Treska	Under Construction								
ST028_Kichevo	Kichevska	+		+			Plan for re-new	1950	1973	1984
ST029_Belica	Belichka	Under Construction for Dam Kozjiak								
ST030_Bardovci	Lepenec	+					good	1996	1996	1997
ST031_Mar. Manastir	Markova	+		+			destroyed	1960	1979	1980
ST032_Krisha	Kadina	Under Construction								
ST033_Smestica	Kadina	+		+		+	good	1949	1960	1996
ST034_Pelince	Pchinja	+		+		+	good	1958	1960	1996
ST035_Kat. Banja	Pchinja	+	+	+	+		bad	1953	1953	1992
ST036_Zidlovo	Kriva	Under Construction								
ST037_Kriva Palanka	Kriva	+	+	+		+	good	1960	1960	1992
ST038_Trnovec	Kriva	+		+		+	good	1957	1960	1996
ST039_Glaznja	Lipkovska	+		+		+	good	1989	1991	1993

Table A.17 Conditions of the Hydrological Surface Water Stations Network (2/3)

Station	Location	Data Availability					Condition	Const.	Data Period	
		H	T(°C)	Q	Sed	Limn.		Year	From	To
ST040_Kumanovo Lip.	Lipkovska	+		+			bad	1948	1965	1975
ST041_Kumanovo	Konjarka	+		+			good	1962	1963	1996
ST042_Dobroshane	Kumanovo	+		+			not accurate WL	1969	1970	1996
ST043_Drenovo	Topolka	+		+		+	good	1979	1980	1996
ST044_Veles	Topolka	+		+		+	good	1955	1957	1996
ST045_Nezilovo	Babuna	Under Construction								
ST046_Bogomila	Babuna	+		+			good	1947	1960	1996
ST047_Babuna stop.	Babuna	+		+		+	good	1955	1955	1996
ST048_Berovo	Bregalnica	+		+			not accurate WL	1947	1960	1991
ST049_Budinarci	Bregalnica	+		+			not accurate WL	1947		
ST050_Ochi Pale	Bregalnica	+		+		+	bad	1962	1970	1995
ST051_Istibanja	Bregalnica	+		+			Shut down	1948	1959	1970
ST052_Shtip	Bregalnica	+	+	+	+		good , but river	1958	1962	1970
							bed not good		1973	1996
ST053_Ubogo	Bregalnica	+		+			not accurate WL	1948	1961	1990
ST054_M. Kamenica	Kamenica	+		+			good	1967	1975	1995
ST055_Laki	Osojnica	+		+		+	good	1960	1961	1996
ST056_Orizari	Orizarska	+		+		+	good	1948	1975	1995
ST057_Zletovo	Zletovska	+		+			bad	1947	1960	1996
ST058_Gabrievci	K. Lakavica	Under Construction								
ST059_Orel	Mavrovica	+		+		+	new station	1994	1995	
ST060_Dolenci	Crna	+	+	+			good	1947	1960	1996
ST061_Buchin	Crna	+	+	+	+	+	bad	1955	1956	1992
ST062_Topolchani	Crna	Under Construction								
ST063_Novaci	Crna	+	+	+	+		good after 1973	1923	1973	1996
ST064_Skochivir	Crna	+	+	+	+	+	good after 1955	1943	1956	1996
ST065_Rasimbegov	Crna	+	+	+	+	+	good after 1991	1949	1956	1996
ST066_Vozarci	Crna	+	+	+			good till 1989	1948	1955	1989
ST067_Crnilishte	Strovija	Under Construction								
ST068_Borotino	Bor/ Blato	+		+			bad X-Section	1944	1973	1986
ST069_Malovishte	Shemnica						bad	1984	1985	1996
ST070_Lisolaj	Shemnica	+		+			shut down	1936	1955	1985
ST071_Bitola	Dragor						shut down	1950	1960	1985
ST072_Brod	Eleshka						destroyed	1950	1959	1985
ST073_Drenovo	Raec	Under Construction								
ST074_Vatasha	Vatashka						no observer	1960	1960	1965
ST075_Konopishte	Boshava	+		+		+	bad	1954	1973	1982
ST076_Chiflik(Ergela)	Boshava	+	+	+			destroyed	1962	1972	1980
ST077_Chiflik	Doshnica	+		+			flooded	1954	1962	1987
ST078_Chalakli	Anska	Under Construction								
ST079_Kovanci	Kovanska	+					bad	1960	1960	1965
ST080_Gornichet	Konska	+		+			bad	1955	1981	1982

Table A.17 Conditions of the Hydrological Surface Water Stations Network (3/3)

Station	Location	Data Availability					Condition	Const.	Data Period	
		H	T(°C)	Q	Sed	Limn.		Year	From	To
ST081_Brajchino	Brajchinska	+		+		+	good	1964	1960	1996
ST082_Resen	Golema	+		+			bad	1947	1950	1985
ST083_Stenje	Prespa	+		+			good	1945	1950	1996
ST084_Asamati	Prespa	+		+			good	1948	1950	1996
ST085_Nakolec	Prespa	+		+			good	1954	1954	1996
ST086_Sveti Naum	Crn Drim	+		+			bad	1950	1950	1972
ST087_Struga	Crni Drim	+		+			bad	1948	1960	1996
ST088_Lozani	Crni Drim	+		+		+	good	1988	1988	1996
ST089_HP Shpilje	Crni Drim						good after 1974	1923		
ST090_Botun	Sateska	+		+		+	good	1948	1949	1996
ST091_Kosel	Koselska	+		+			bad	1960	1960	1986
ST092_Ljubanishta	Cherava	Under Construction								
ST093_Sveti Naum	Ohrid	Under Construction								
ST094_Peshtani	Ohrid	+					good till 1980	1945	1960	1980
ST095_Ohrid	Ohrid	+	+			+	good	1924	1950	1996
ST096_Kalishta	Ohrid	Under Construction								
ST097_Volkovija	Nichpurska	+		+			good	1946	1971	1973
ST098_Boshkov	Radika	+	+	+	+	+	good	1958	1960	1995
ST099_Volkovija	Mavrovska	+		+			bad	1947	1970	1982
ST100_Volkovija	Ribnichka	+		+			bad	1952	1970	1996
ST101_Elenski Skok	Mala	+		+		+	good after 1991	1960	1989	1996
ST102_Radovish	Radovishka	+		+			good	1947	1960	1996
ST103_Sushevo	Strumica	+	+	+	+	+	good	1976	1960	1996
ST104_Novo Selo	Strumica	+		+		+	bad	1945	1960	1996
ST105_Smolarski Most	Strumica	Under Construction								
ST106_Smiljanci	Smiljanska	+		+		+	good	1958	1960	1996
ST107_Dobrashinci	Turija	+		+			bad	1948	1960	1970
ST108_Dvorishte	Cironska						bad	1976	1978	1996
ST109_Mrdaja	Dojran						new	1996	1996	1997
ST110_Dojran	Dojran	+	+				good	1951	1951	1996

Table A.18 Inventory of the Collected Hydrological Network Stations for the Missing Years of Records (1/2)

No.	StationName	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74
1	ST003_Balin Dol																								
2	ST004_Sarakinci*																								
3	ST005_Jegunovce																								
4	ST006_Radusha*																								
5	ST008_Skopje*																								
6	ST010_Veles*																								
7	ST014_Demir Kapija*																								
8	ST016_Gevgelija*																								
9	ST033_Smestica																								
10	ST030_General Jankovikj																								
11	ST023_Makedonski Brod*																								
12	ST025_Zdunje*																								
13	ST026_Sveta Bogorodica*																								
14	ST028_Kichevo																								
15	ST034_Pelince*																								
16	ST035_Katlanovska Banja*																								
17	ST036_Zidlovo																								
18	ST037_Kriva Palanka																								
19	ST038_Trnovec*																								
20	ST041_Kumanovo*																								
21	ST048_Berovo																								
22	ST049_Budinarci																								
23	ST050_Ochi Pale*																								
24	ST052_Shtip*																								
25	ST055_Laki*																								
26	ST054_Kamenica*																								
27	ST057_Zletovo																								
28	ST060_Dolenci*																								
29	ST064_Skochivir*																								
30	ST065_Rasimbegov Most*																								
31	ST066_Vozarci																								
32	ST103_Sushevo*																								
33	ST104_Novo Selo*																								
34	ST106_Smiljanci																								
35	ST098_Boshkov Most*																								
36	ST088_Lozhani*																								
37	ST081_Brajchino																								
38	ST095_Ohrid																								
39	ST083_Stenje																								
40	ST110_Nov Dojran																								

* Selected Stations for The Study

Table A.18 Inventory of the Collected Hydrological Network Stations for the Missing Years of Records (2/2)

No.	StationName	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96
1	ST003_Balin Dol																						
2	ST004_Sarakinci*																						
3	ST005_Jegunovce																						
4	ST006_Radusha*																						
5	ST008_Skopje*																						
6	ST010_Veles*																						
7	ST014_Demir Kapija*																						
8	ST016_Gevgelija*																						
9	ST033_Smestica																						
10	ST030_General Jankovikj																						
11	ST023_Makedonski Brod*																						
12	ST025_Zdunje*																						
13	ST026_Sveta Bogorodica*																						
14	ST028_Kichevo																						
15	ST034_Pelince*																						
16	ST035_Katlanovska Banja*																						
17	ST036_Zidlovo																						
18	ST037_Kriva Palanka																						
19	ST038_Trnovec*																						
20	ST041_Kumanovo*																						
21	ST048_Berovo																						
22	ST049_Budinarci																						
23	ST050_Ochi Pale*																						
24	ST052_Shtip*																						
25	ST055_Laki*																						
26	ST054_Kamenica*																						
27	ST057_Zletovo																						
28	ST060_Dolenci*																						
29	ST064_Skochivir*																						
30	ST065_Rasimbegov Most*																						
31	ST066_Vozarci																						
32	ST103_Sushevo*																						
33	ST104_Novo Selo*																						
34	ST106_Smiljanci																						
35	ST098_Boshkov Most*																						
36	ST088_Lozhani*																						
37	ST081_Brajchino																						
38	ST095_Ohrid																						
39	ST083_Stenje																						
40	ST110_Nov Dojran																						

* Selected Stations for The Study

Table A.19 Mean Monthly Flow at the Downstream of Vardar River Basin (ST016 Gevgelija) for the Period 1925-1993

Units: m^3/sec

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average
1925/26	217.0	195.0	239.0	214.0	117.0	62.5	173.0	28.9	20.3	26.8	51.0	261.0	133.79
1926	129.0	95.5	222.0	219.0	235.0	83.1	23.3	15.4	42.6	24.9	27.2	56.9	97.83
1927	231.0	115.0	226.0	394.0	265.0	87.7	38.9	24.1	24.5	113.0	98.4	178.0	149.63
1928	98.1	182.0	248.0	360.0	356.0	143.0	44.2	66.9	68.7	33.7	64.8	133.0	149.87
1929	212.0	303.0	194.0	210.0	254.0	237.0	94.1	26.6	24.8	82.7	243.0	167.0	170.68
1930	287.0	420.0	392.0	422.0	316.0	179.0	37.5	18.7	26.7	57.7	120.0	214.0	207.55
1931	50.8	47.3	298.0	261.0	223.0	116.0	58.0	28.4	37.6	34.1	49.6	46.5	104.19
1932	41.2	59.3	59.7	79.6	163.0	146.0	32.6	20.7	24.0	34.9	36.1	38.3	61.28
1933	279.0	136.0	148.0	169.0	145.0	73.5	38.1	21.8	23.0	83.9	293.0	188.0	133.19
1934	191.0	338.0	323.0	394.0	252.0	97.0	36.3	23.1	21.6	70.3	57.6	179.0	165.24
1935	229.0	514.0	439.0	325.0	406.0	234.0	119.0	50.0	34.8	24.2	54.1	485.0	242.84
1936	78.6	237.0	384.0	277.0	365.0	196.0	159.0	45.4	93.6	112.0	130.0	94.6	181.02
1937	263.0	239.0	261.0	398.0	430.0	189.0	131.0	56.3	53.7	183.0	259.0	538.0	250.08
1938	244.0	186.0	262.0	362.0	228.0	150.0	57.4	25.8	47.1	59.0	96.6	189.0	158.91
1939	312.0	445.0	317.0	456.0	395.0	363.0	155.0	57.6	46.6	122.0	209.0	270.0	262.35
1940	188.0	226.0	263.0	282.0	266.0	163.0	83.5	34.9	44.9	94.3	201.0	180.0	168.88
1941	188.0	226.0	263.0	282.0	310.0	280.0	116.0	69.0	59.5	71.9	128.0	196.0	182.45
1942	140.0	148.0	148.0	144.0	117.0	151.0	88.5	24.0	37.4	62.0	96.3	127.0	106.93
1943	156.0	203.0	341.0	432.0	334.0	152.0	135.0	34.9	44.9	24.1	149.0	181.0	182.24
1944	188.0	232.0	242.0	245.0	167.0	75.5	31.9	20.9	108.0	71.9	128.0	196.0	142.18
1945	266.0	288.0	343.0	291.0	298.0	143.0	36.7	17.8	17.8	156.0	256.0	296.0	200.78
1946	172.0	413.0	344.0	149.0	170.0	137.0	67.2	26.5	37.4	45.2	140.0	297.0	166.53
1947	386.0	218.0	152.0	302.0	286.0	256.0	59.5	20.0	20.6	79.0	111.0	364.0	187.84
1948	61.3	50.0	155.0	196.0	131.0	89.7	40.5	50.0	112.0	20.0	58.2	58.5	85.18
1949	119.0	168.0	320.0	292.0	208.0	135.0	54.7	32.6	46.2	275.0	391.0	367.0	200.71
1950	241.0	422.0	422.0	444.0	328.0	185.0	56.3	33.8	40.8	142.0	168.0	168.0	220.91
1951	135.0	155.0	195.0	201.0	104.0	44.4	26.7	22.7	23.0	117.0	171.0	94.3	107.43
1952	233.0	222.0	106.0	145.0	132.0	209.0	120.0	29.0	28.3	33.8	65.1	268.0	132.60
1953	55.6	68.9	490.0	324.0	285.0	141.0	40.7	28.7	35.4	29.5	42.8	35.1	131.39
1954	521.0	375.0	463.0	290.0	203.0	94.1	75.1	50.4	121.0	83.6	292.0	351.0	243.27
1955	227.0	507.0	400.0	553.0	445.0	238.0	62.2	29.9	31.0	326.0	260.0	259.0	278.18
1956	122.0	150.0	158.0	148.0	272.0	158.0	101.0	54.3	78.4	45.1	136.0	168.0	132.57
1957	338.0	171.0	472.0	485.0	395.0	145.0	42.9	29.9	36.0	113.0	126.0	161.0	209.57
1958	132.0	84.8	146.0	141.0	202.0	161.0	96.0	44.1	55.1	49.4	91.2	78.3	106.74
1959	310.0	402.0	319.0	308.0	353.0	209.0	79.0	38.7	46.0	53.1	205.0	264.0	215.57
1960	132.0	118.0	154.0	128.0	186.0	101.0	48.6	27.3	27.8	54.4	108.0	227.0	109.34
1961	93.3	150.0	575.0	465.0	197.0	105.0	49.8	29.4	29.3	29.8	107.0	84.5	159.59
1962	742.0	989.0	497.0	565.0	450.0	336.0	76.9	44.7	55.0	52.1	532.0	420.0	396.64
1963	98.3	111.0	172.0	168.0	179.0	161.0	73.6	47.0	66.0	97.7	113.0	209.0	124.63
1964	218.0	153.0	356.0	364.0	358.0	140.0	51.8	35.5	36.1	99.2	230.0	194.0	186.30
1965	250.0	328.0	195.0	197.0	229.0	159.0	37.4	23.4	33.5	34.4	48.3	106.0	136.75
1966	172.0	139.0	234.0	259.0	287.0	92.9	112.0	58.5	48.4	42.7	107.0	211.0	146.96
1967	110.0	224.0	123.0	91.3	77.5	117.0	44.9	29.5	34.0	48.0	46.8	92.0	86.50
1968	152.0	288.0	402.0	331.0	272.0	100.0	68.4	74.2	76.6	44.5	72.7	79.5	163.41
1969	209.0	207.0	295.0	273.0	220.0	152.0	128.0	40.5	73.3	76.4	38.6	121.0	152.82
1970	186.0	145.0	246.0	246.0	161.0	128.0	49.1	46.0	87.0	107.0	92.2	60.5	129.48
1971	76.4	123.0	167.0	207.0	142.0	59.3	55.8	58.8	96.7	79.7	80.4	87.5	102.80
1972	94.6	168.0	214.0	351.0	247.0	91.0	73.4	73.5	130.0	202.0	161.0	129.0	161.21
1973	187.0	293.0	283.0	227.0	330.0	203.0	85.6	63.8	64.1	108.0	121.0	213.0	181.54
1974	95.3	85.0	134.0	156.0	178.0	131.0	63.3	42.0	42.9	89.1	128.0	112.0	104.72
1975	84.8	92.2	80.2	137.0	194.0	198.0	108.0	78.1	69.7	93.3	125.0	126.0	115.53
1976	192.0	330.0	188.0	148.0	103.0	80.6	44.3	35.4	40.6	125.0	240.0	352.0	156.58
1977	68.4	118.0	137.0	242.0	286.0	135.0	40.4	36.7	80.5	50.5	66.0	84.5	112.08
1978	166.0	226.0	119.0	212.0	260.0	124.0	58.9	70.0	79.0	76.2	116.0	156.0	138.59
1979	250.0	264.0	230.0	220.0	425.0	251.0	68.5	54.5	46.2	77.0	356.0	213.0	204.60
1980	156.0	235.0	458.0	332.0	191.0	107.0	70.6	68.2	140.0	111.0	134.0	216.0	184.90
1981	299.0	186.0	214.0	301.0	298.0	160.0	53.2	59.7	81.3	154.0	212.0	370.0	199.02
1982	113.0	135.0	104.0	133.0	73.9	146.0	148.0	79.2	132.0	81.4	79.0	113.0	111.46
1983	215.0	348.0	335.0	361.0	293.0	112.0	45.2	44.0	42.6	66.4	69.8	160.0	174.33
1984	125.0	129.0	151.0	188.0	185.0	68.2	27.5	20.8	39.9	58.4	81.4	84.6	96.57
1985	161.0	414.0	384.0	263.0	219.0	147.0	110.0	76.8	77.7	51.6	137.0	130.0	180.93
1986	99.8	174.0	170.0	441.0	203.0	129.0	48.5	37.7	71.4	103.0	75.3	63.8	134.71
1987	52.6	70.8	101.0	123.0	93.7	58.5	21.1	13.8	19.4	60.3	73.1	91.5	64.90
1988	55.2	53.8	139.0	104.0	202.0	139.0	100.0	73.3	54.0	33.6	67.9	101.0	93.57
1989	81.0	57.0	62.2	75.0	66.2	33.8	11.5	8.9	12.0	118.0	72.9	91.1	57.47
1990	68.8	100.1	163.8	225.5	272.4	159.3	55.9	32.3	42.7	26.6	37.8	66.8	104.33
1991	71.0	69.3	63.1	169.0	90.3	93.9	71.3	42.8	36.0	61.5	87.0	72.5	77.31
1992/93	61.4	63.8	90.1	102.0	79.8	34.6	16.6	9.1	13.9	44.6	84.2	85.8	57.16
Average	179.08	218.07	249.87	264.70	238.31	143.77	69.54	40.25	52.84	81.05	133.90	177.52	154.08

Table A.20 Mean Monthly Flow for the Period 1961-1996

No.	Station Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Av.
	B1: Vardar													
1	ST004_Sarakinci	19.6	21.3	22.1	27.0	30.4	19.8	11.9	10.5	13.9	16.0	19.9	20.0	19.4
2	ST006_Radusha	24.2	26.5	27.5	32.9	39.4	25.6	13.4	11.4	16.2	19.1	24.1	25.1	23.8
3	ST008_Skopje	61.1	69.4	82.2	99.3	101.5	62.9	32.4	23.8	29.8	35.3	51.4	59.4	59.1
4	ST010_Veles	77.1	93.5	109.2	128.8	127.8	77.5	39.8	27.2	34.4	43.0	63.9	76.1	74.9
5	ST014_D. Kapija	140.7	178.1	197.6	218.3	196.6	118.5	58.5	43.7	57.0	70.0	108.6	133.1	126.7
6	ST016_Gevgelija	151.3	192.4	213.8	236.5	212.7	126.9	61.0	44.8	59.4	73.7	116.0	143.0	136.0
	B2: Treska													
7	ST023_M. Brod	12.3	15.2	18.5	22.7	17.5	8.3	4.4	2.9	3.2	4.3	8.4	12.2	10.8
8	ST025_Zdunje	19.3	23.6	29.2	36.6	33.1	17.2	8.5	5.6	6.1	7.4	13.8	19.5	18.3
9	ST026_S. Bog.	24.7	28.7	37.5	46.3	41.3	21.9	11.6	7.9	8.5	10.0	17.7	24.1	23.3
	B3: Pchinja													
10	ST034_Pelince	4.7	6.3	8.5	9.1	7.2	4.6	2.6	1.3	1.4	2.1	3.0	4.1	4.6
11	ST038_Trnovec	3.7	4.8	6.4	7.8	6.9	4.1	2.3	1.4	1.5	2.0	2.9	3.6	4.0
12	ST041_Kumanovo	0.5	0.7	0.8	0.8	0.7	0.5	0.3	0.2	0.2	0.3	0.4	0.5	0.5
13	ST035_K. Banja	12.2	17.2	22.2	23.6	19.6	11.3	5.3	2.5	3.4	5.1	8.5	11.8	11.9
	B4: Bregalnica													
14	ST050_Ochi Pale	5.2	8.3	8.0	8.7	6.3	3.6	1.8	1.5	1.5	2.1	3.3	5.1	4.6
15	ST055_Laki	1.2	1.5	1.4	1.5	1.2	0.8	0.5	0.3	0.3	0.5	0.7	1.0	0.9
16	ST054_Kamenica	1.3	1.7	1.8	2.2	1.8	1.3	0.9	0.8	0.8	0.9	1.1	1.3	1.3
17	ST052_Shtip	12.6	19.5	19.0	19.0	14.6	9.1	5.1	4.2	5.4	5.7	8.7	11.8	11.2
	B5: Crna													
18	ST060_Dolenci	3.1	3.6	4.6	4.4	3.4	2.0	1.3	0.9	0.8	0.9	1.8	2.7	2.5
19	ST064_Skochivir	26.1	37.0	42.9	38.7	30.7	12.4	4.9	2.8	3.7	5.9	15.3	23.8	20.3
20	ST065_R. Most	28.3	39.9	46.2	41.8	33.7	14.2	6.2	3.5	4.6	7.0	17.1	26.3	22.4
	B6: Strumica													
21	ST103_Sushevo	1.9	2.6	3.0	3.1	2.5	1.5	0.7	0.4	0.5	0.7	1.2	1.7	1.6
22	ST104_Novo Selo	4.8	7.7	7.9	6.5	4.8	2.7	1.1	0.5	0.7	1.4	3.2	4.8	3.8
	B7: Crn Drim													
23	ST098_B. Most	17.6	16.7	19.4	37.9	49.3	21.5	9.3	6.6	7.2	7.7	14.1	17.8	18.7
24	ST088_Lozhani	23.2	24.4	26.4	29.8	31.8	25.9	20.4	18.9	18.6	18.7	20.8	21.7	23.4

Table A.21 Flow Duration Using Mean Monthly Flow Records

units: m^3/sec

No.	Station Name	1%	5%	10%	25%	50%	75%	90%	95%	97%	99%
	B1: Vardar										
1	ST004_Sarakinci	46.83	38.11	32.03	24.36	17.89	12.69	8.88	6.96	6.07	4.55
2	ST006_Radusha	62.82	49.07	39.63	30.58	21.92	14.48	9.86	6.82	5.52	3.88
3	ST008_Skopje	180.28	134.55	114.45	76.03	49.60	31.36	21.39	17.30	14.10	8.54
4	ST010_Veles	230.71	179.57	145.00	101.51	61.08	37.22	26.57	21.20	17.15	11.78
5	ST014_D. Kapija	503.53	327.27	250.74	163.34	94.06	59.47	36.72	27.95	22.85	15.47
6	ST016_Gevgelija	549.69	356.15	272.13	176.16	100.09	62.11	37.13	27.49	21.91	13.79
	Average	262.31	180.79	142.33	95.33	57.44	36.22	23.43	17.95	14.60	9.67
	B2: Treska										
7	ST023_M. Brod	42.19	30.06	24.99	15.12	7.14	3.70	2.73	2.04	1.70	1.27
8	ST025_Zdunje	66.21	48.48	40.67	25.82	13.28	6.90	5.00	3.73	3.37	2.97
9	ST026_S. Bog.	88.59	61.00	49.88	31.86	17.66	9.64	6.88	5.76	5.23	4.63
	Average	201.80	135.30	106.00	68.86	39.12	23.71	15.03	11.39	9.36	6.47
	B3: Pchinja										
10	ST034_Pelince	16.06	13.27	10.89	6.84	3.11	1.52	0.87	0.62	0.47	0.30
11	ST038_Trnovec	14.49	10.23	8.43	5.45	3.01	1.52	0.89	0.66	0.50	0.33
12	ST041_Kumanovo	1.62	1.22	0.97	0.63	0.35	0.22	0.16	0.13	0.10	0.05
13	ST035_K. Banja	47.18	36.11	27.82	16.41	8.18	3.47	1.76	1.11	0.76	0.49
	Average	56.23	39.23	30.82	19.64	10.75	6.09	3.74	2.78	2.24	1.53
	B4: Bregalnica										
14	ST050_Ochi Pale	28.15	15.84	10.64	5.34	2.46	1.38	0.77	0.50	0.34	0.19
15	ST055_Laki	3.68	2.39	1.92	1.17	0.63	0.35	0.19	0.14	0.12	0.10
16	ST054_Kamenica	4.80	2.99	2.44	1.60	1.06	0.85	0.56	0.39	0.35	0.23
17	ST052_Shtip	69.41	34.06	23.98	12.94	6.85	3.87	2.34	1.40	1.09	0.48
	Average	32.45	18.90	13.96	8.13	4.35	2.51	1.52	1.04	0.83	0.51
	B5: Crna										
18	ST060_Dolenci	9.91	6.77	5.45	3.27	1.71	0.92	0.60	0.46	0.43	0.34
19	ST064_Skochivir	100.72	65.14	52.59	28.97	11.43	4.28	2.30	1.50	1.11	0.70
20	ST065_R. Most	105.27	67.80	56.28	31.15	13.28	5.19	2.93	2.01	1.83	1.36
	Average	63.55	38.53	30.45	16.89	7.52	3.35	1.94	1.28	1.06	0.68
	B6: Strumica										
21	ST103_Sushevo	7.54	5.77	3.87	2.24	1.04	0.45	0.24	0.13	0.07	0.02
22	ST104_Novo Selo	23.58	15.34	9.58	4.25	1.88	0.87	0.33	0.16	0.08	0.03
	Average	60.13	38.52	30.55	16.70	7.03	2.83	1.55	1.02	0.83	0.56
	B7: Crn Drim										
23	ST098_B. Most	89.45	57.92	42.46	22.79	11.61	6.82	4.90	4.10	3.54	3.02
24	ST088_Lozhani	49.58	38.05	34.17	26.71	22.10	19.90	13.18	11.02	9.62	7.73
	Average	46.06	31.12	24.13	14.54	8.73	6.17	4.04	3.29	2.83	2.27

Table A.22 Flow Duration (Ratio to Average) for Station ST008 Skopje Based on Daily Flow Records

Units: m^3/sec

Year	1%	5%	10%	25%	50%	75%	90%	95%	97%	99%	Average
1961	3.13	1.91	1.60	1.13	0.92	0.61	0.57	0.56	0.56	0.50	59.77
1962	4.33	2.52	1.95	1.47	0.67	0.38	0.26	0.25	0.25	0.23	77.09
1963	3.39	2.10	1.81	1.46	0.83	0.40	0.29	0.25	0.24	0.22	122.94
1964	2.51	1.68	1.48	1.18	0.97	0.73	0.50	0.47	0.45	0.43	63.11
1965	2.79	2.42	2.08	1.40	0.78	0.45	0.38	0.37	0.36	0.33	70.82
1966	2.93	2.04	1.84	1.37	0.96	0.45	0.33	0.24	0.21	0.17	65.85
1967	2.61	2.05	1.90	1.28	0.81	0.58	0.53	0.49	0.48	0.45	61.13
1968	2.42	1.68	1.51	1.24	0.97	0.74	0.46	0.36	0.25	0.19	45.13
1969	3.08	2.51	2.08	1.49	0.69	0.48	0.41	0.36	0.32	0.29	64.91
1970	3.48	2.28	1.98	1.30	0.85	0.44	0.37	0.25	0.23	0.21	75.32
1971	2.86	2.29	1.97	1.39	0.80	0.44	0.33	0.31	0.29	0.25	68.88
1972	2.59	1.87	1.64	1.32	0.96	0.58	0.39	0.32	0.30	0.27	50.54
1973	3.05	2.12	1.83	1.18	0.82	0.61	0.46	0.35	0.33	0.28	65.61
1974	2.25	1.91	1.65	1.32	0.94	0.56	0.43	0.35	0.34	0.31	74.54
1975	2.43	1.90	1.76	1.31	0.91	0.67	0.37	0.32	0.29	0.27	50.94
1976	4.06	2.04	1.53	1.16	0.83	0.60	0.53	0.49	0.47	0.44	67.20
1977	3.48	2.19	1.96	1.29	0.88	0.41	0.32	0.27	0.26	0.21	52.56
1978	3.83	2.30	1.88	1.28	0.78	0.57	0.32	0.26	0.25	0.22	66.96
1979	3.15	1.98	1.72	1.19	0.92	0.52	0.40	0.28	0.25	0.21	73.91
1980	2.82	2.03	1.66	1.23	0.92	0.52	0.34	0.30	0.28	0.26	74.50
1981	3.18	2.16	1.96	1.30	0.82	0.54	0.41	0.36	0.31	0.26	77.90
1982	3.02	2.05	1.80	1.42	0.88	0.49	0.43	0.39	0.34	0.33	59.94
1983	2.63	1.68	1.48	1.14	0.90	0.72	0.63	0.58	0.55	0.48	47.88
1984	3.55	2.62	2.31	1.32	0.72	0.46	0.34	0.29	0.27	0.25	64.85
1985	2.92	2.26	1.94	1.41	0.83	0.44	0.30	0.26	0.25	0.23	53.50
1986	3.02	2.01	1.80	1.45	0.80	0.47	0.41	0.37	0.35	0.28	76.04
1987	3.02	2.38	2.05	1.41	0.73	0.42	0.35	0.32	0.31	0.30	54.60
1988	2.45	2.01	1.84	1.38	1.00	0.44	0.30	0.21	0.21	0.20	30.83
1989	2.15	1.89	1.65	1.32	0.89	0.61	0.51	0.47	0.45	0.44	47.90
1990	2.32	1.98	1.86	1.46	0.94	0.40	0.29	0.27	0.25	0.24	22.75
1991	3.17	2.12	1.93	1.39	0.73	0.48	0.34	0.31	0.28	0.27	40.97
1992	2.91	2.23	1.65	1.18	0.93	0.64	0.38	0.33	0.30	0.27	33.84
1993	3.20	2.29	1.96	1.23	0.87	0.41	0.27	0.25	0.24	0.24	29.51
1994	2.20	1.96	1.75	1.35	0.81	0.62	0.53	0.46	0.35	0.32	30.69
1995	3.84	1.85	1.61	1.24	0.87	0.64	0.45	0.34	0.31	0.28	43.46
1996	2.69	2.40	2.13	1.19	0.86	0.52	0.32	0.29	0.25	0.22	59.56
Average	2.99	2.10	1.82	1.31	0.86	0.53	0.40	0.34	0.32	0.29	59.05

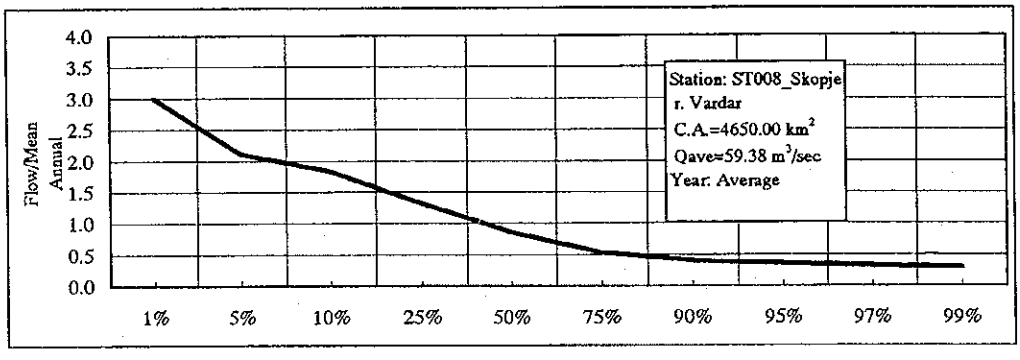

Table A.23 Probable Low Flow Frequency Based on Minimum Annual Flow Records (1/4)

Station: ST004_Sarakinci Basin: Vardar
CA : 1083 sq km

Reccurence Interval					unit: m^3/sec	
(Years)	5	10	20	25	50	100
Gumbell Extreme	6.39	4.31	3.43	2.78	2.13	1.73
Log-normal	6.58	4.41	3.40	2.62	1.80	1.28
Log-Pearson III	6.73	4.40	3.31	2.52	1.73	1.28

Station: ST006_Radusha Basin: Vardar
CA : 1450 sq km

Reccurence Interval					unit: m^3/sec	
(Years)	5	10	20	25	50	100
Gumbell Extreme	6.02	3.52	2.45	1.67	0.87	0.39
Log-normal	6.27	3.62	2.39	1.45	0.46	0.00
Log-Pearson III	6.52	3.55	2.24	1.35	0.55	0.14

Station: ST008_Skopje Basin: Vardar
CA : 4650 sq km

Reccurence Interval					unit: m^3/sec	
(Years)	5	10	20	25	50	100
Gumbell Extreme	14.32	9.88	7.99	6.60	5.19	4.33
Log-normal	14.55	9.92	7.89	6.39	4.88	3.96
Log-Pearson III	14.59	9.86	7.84	6.39	4.98	4.16

Station: ST010_Veles Basin: Vardar
CA : 8820 sq km

Reccurence Interval					unit: m^3/sec	
(Years)	5	10	20	25	50	100
Gumbell Extreme	18.43	13.58	11.51	10.00	8.46	7.52
Log-normal	19.03	13.97	11.51	9.56	7.47	6.12
Log-Pearson III	19.23	13.90	11.35	9.42	7.46	6.28

Station: ST014_Demir Kapija Basin: Vardar
CA : 21350 sq km

Reccurence Interval					unit: m^3/sec	
(Years)	5	10	20	25	50	100
Gumbell Extreme	26.20	18.80	15.66	13.35	11.00	9.57
Log-normal	27.01	19.24	15.55	12.69	9.64	7.71
Log-Pearson III	27.27	19.11	15.34	12.54	9.76	8.13

Station: ST016_Gevgelija Basin: Vardar
CA : 22301 sq km

Reccurence Interval					unit: m^3/sec	
(Years)	5	10	20	25	50	100
Gumbell Extreme	25.31	16.72	13.07	10.39	7.67	6.01
Log-normal	26.23	17.17	12.90	9.60	6.11	3.91
Log-Pearson III	26.42	16.82	12.61	9.63	6.82	5.27

Table A.23 Probable Low Flow Frequency Based on Minimum Annual Flow Records (2/4)

Station: ST023_Makedonski Brod Basin: Treska
CA : 886 sq km

Reccurence Interval (Years)	5	10	20	25	50	100
					unit: m^3/sec	
Gumbell Extreme	1.96	1.40	1.16	0.98	0.80	0.69
Log-normal	2.04	1.43	1.14	0.91	0.65	0.49
Log-Pearson III	2.03	1.43	1.14	0.92	0.69	0.55

Station: ST025_Zdunje Basin: Treska
CA : 1605 sq km

Reccurence Interval (Years)	5	10	20	25	50	100
					unit: m^3/sec	
Gumbell Extreme	3.80	2.82	2.40	2.09	1.78	1.59
Log-normal	3.75	2.78	2.39	2.12	1.87	1.72
Log-Pearson III	3.77	2.79	2.39	2.10	1.82	1.65

Station: ST026_Sveta Bogorodica Basin: Treska
CA : 1880 sq km

Reccurence Interval (Years)	5	10	20	25	50	100
					unit: m^3/sec	
Gumbell Extreme	4.89	3.81	3.35	3.02	2.67	2.46
Log-normal	4.92	3.80	3.32	2.98	2.63	2.42
Log-Pearson III	4.90	3.80	3.34	3.00	2.66	2.46

Station: ST038_Trnovec Basin: Pchinja
CA : 614.4 sq km

Reccurence Interval (Years)	5	10	20	25	50	100
					unit: m^3/sec	
Gumbell Extreme	0.59	0.38	0.29	0.23	0.16	0.12
Log-normal	0.60	0.39	0.27	0.18	0.08	0.01
Log-Pearson III	0.62	0.40	0.29	0.20	0.10	0.04

Station: ST034_Pelince Basin: Pchinja
CA : 567 sq km

Reccurence Interval (Years)	5	10	20	25	50	100
					unit: m^3/sec	
Gumbell Extreme	0.44	0.28	0.21	0.16	0.11	0.07
Log-normal	0.47	0.29	0.21	0.14	0.07	0.02
Log-Pearson III	0.47	0.29	0.21	0.14	0.06	0.02

Station: ST041_Kumanovo Basin: Pchinja
CA : 135 sq km

Reccurence Interval (Years)	5	10	20	25	50	100
					unit: m^3/sec	
Gumbell Extreme	0.11	0.07	0.05	0.04	0.03	0.02
Log-normal	0.11	0.07	0.05	0.04	0.03	0.03
Log-Pearson III	0.12	0.08	0.05	0.03	0.01	0.00

Table A.23 Probable Low Flow Frequency Based on Minimum Annual Flow Records (3/4)

Station: ST035_Katlanovska Banja Basin: Pchinja
CA : 2794 sq km

Reccurence Interval (Years)	5	10	20	25	50	100
					unit: m³/sec	
Gumbell Extreme	0.82	0.42	0.25	0.13	0.00	0.00
Log-normal	0.73	0.38	0.27	0.20	0.14	0.11
Log-Pearson III	0.70	0.37	0.27	0.21	0.16	0.14

Station: ST050_Ochi Pale Basin: Bregalnica
CA : 845.6 sq km

Reccurence Interval (Years)	5	10	20	25	50	100
					unit: m³/sec	
Gumbell Extreme	0.41	0.19	0.09	0.02	0.00	0.00
Log-normal	0.35	0.16	0.10	0.06	0.03	0.02
Log-Pearson III	0.33	0.15	0.10	0.07	0.05	0.04

Station: ST055_Laki Basin: Bregalnica
CA : 73.3 sq km

Reccurence Interval (Years)	5	10	20	25	50	100
					unit: m³/sec	
Gumbell Extreme	0.15	0.09	0.06	0.04	0.02	0.01
Log-normal	0.13	0.08	0.07	0.06	0.06	0.06
Log-Pearson III	0.15	0.08	0.06	0.04	0.03	0.02

Station: ST054_Makedonska Kamenica Basin: Bregalnica
CA : 105 sq km

Reccurence Interval (Years)	5	10	20	25	50	100
					unit: m³/sec	
Gumbell Extreme	0.44	0.27	0.20	0.15	0.09	0.06
Log-normal	0.41	0.26	0.21	0.18	0.15	0.14
Log-Pearson III	0.45	0.27	0.19	0.13	0.07	0.03

Station: ST052_Shtip Basin: Bregalnica
CA : 2897 sq km

Reccurence Interval (Years)	5	10	20	25	50	100
					unit: m³/sec	
Gumbell Extreme	1.43	0.68	0.37	0.13	0.00	0.00
Log-normal	1.47	0.69	0.35	0.10	0.00	0.00
Log-Pearson III	1.46	0.68	0.35	0.12	0.00	0.00

Station: ST060_Dolenci Basin: Crna
CA : 216.5 sq km

Reccurence Interval (Years)	5	10	20	25	50	100
					unit: m³/sec	
Gumbell Extreme	0.58	0.40	0.33	0.27	0.21	0.18
Log-normal	0.56	0.39	0.32	0.28	0.24	0.22
Log-Pearson III	0.57	0.39	0.32	0.28	0.24	0.22

Table A.23 Probable Low Flow Frequency Based on Minimum Annual Flow Records (4/4)

Station: ST064_Skochivir Basin: Crna
CA : 3975 sq km

Reccurence Interval					unit: m³/sec	
(Years)	5	10	20	25	50	100
Gumbell Extreme	1.46	0.84	0.58	0.39	0.19	0.07
Log-normal	1.35	0.79	0.60	0.48	0.37	0.31
Log-Pearson III	1.38	0.81	0.60	0.46	0.33	0.25

Station: ST065_Rasimbegov Most Basin: Crna
CA : 4526 sq km

Reccurence Interval					unit: m³/sec	
(Years)	5	10	20	25	50	100
Gumbell Extreme	1.85	1.17	0.88	0.66	0.45	0.32
Log-normal	1.78	1.11	0.86	0.70	0.54	0.46
Log-Pearson III	1.73	1.12	0.90	0.76	0.62	0.55

Station: ST103_Sushevo Basin: Strumica
CA : 520.36 sq km

Reccurence Interval					unit: m³/sec	
(Years)	5	10	20	25	50	100
Gumbell Extreme	0.10	0.04	0.01	0.00	0.00	0.00
Log-normal	0.07	0.03	0.02	0.01	0.01	0.01
Log-Pearson III	0.09	0.03	0.01	0.00	0.00	0.00

Station: ST104_Novo Selo Basin: Strumica
CA : 1401 sq km

Reccurence Interval					unit: m³/sec	
(Years)	5	10	20	25	50	100
Gumbell Extreme	0.14	0.04	0.00	0.00	0.00	0.00
Log-normal	0.09	0.03	0.02	0.01	0.01	0.01
Log-Pearson III	0.11	0.04	0.02	0.01	0.00	0.00

Station: ST098_Boshkov Most Basin: Crn Drim
CA : 750.86 sq km

Reccurence Interval					unit: m³/sec	
(Years)	5	10	20	25	50	100
Gumbell Extreme	4.34	2.99	2.41	1.99	1.56	1.30
Log-normal	4.29	2.90	2.34	1.95	1.58	1.36
Log-Pearson III	4.15	2.89	2.42	2.11	1.81	1.64

Station: ST088_Lozhani Basin: Crn Drim
CA : 1899 sq km

Reccurence Interval					unit: m³/sec	
(Years)	5	10	20	25	50	100
Gumbell Extreme	14.57	8.88	6.46	4.69	2.88	1.78
Log-normal	12.56	5.66	3.72	2.63	1.78	1.38
Log-Pearson III	17.32	10.13	6.08	3.31	1.11	0.19

Table A.24 Instantaneous Discharge at Major Hydrological Gauging Stations (1/4)

Code	ST006		ST008		ST010		ST014		ST016		ST026	
Station	Radusha		Skopje		Veles		Demir Kapija		Gevgelija		Sv. Bogorodica	
River	Vardar		Vardar		Vardar		Vardar		Vardar		Treska	
Basin	B1: Vardar		B1: Vardar		B1: Vardar		B1: Vardar		B1: Vardar		B2: Treska	
Catchment area in km^2	1,450		4,625		8,820		21,350		22,301		1,880	
Year	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
1961	8.2	146.0	27.6	438.9	18.6	340.0	22.5	415.0	25.0	430.0	3.9	157.0
1962	6.5	222.0	17.4	1,108.1	19.2	1,300.0	24.5	2,150.0	25.0	2,010.0	3.2	750.0
1963	11.7	139.0	20.0	672.7	24.8	875.0	38.4	1,800.0	42.6	1,900.0	3.7	314.9
1964	13.3	116.0	25.0	220.5	18.8	385.0	39.1	770.0	38.2	615.0	6.1	104.0
1965	11.6	116.0	23.5	231.3	23.2	395.0	25.6	870.0	26.2	926.0	3.1	141.0
1966	3.0	71.3	6.8	284.9	15.3	592.0	40.0	998.0	21.0	1,100.0	2.8	202.0
1967	14.8	75.8	20.6	195.4	28.7	267.0	30.4	688.0	33.1	790.0	4.0	77.4
1968	5.6	74.0	6.6	151.1	14.5	186.0	19.7	692.0	18.4	681.0	1.0	77.2
1969	8.8	93.0	15.1	232.3	23.6	333.0	24.0	492.0	29.8	550.0	3.4	105.2
1970	4.9	179.0	14.6	451.3	18.6	454.0	28.0	523.0	25.8	622.0	3.5	238.2
1971	9.0	146.0	8.5	359.0	16.8	611.0	24.5	709.0	28.0	632.0	2.6	200.0
1972	3.2	74.7	10.3	192.0	12.4	302.0	31.6	482.0	31.5	526.0	6.1	92.0
1973	3.3	171.0	16.2	226.0	21.0	342.0	37.3	540.0	37.8	589.7	0.3	85.5
1974	4.5	120.0	21.0	188.0	22.6	371.0	46.0	684.0	46.9	732.0	0.7	86.0
1975	2.1	75.6	11.0	248.0	18.2	256.0	24.3	313.0	30.0	330.0	0.5	71.2
1976	8.3	156.0	25.7	644.0	32.6	638.0	41.1	776.0	45.8	898.0	0.9	182.4
1977	3.1	80.2	8.8	246.0	15.3	454.0	20.8	595.0	24.0	630.0	0.8	133.8
1978	4.1	114.1	13.3	308.0	15.3	373.0	24.3	468.0	27.0	471.0	0.8	122.9
1979	6.6	363.0	12.8	983.0	16.9	1,180.0	31.2	1,550.0	35.0	1,748.0	0.7	673.1
1980	6.6	71.7	17.9	391.0	17.7	597.0	31.2	1,023.0	35.0	1,053.0	1.4	243.6
1981	9.5	126.0	17.3	404.0	19.6	504.0	30.4	1,070.0	39.3	1,157.0	0.7	199.4
1982	10.2	72.0	19.1	187.0	23.6	303.0	28.8	474.0	39.3	498.0	0.5	88.8
1983	6.4	44.5	19.7	264.0	24.7	381.0	32.9	584.0	32.9	638.0	5.3	76.0
1984	5.9	114.0	13.5	240.0	16.1	305.0	22.2	544.0	21.2	594.1	4.5	112.5
1985	3.7	101.0	11.0	264.0	15.7	316.0	19.0	547.0	17.7	597.4	4.9	266.0
1986	5.9	87.8	16.2	327.0	20.0	498.0	31.2	751.0	31.1	821.4	7.3	267.2
1987	4.9	69.4	14.0	202.0	17.7	521.0	24.3	1,128.0	23.5	1,235.4	4.6	141.4
1988	3.9	33.4	6.1	85.4	7.9	109.0	12.9	190.0	11.0	205.4	4.1	47.8
1989	6.6	45.9	17.9	148.0	24.7	277.0	31.2	367.0	31.1	399.8	1.9	62.3
1990	0.6	34.0	5.2	79.2	8.6	111.0	10.1	175.0	7.3	197.0	1.1	34.9
Max.	14.8	363.0	27.6	1,108.1	32.6	1,300.0	46.0	2,150.0	46.9	2,010.0	7.3	750.0
Min.	0.6	33.4	5.2	79.2	7.9	109.0	10.1	175.0	7.3	197.0	0.3	34.9
Ave.	6.6	111.1	15.4	332.4	19.1	452.5	28.3	745.6	29.3	785.9	2.8	178.5

Table A.24 Instantaneous Discharge at Major Hydrological Gauging Stations (2/4)

Code	ST025		ST023		ST035		ST034		ST038		ST048	
Station	Zdunje		M. Brod		K. Banja		Pelince		Trnovec		Berovo	
River	Treska		Treska		Pchinja		Pchinja		Kriva Reka		Bregalnica	
Basin	B2: Treska		B2: Treska		B3: Pchinja		B3: Pchinja		B3: Pchinja		B4: Begalnica	
Catchment area in km^2	1,605		886		2,794		567		614		88	
Year	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
1961	2.7	65.0	1.1	54.9	0.8	106.0	1.0	34.0	0.5	43.9	0.1	5.9
1962	2.4	537.0	1.1	372.0	0.6	310.0	0.4	96.6	0.5	89.8	0.2	16.0
1963	9.6	231.0	3.6	141.6	1.1	235.0	1.4	62.2	1.1	108.0	0.3	41.8
1964	5.9	74.0	2.7	61.2	1.1	317.0	0.4	216.0	0.9	249.0	0.2	5.1
1965	4.5	114.0	3.4	125.0	0.4	181.0	0.7	27.6	0.6	106.0	0.3	13.0
1966	3.1	161.0	2.8	190.0	0.4	267.0	0.6	63.1	0.9	264.0	0.2	19.2
1967	3.4	63.5	2.4	69.5	0.6	106.0	0.8	36.0	0.7	54.4	0.2	6.8
1968	1.8	72.6	2.1	60.6	0.3	52.3	0.5	17.7	0.8	175.0	0.2	10.0
1969	2.3	98.0	2.1	79.3	0.7	267.0	0.7	57.5	0.7	85.4	0.2	5.1
1970	3.2	205.0	2.2	168.1	1.0	348.0	1.8	40.5	0.2	313.0	0.3	7.3
1971	3.0	216.0	2.3	55.2	0.5	344.0	0.6	135.0	0.3	158.0	0.1	9.5
1972	4.2	75.9	2.1	63.0	0.2	109.0	0.6	30.4	0.7	104.0	0.1	6.7
1973	4.4	90.3	1.3	75.2	0.3	117.0	0.1	44.5	0.8	79.2	0.1	9.5
1974	5.5	80.6	1.7	60.9	1.7	179.0	0.6	68.0	0.8	81.2	0.1	4.3
1975	3.0	52.4	1.5	46.5	1.7	72.1	0.6	27.4	0.4	190.0	0.2	7.7
1976	4.2	209.0	2.3	204.6	2.7	303.0	1.3	58.9	0.9	99.0	0.3	16.0
1977	3.4	250.0	1.7	151.0	1.3	110.0	0.6	42.4	0.6	123.0	0.1	11.8
1978	4.7	180.9	2.4	113.0	1.0	70.0	0.6	22.9	0.7	17.2	0.1	8.4
1979	4.9	511.0	2.4	467.0	0.9	281.0	0.5	36.9	0.5	66.0	0.2	57.6
1980	5.2	232.0	3.4	220.0	1.4	207.0	0.6	52.5	0.5	55.1	0.2	8.4
1981	5.2	227.0	2.6	194.0	1.4	263.0	0.7	59.0	0.6	49.0	0.2	14.7
1982	4.2	76.7	2.0	58.2	2.0	70.0	0.6	78.4	0.7	28.3	0.2	16.7
1983	3.5	62.0	3.0	45.3	0.3	100.0	1.0	59.0	0.6	24.9	0.2	12.9
1984	4.7	88.6	2.7	61.0	1.3	78.3	0.5	31.1	0.5	31.3	0.1	5.4
1985	3.2	219.0	1.4	157.0	0.4	144.0	0.4	31.1	0.3	33.5	0.1	4.6
1986	5.2	220.0	2.9	217.0	1.0	139.1	0.4	55.2	0.9	19.6	0.2	54.0
1987	3.0	116.0	1.8	160.0	1.5	321.0	0.3	80.6	0.4	45.2	0.1	16.7
1988	2.6	38.7	1.1	38.9	0.3	41.0	0.3	22.9	0.2	12.2	0.1	3.5
1989	5.3	52.0	2.0	44.0	1.8	122.0	0.9	27.8	1.0	13.9	0.2	10.0
1990	3.1	32.3	1.2	30.8	0.2	64.8	0.3	21.2	0.2	12.2	0.1	7.8
Max.	9.6	537.0	3.6	467.0	2.7	348.0	1.8	216.0	1.1	313.0	0.3	57.6
Min.	1.8	32.3	1.1	30.8	0.2	41.0	0.1	21.2	0.2	12.2	0.1	3.5
Ave.	4.0	155.1	2.2	126.2	0.9	177.5	0.7	54.5	0.6	91.0	0.2	13.9

Table A.24 Instantaneous Discharge at Major Hydrological Gauging Stations (3/4)

Code	ST050		ST052		ST106		ST103		ST060		ST064	
Station	Ochi Pale		Shtip		Smiljanci		Sushevo		Dolenci		Skochivir	
River	Bregalnica		Bregalnica		Smiljanska		Strumica		Crna		Crna	
Basin	B4: Begalnica		B4: Begalnica		B6: Strumica		B6: Strumica		B5: Crna		B5: Crna	
Catchment area in km^2	846		2,940		81		468		217		3,975	
Year	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
1961	0.1	40.3	0.0	120.0	0.0	6.6	0.1	21.2	1.1	10.5	0.7	47.3
1962	0.4	116.9	1.5	230.0	0.0	16.8	0.0	210.0	0.5	35.0	0.5	494.0
1963	0.9	167.0	0.3	337.0	0.1	31.0	0.1	191.0	1.2	38.2	1.3	244.0
1964	0.4	34.4	2.5	140.0	0.1	24.2	0.2	24.2	0.8	15.8	1.6	183.0
1965	0.7	93.9	0.4	226.0	0.1	3.3	0.1	15.8	0.7	25.9	0.9	216.0
1966	0.4	141.7	0.4	287.0	0.1	76.0	0.1	160.0	0.4	20.8	1.7	276.0
1967	0.5	47.2	0.4	61.4	0.1	1.7	0.2	40.8	0.6	7.4	2.5	282.0
1968	0.3	120.0	0.3	148.0	0.1	5.0	0.1	24.2	1.2	47.0	1.7	298.0
1969	0.1	48.6	0.4	94.2	0.1	10.4	0.1	54.1	0.8	14.1	1.7	219.0
1970	0.3	118.0	0.5	44.5	0.2	8.5	0.4	20.2	0.5	18.7	1.7	95.3
1971	0.4	130.0	1.3	30.5	0.1	15.4	0.2	68.4	0.8	20.8	1.6	168.0
1972	0.5	76.7	1.1	130.4	0.2	3.3	0.4	30.4	0.7	5.0	1.7	204.0
1973	0.5	94.0	2.6	102.0	0.2	10.1	0.4	50.3	0.8	9.6	0.5	170.0
1974	0.4	55.0	3.1	63.0	0.1	8.5	0.3	20.2	2.1	35.0	1.0	252.0
1975	0.6	59.4	2.5	78.0	0.0	5.3	0.0	27.2	0.4	7.9	1.2	74.1
1976	1.0	131.0	3.1	158.0	0.1	13.4	0.2	112.0	0.6	23.3	2.2	145.0
1977	0.4	48.4	2.8	91.2	0.1	2.2	0.1	16.7	0.4	12.4	0.7	109.0
1978	0.2	75.8	2.4	48.4	0.0	3.5	0.0	82.0	0.5	15.0	0.4	169.0
1979	0.3	360.0	3.5	260.0	0.0	11.9	0.0	82.0	0.9	35.8	0.8	535.0
1980	0.5	396.0	2.1	330.0	0.1	10.8	0.1	66.8	0.5	13.6	0.9	161.0
1981	0.5	148.0	3.1	126.0	0.1	16.6	0.1	50.3	0.9	21.8	1.6	327.0
1982	0.7	98.4	2.3	111.0	0.1	7.2	0.1	37.2	0.7	6.5	0.8	120.0
1983	0.8	245.0	1.6	155.0	0.1	15.8	0.1	15.8	0.5	4.7	3.2	100.0
1984	0.3	36.0	1.9	260.0	0.0	6.1	0.3	22.7	0.5	9.6	3.4	178.0
1985	0.2	87.5	1.0	126.0	0.0	7.8	0.1	18.9	0.4	41.0	2.5	215.0
1986	0.7	190.0	1.4	135.0	0.1	11.2	0.0	27.2	0.7	17.8	5.9	210.0
1987	0.2	142.0	2.2	344.0	0.0	9.7	0.1	58.3	0.4	12.6	2.5	248.0
1988	0.4	15.0	1.0	39.9	0.0	3.5	0.1	9.1	0.2	5.7	0.4	30.0
1989	0.6	34.0	1.4	39.9	0.1	5.8	0.0	31.0	0.5	6.9	2.3	49.2
1990	0.1	44.0	1.0	56.3	0.0	11.2	0.0	21.7	0.3	3.3	0.7	65.0
Max.	1.0	396.0	3.5	344.0	0.3	76.0	0.4	210.0	2.1	47.0	5.9	535.0
Min.	0.1	15.0	0.0	30.5	0.0	1.7	0.0	9.1	0.2	3.3	0.4	30.0
Ave.	0.4	113.1	1.6	145.8	0.1	12.1	0.1	53.7	0.7	18.1	1.6	196.1

Table A.24 Instantaneous Discharge at Major Hydrological Gauging Stations (4/4)

Code	ST065		ST090		ST098		ST081	
Station	Rasimbegov Most		Botun		Boshkov Most		Brajchino	
River	Crna		Sateska		Radika		Brajchinska	
Basin	B5: Crna		B7: Crn Drim		B7: Crn Drim		B7: Crn Drim	
Catchment area in km^2	4,526		368		751		62	
Year	Min	Max	Min	Max	Min	Max	Min	Max
1961	1.3	49.6	0.9	24.6	2.4	86.7	0.1	13.8
1962	1.3	500.0	1.2	167.0	2.6	260.0	0.1	45.7
1963	1.7	248.0	2.3	95.0	5.3	164.0	0.2	13.3
1964	2.0	186.0	1.6	24.3	6.0	114.0	0.1	23.3
1965	1.5	220.0	1.4	79.7	3.5	92.5	0.1	4.0
1966	1.7	281.0	1.0	64.7	2.2	60.2	0.2	6.8
1967	2.5	286.0	1.2	27.4	3.3	74.6	0.3	7.6
1968	1.7	303.0	1.0	111.0	3.5	54.8	0.1	4.0
1969	1.6	224.0	1.1	30.8	16.4	221.0	0.2	5.2
1970	1.7	171.0	0.9	74.3	6.0	250.0	0.1	4.0
1971	1.6	173.0	1.1	42.1	6.3	126.0	0.1	3.5
1972	1.7	211.0	1.3	22.3	6.5	94.5	0.1	11.6
1973	0.7	178.0	1.0	41.5	6.1	144.0	0.1	5.8
1974	1.2	276.0	1.1	37.2	6.0	91.8	0.2	4.3
1975	1.5	77.9	1.0	23.6	4.2	126.0	0.1	4.0
1976	2.7	152.0	1.6	51.2	4.6	105.0	0.1	5.3
1977	1.0	116.0	1.1	54.5	4.2	79.4	0.1	3.0
1978	0.7	178.0	1.4	66.0	6.0	262.0	0.1	6.0
1979	1.0	1,152.0	1.3	58.3	6.3	185.0	0.1	34.5
1980	1.3	167.0	1.6	56.8	7.9	125.0	0.1	11.2
1981	2.2	342.0	1.4	62.2	5.3	133.0	0.2	9.4
1982	1.0	131.0	1.6	28.2	3.5	106.0	0.1	6.0
1983	3.1	106.0	2.0	17.8	5.4	78.0	0.1	4.0
1984	2.8	211.0	1.8	31.5	4.5	159.0	0.1	7.6
1985	2.1	225.0	1.1	72.0	3.7	189.0	0.1	7.2
1986	6.8	242.0	1.5	80.0	3.6	96.2	0.1	5.8
1987	2.8	272.0	1.2	52.6	4.0	211.0	0.1	5.6
1988	0.7	34.6	1.0	25.6	3.0	55.2	0.0	3.0
1989	2.4	57.7	1.3	26.1	5.3	74.0	0.1	4.3
1990	0.9	83.0	1.1	13.8	2.6	25.4	0.1	2.5
Max.	6.8	1,152.0	2.3	167.0	16.4	262.0	0.3	45.7
Min.	0.7	34.6	0.9	13.8	2.2	25.4	0.0	2.5
Ave.	1.8	228.5	1.3	52.1	5.0	128.1	0.1	9.1

Table A.25 Probable Flood Frequency (m^3/sec) Based on Maximum Annual Flow Records (1/6)

Basin: Vardar
Station: ST006_Radusha
CA : 1,450 sq km

Reccurence Interval								unit: m^3/sec	
Return period (year)	2	5	10	20	50	100	200	500	1,000
Normal distribution	111	166	195	219	245	263	279	299	313
Log Normal type II	96	151	193	235	293	340	390	460	516
Log Normal type III	96	152	193	235	293	339	388	457	512
Pearson type III	87	141	188	239	310	367	427	509	573
Log Pearson type III	96	150	191	232	290	337	387	458	515
Gumbel Extreme type I	102	162	202	240	289	326	362	411	447

Basin: Vardar
Station: ST008_Skopje
CA : 4,650 sq km

Reccurence Interval								unit: m^3/sec	
(Years)	2	5	10	20	50	100	200	500	1,000
Normal	332	533	637	724	821	886	945	1,017	1,068
Log-normal II	270	464	616	779	1,013	1,207	1,417	1,721	1,973
Log-Norma III	278	483	631	783	991	1,157	1,331	1,575	1,770
Pearson III	247	446	616	798	1,054	1,257	1,468	1,758	1,985
Log Pearson III	264	457	625	822	1,137	1,425	1,764	2,305	2,798
Gumbell Extreme	300	518	662	800	980	1,114	1,248	1,424	1,557

Basin: Vardar
Station: ST010_Veles
CA : 8,820 sq km

Reccurence Interval								unit: m^3/sec	
(Years)	2	5	10	20	50	100	200	500	1,000
Normal	453	679	797	895	1,005	1,078	1,145	1,226	1,283
Log-normal II	389	618	787	961	1,203	1,398	1,604	1,893	2,127
Log-Norma III	396	630	796	961	1,184	1,358	1,539	1,789	1,986
Pearson III	364	598	786	982	1,252	1,462	1,679	1,973	2,202
Log Pearson III	398	636	804	971	1,194	1,367	1,543	1,782	1,968
Gumbell Extreme	416	662	825	981	1,184	1,335	1,486	1,686	1,837

Basin: Vardar
Station: ST014_Demir Kapija
CA : 21,350 sq km

Reccurence Interval								unit: m^3/sec	
(Years)	2	5	10	20	50	100	200	500	1,000
Normal	746	1,120	1,315	1,477	1,659	1,780	1,891	2,025	2,119
Log-normal II	640	1,019	1,299	1,587	1,988	2,311	2,652	3,133	3,521
Log-Norma III	656	1,047	1,318	1,585	1,941	2,217	2,500	2,888	3,193
Pearson III	607	1,001	1,308	1,622	2,048	2,379	2,716	3,172	3,524
Log Pearson III	651	1,050	1,338	1,626	2,015	2,319	2,633	3,062	3,399
Gumbell Extreme	685	1,092	1,361	1,620	1,955	2,206	2,456	2,785	3,034

Table A.25 Probable Flood Frequency Based on Maximum Annual Flow Records (2/6)

Basin: Vardar — Station: ST016_Gevgelija
CA : 22,301 sq km

Reccurence Interval								unit: m^3/sec	
(Years)	2	5	10	20	50	100	200	500	1,000
Normal	786	1,166	1,366	1,530	1,715	1,838	1,951	2,088	2,184
Log-normal II	681	1,068	1,352	1,642	2,044	2,364	2,702	3,176	3,557
Log-Norma III	704	1,105	1,375	1,635	1,975	2,234	2,497	2,852	3,127
Pearson III	660	1,070	1,372	1,674	2,075	2,381	2,690	3,104	3,422
Log Pearson III	689	1,103	1,400	1,698	2,102	2,416	2,741	3,186	3,536
Gumbell Extreme	724	1,138	1,412	1,676	2,016	2,271	2,526	2,861	3,115

Basin: Treska — Station: ST023_Makedonski Brod
CA : 886 sq km

Reccurence Interval								unit: m^3/sec	
Return period (year)	2	5	10	20	50	100	200	500	1,000
Normal distribution	126	211	255	292	333	360	385	416	437
Log Normal type II	99	178	242	313	417	505	601	743	862
Log Normal type III	104	192	254	317	401	468	537	632	708
Pearson type III	92	179	250	324	427	507	590	703	791
Log Pearson type III	92	177	257	357	528	695	901	1,251	1,587
Gumbel Extreme type I	112	205	266	324	400	457	513	588	644

Basin: Treska — Station: ST025_Zdunje
CA : 1,605 sq km

Reccurence Interval								unit: m^3/sec	
(Years)	2	5	10	20	50	100	200	500	1,000
Normal	155	258	313	357	407	441	472	509	535
Log-normal II	122	219	297	383	510	617	734	907	1,051
Log-Norma III	129	236	312	388	491	571	655	771	863
Pearson III	114	220	307	397	522	620	720	857	964
Log Pearson III	116	222	318	433	621	795	1,003	1,338	1,654
Gumbell Extreme	138	251	325	397	489	559	628	719	788

Basin: Treska — Station: ST026_Sv. Bogorodica
CA :1,880 sq km

Reccurence Interval								unit: m^3/sec	
(Years)	2	5	10	20	50	100	200	500	1,000
Normal	178	315	387	446	512	556	597	646	680
Log-normal II	132	254	357	474	651	804	976	1,234	1,455
Log-Norma III	137	272	376	484	639	766	903	1,098	1,258
Pearson III	114	234	352	485	680	840	1,009	1,245	1,433
Log Pearson III	126	242	358	509	779	1,054	1,409	2,039	2,675
Gumbell Extreme	156	305	403	498	620	712	803	924	1,015

Table A.25 Probable Flood Frequency Based on Maximum Annual Flow Records (3/6)

Basin: Pchinja — Station: ST034_Pelince
CA : 567 sq km

Reccurence Interval (Years)	2	5	10	20	50	100	200	500	1,000
									unit: m^3/sec
Normal	55	88	105	120	136	147	157	169	177
Log-normal II	44	76	102	129	168	201	237	288	331
Log-Norma III	44	77	102	129	168	200	234	284	324
Pearson III	38	67	96	129	178	218	261	321	369
Log Pearson III	44	76	101	128	166	198	233	284	326
Gumbell Extreme	49	85	110	133	163	185	207	237	259

Basin: Pchinja — Station: ST038_Trnovec
CA : 614 sq km

Reccurence Interval (Years)	2	5	10	20	50	100	200	500	1,000
									unit: m^3/sec
Normal	91	158	192	221	253	275	295	318	335
Log-normal II	69	129	180	236	320	393	474	594	696
Log-Norma III	77	147	194	239	298	342	387	448	494
Pearson III	70	142	194	246	315	367	420	490	544
Log Pearson III	65	141	208	285	400	499	609	771	906
Gumbell Extreme	80	153	200	246	306	350	395	454	498

Basin: Pchinja — Station: ST035_Katlanovska Banja
CA : 2,794 sq km

Reccurence Interval (Years)	2	5	10	20	50	100	200	500	1,000
									unit: m^3/sec
Normal	177	262	307	343	384	412	437	467	489
Log-normal II	154	241	304	368	457	528	602	707	790
Log-Norma III	172	260	309	352	402	436	469	509	539
Pearson III	153	259	310	355	409	446	481	526	558
Log Pearson III	153	259	336	412	513	591	670	776	858
Gumbell Extreme	164	256	317	376	451	508	565	640	696

Basin: Bregalnica — Station: ST048_Berovo
CA : 88 sq km

Reccurence Interval (Years)	2	5	10	20	50	100	200	500	1,000
									unit: m^3/sec
Normal	14	25	31	36	42	45	49	53	56
Log-normal II	10	20	28	38	53	66	81	104	124
Log-Norma III	11	22	30	39	52	62	73	89	102
Pearson III	9	19	29	40	56	68	82	101	116
Log Pearson III	9	18	27	41	69	100	144	233	334
Gumbell Extreme	12	24	33	40	51	58	66	76	83

Table A.25 Probable Flood Frequency Based on Maximum Annual Flow Records (4/6)

Basin: Bregalnica
Station: ST050_Ochi Pale
CA : 846 sq km

Reccurence Interval								unit: m^3/sec	
(Years)	2	5	10	20	50	100	200	500	1,000
Normal	113	188	228	260	297	321	344	371	390
Log-normal II	89	160	217	279	371	449	534	660	765
Log-Norma III	94	172	227	282	358	417	479	564	632
Pearson III	83	160	223	289	381	453	527	627	706
Log Pearson III	88	167	232	303	410	500	599	744	866
Gumbell Extreme	101	183	237	289	356	407	457	524	574

Basin: Bregalnica
Station: ST052_Shtip
CA : 2,940 sq km

Reccurence Interval								unit: m^3/sec	
(Years)	2	5	10	20	50	100	200	500	1,000
Normal	146	226	268	302	341	367	391	419	440
Log-normal II	122	201	262	325	415	488	566	678	769
Log-Norma III	135	219	271	319	377	419	460	513	553
Pearson III	129	217	273	325	391	438	485	546	592
Log Pearson III	120	216	290	367	475	561	652	779	880
Gumbell Extreme	133	220	277	333	404	458	512	582	635

Basin: Crna
Station: ST060_Dolenci
CA : 217 sq km

Reccurence Interval								unit: m^3/sec	
(Years)	2	5	10	20	50	100	200	500	1,000
Normal	18	28	34	38	43	46	49	53	56
Log-normal II	15	25	33	41	53	62	72	87	99
Log-Norma III	17	27	34	40	48	53	59	66	71
Pearson III	16	27	34	41	50	56	62	70	76
Log Pearson III	15	27	36	46	61	72	85	102	116
Gumbell Extreme	16	28	35	42	51	58	65	74	81

Basin: Crna
Station: ST064_Skochivir
CA : 3,975 sq km

Reccurence Interval								unit: m^3/sec	
(Years)	2	5	10	20	50	100	200	500	1,000
Normal	196	295	346	389	437	468	498	533	558
Log-normal II	168	268	342	418	523	608	698	825	927
Log-Norma III	178	282	350	414	496	557	618	699	761
Pearson III	168	275	350	423	518	590	661	755	826
Log Pearson III	179	293	362	421	488	531	569	613	642
Gumbell Extreme	180	287	358	426	514	581	646	733	799

Table A.25 Probable Flood Frequency Based on Maximum Annual Flow Records (5/6)

Basin: Crna — Station: ST065_Rasimbegov Most
CA : 4,562 sq km

Reccurence Interval									unit: m^3/sec
(Years)	2	5	10	20	50	100	200	500	1,000
Normal	228	397	485	557	639	694	744	804	846
Log-normal II	172	324	452	594	809	994	1,200	1,507	1,768
Log-Norma III	172	325	453	595	809	993	1,197	1,502	1,760
Pearson III	148	243	376	547	822	1,062	1,325	1,705	2,016
Log Pearson III	173	322	446	586	797	981	1,186	1,496	1,762
Gumbell Extreme	201	384	505	622	772	885	998	1,146	1,258

Basin: Strumica — Station: ST106_Smiljanci
CA : 81 sq km

Reccurence Interval									unit: m^3/sec
(Years)	2	5	10	20	50	100	200	500	1,000
Normal	12	24	30	35	40	44	47	52	54
Log-normal II	8	17	26	36	52	66	83	110	133
Log-Norma III	8	19	27	37	52	65	79	101	119
Pearson III	7	13	21	33	52	69	87	114	137
Log Pearson III	8	17	25	36	55	74	98	137	176
Gumbell Extreme	10	23	31	39	49	57	65	75	83

Basin: Strumica — Station: ST103_Sushevo
CA : 468 sq km

Reccurence Interval									unit: m^3/sec
(Years)	2	5	10	20	50	100	200	500	1,000
Normal	54	97	120	139	160	174	187	202	213
Log-normal II	39	76	109	147	204	254	311	398	472
Log-Norma III	42	87	119	151	196	231	267	318	359
Pearson III	36	80	116	155	209	252	296	356	403
Log Pearson III	35	73	114	171	278	394	550	842	1,151
Gumbell Extreme	47	94	125	155	194	223	252	291	320

Basin: Crn Drim — Station: ST090_Botun
CA : 368 sq km

Reccurence Interval									unit: m^3/sec
(Years)	2	5	10	20	50	100	200	500	1,000
Normal	52	80	94	106	119	128	137	146	153
Log-normal II	44	72	92	114	144	169	195	233	263
Log-Norma III	45	74	94	114	140	161	182	210	233
Pearson III	42	71	94	117	148	173	198	232	258
Log Pearson III	43	73	97	123	162	195	232	287	333
Gumbell Extreme	48	78	98	117	141	160	178	203	221

Table A.25 Probable Flood Frequency Based on Maximum Annual Flow Records (6/6)

Basin: Crn Drim Station: ST098_Boshkov Most
CA : 751 sq km

Reccurence Interval								unit: m^3/sec	
(Years)	2	5	10	20	50	100	200	500	1,000
Normal	128	182	210	234	260	277	293	313	326
Log-normal II	115	171	210	249	303	344	387	447	494
Log-Norma III	121	178	213	244	282	309	336	370	395
Pearson III	118	177	214	248	290	321	351	390	419
Log Pearson III	119	181	219	253	293	321	347	379	401
Gumbell Extreme	119	178	217	254	303	339	375	422	458

Basin: Crn Drim Station: ST081_Brajchino
CA : 62 sq km

Reccurence Interval								unit: m^3/sec	
(Years)	2	5	10	20	50	100	200	500	1,000
Normal	9	17	21	25	29	31	34	37	39
Log-normal II	6	13	19	26	37	47	58	75	90
Log-Norma III	7	14	20	27	36	44	53	65	75
Pearson III	5	12	19	27	39	49	59	74	86
Log Pearson III	6	11	18	27	49	75	114	201	309
Gumbell Extreme	8	17	22	28	35	41	46	53	58

Table A.26 Estimated Creager's Coefficient Values for Different Return Periods

		Retuen Period: Years								
No.	Station	2	5	10	20	50	100	200	500	1,000
	B1: Vardar									
1	ST006_Radusha	1.03	1.66	2.22	2.82	3.66	4.33	5.04	6.01	6.76
2	ST008_Skopje	1.77	3.20	4.42	5.72	7.56	9.02	10.53	12.61	14.24
3	ST010_Veles	2.04	3.35	4.40	5.50	7.01	8.18	9.40	11.04	12.33
4	ST014_D. Kapija	2.50	4.12	5.38	6.67	8.42	9.79	11.17	13.05	14.49
5	ST016_Gevgelija	2.68	4.34	5.56	6.79	8.41	9.65	10.91	12.59	13.88
	Average	2.00	3.33	4.40	5.50	7.01	8.19	9.41	11.06	12.34
	B2: Treska									
6	ST023_M. Brod	1.37	2.67	3.72	4.83	6.36	7.55	8.79	10.47	11.78
7	ST025_Zdunje	1.28	2.48	3.46	4.47	5.88	6.99	8.11	9.66	10.86
8	ST026_S. Bog.	1.20	2.46	3.69	5.09	7.14	8.81	10.59	13.06	15.04
	Average	1.46	2.73	3.82	4.97	6.60	7.89	9.22	11.06	12.51
	B3: Pchinja									
9	ST034_Pelince	0.71	1.25	1.79	2.40	3.31	4.06	4.86	5.97	6.87
10	ST038_Trnovec	1.25	2.54	3.47	4.40	5.63	6.56	7.51	8.76	9.72
	Average	1.15	2.24	3.19	4.21	5.67	6.83	8.04	9.71	11.03
	B4: Bregalnica									
11	ST048_Berovo	0.48	1.02	1.56	2.15	3.00	3.65	4.40	5.42	6.22
12	ST050_Ochi Pale	1.26	2.44	3.40	4.40	5.80	6.90	8.03	9.55	10.76
13	ST052_Shtip	1.11	1.88	2.36	2.81	3.38	3.79	4.19	4.72	5.12
	Average	0.95	1.78	2.44	3.12	4.06	4.78	5.54	6.56	7.36
	B5: Crna									
14	ST060_Dolenci	0.50	0.84	1.06	1.28	1.56	1.75	1.94	2.19	2.38
15	ST064_Skochivir	1.28	2.10	2.67	3.23	3.95	4.50	5.04	5.76	6.30
16	ST065_R. Most	1.07	1.75	2.71	3.95	5.93	7.66	9.56	12.30	14.54
	Average	0.95	1.62	2.22	2.89	3.88	4.67	5.52	6.70	7.65
	B6: Strumica									
17	ST106_Smiljancia	0.40	0.73	1.19	1.86	2.94	3.90	4.92	6.44	7.74
18	ST103_Sushevo	0.74	1.64	2.38	3.19	4.30	5.18	6.08	7.32	8.28
	Average	0.79	1.44	2.13	2.97	4.26	5.35	6.52	8.19	9.55
	B7: Crn Drim									
19	ST090_Botun	0.98	1.66	2.19	2.73	3.46	4.04	4.62	5.42	6.02
20	ST098_B. Most	1.91	2.86	3.46	4.01	4.69	5.19	5.67	6.30	6.77
21	ST081_Brajchino	0.34	0.80	1.27	1.81	2.62	3.29	3.96	4.96	5.77

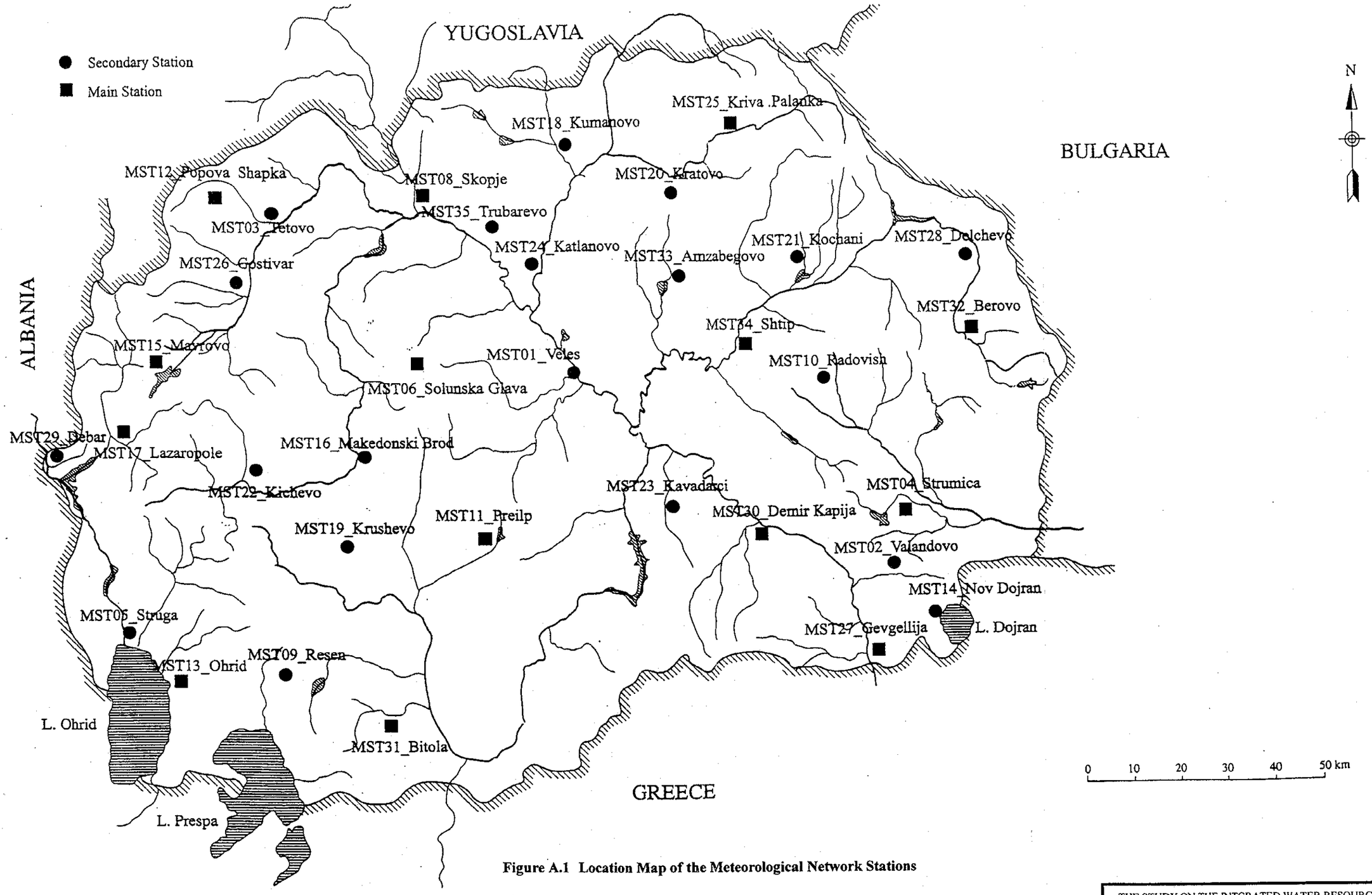

Figure A.1 Location Map of the Meteorological Network Stations

THE STUDY ON THE INTGRATED WATER RESOURCES DEVELOPMENT AND MANAGEMENT MASTER PLAN IN THE FORMER YUGOSLAV REPUBLIC OF MACEDONIA
JAPAN INTERNATIONAL COOPERATION AGENCY

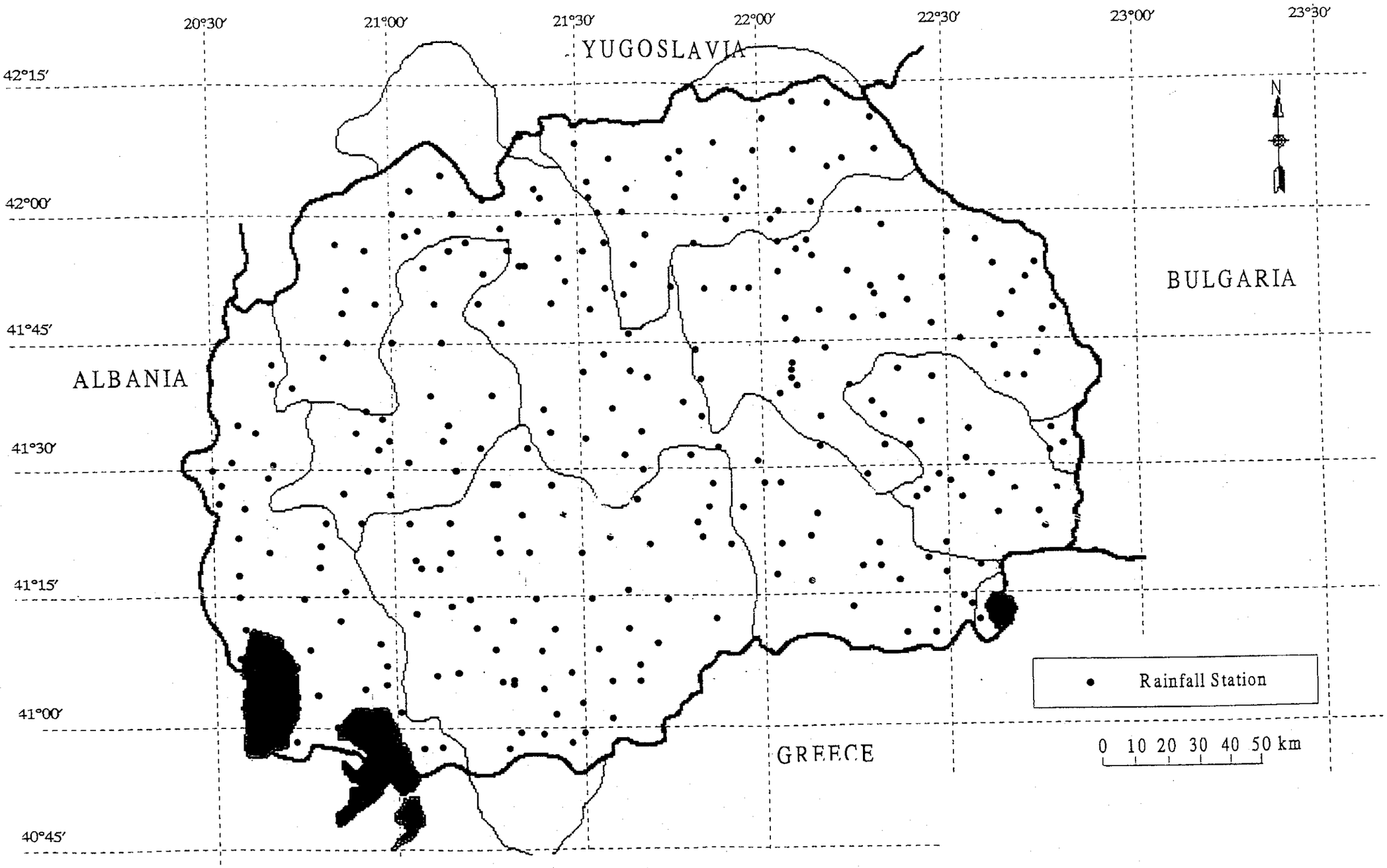

Figure A.2 Location Map of the Registered Rainfall Network Stations

THE STUDY ON THE INTGRATED WATER RESOURCES DEVELOPMENT AND MANAGEMENT MASTER PLAN IN THE FORMER YUGOSLAV REPUBLIC OF MACEDONIA
JAPAN INTERNATIONAL COOPERATION AGENCY

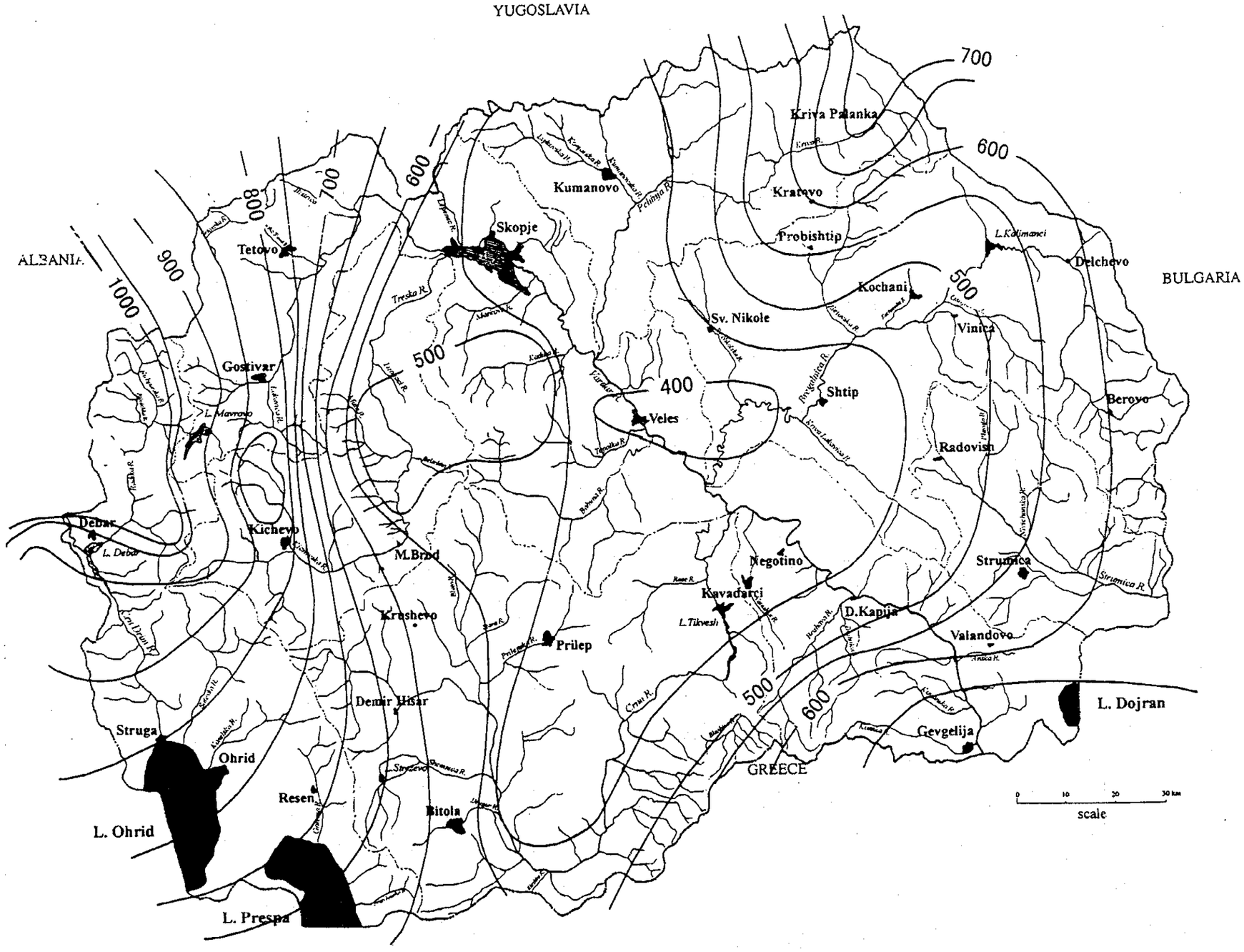

Figure A.3 Isohyetal Map of the Average Annual Rainfall Depth for the Period 1961-1996

THE STUDY ON THE INTGRATED WATER RESOURCES DEVELOPMENT AND MANAGEMENT MASTER PLAN IN THE FORMER YUGOSLAV REPUBLIC OF MACEDONIA

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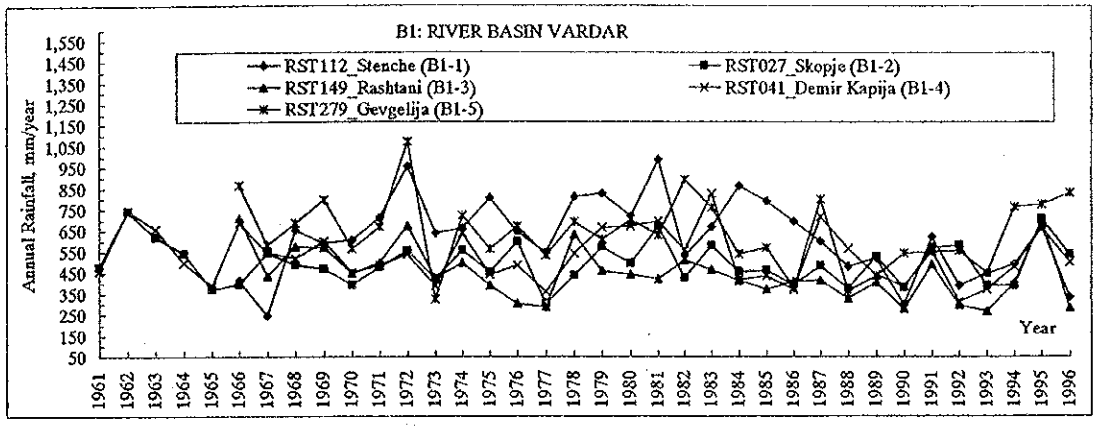
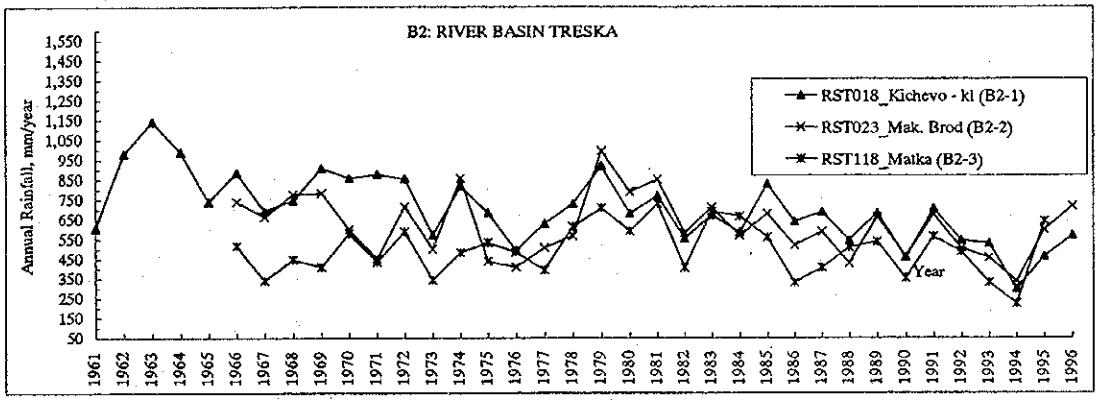
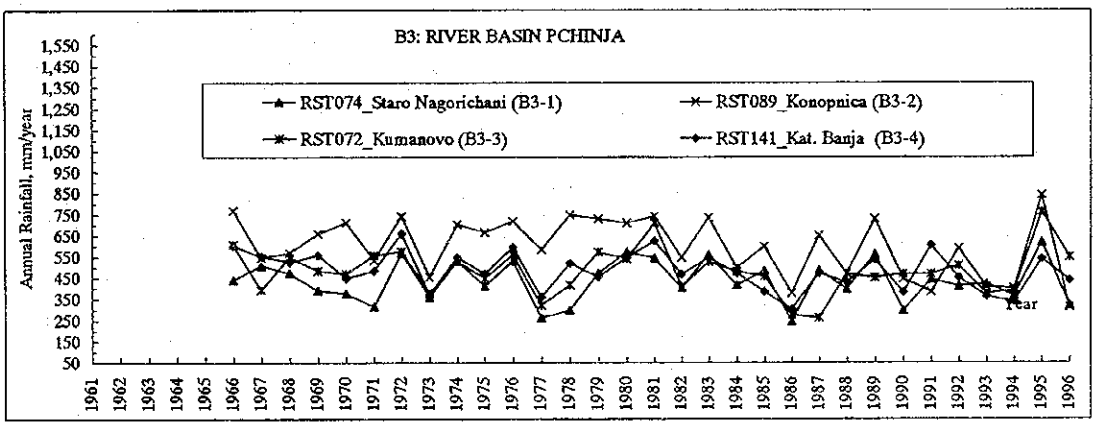
Figure A.4 Basins Average Annual Rainfall Depth (mm) by Different Stations for the Period 1961-1996 (1/2)







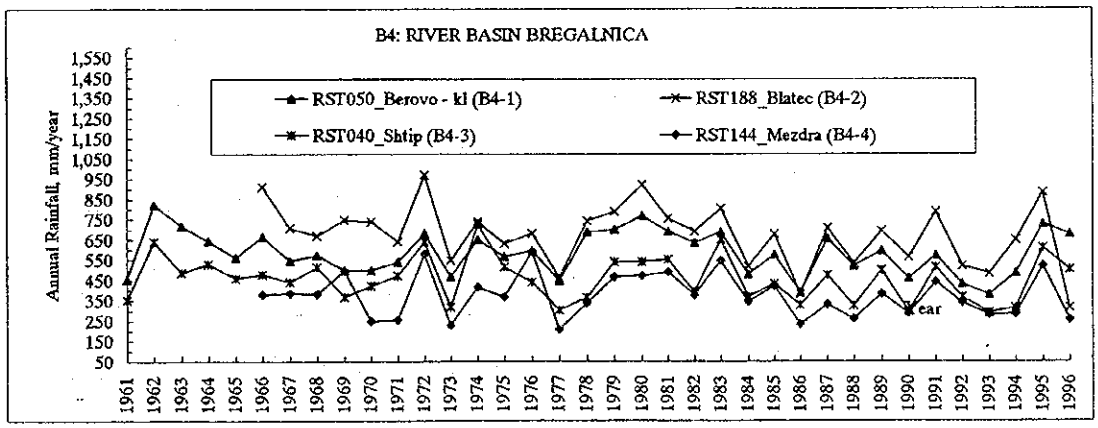
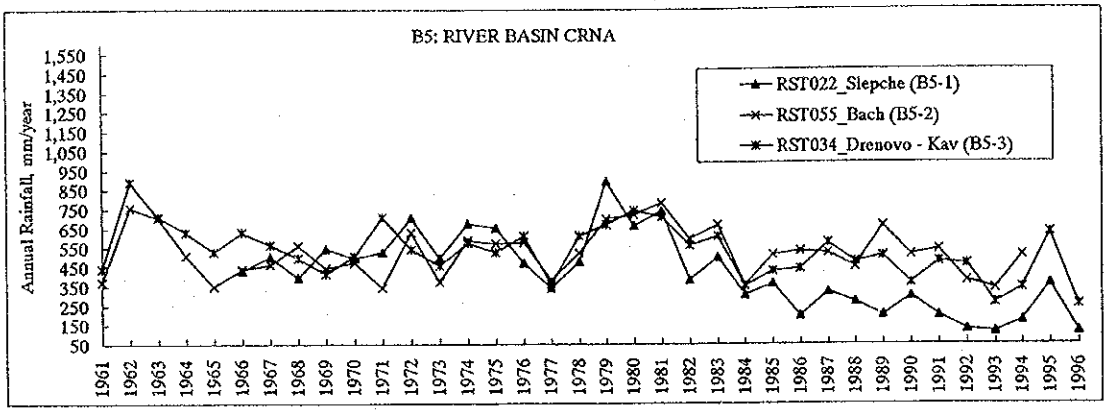
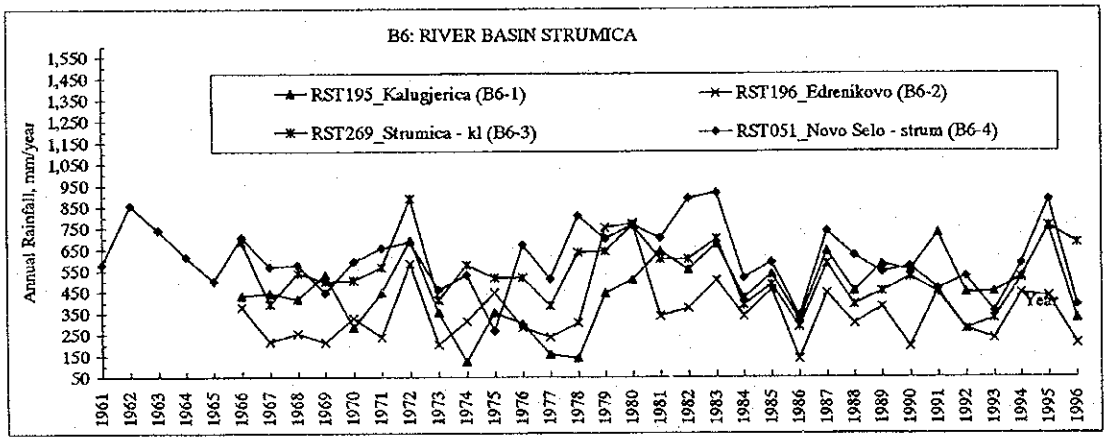
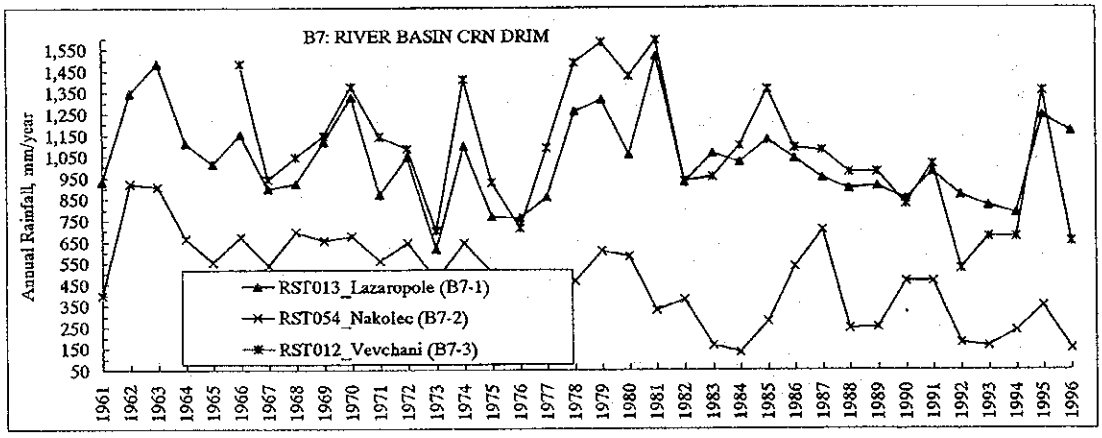


Figure A.4 Basins Average Annual Rainfall Depth (mm) by Different Stations for the Period 1961-1996 (2/2)







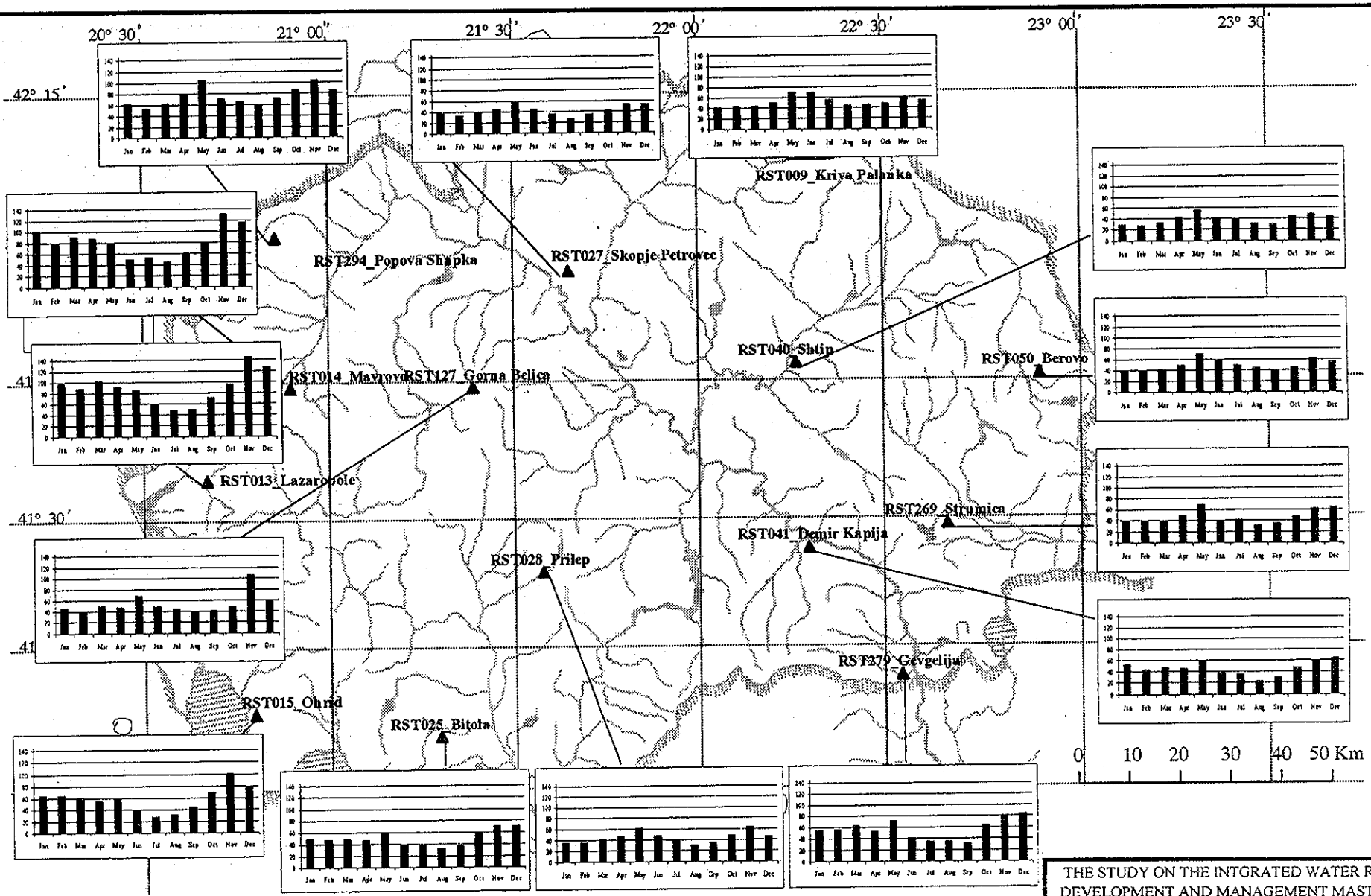


Figure A.5 Mean Monthly Rainfall for the Main Meteorological Network Stations

THE STUDY ON THE INTGRATED WATER RESOURCES DEVELOPMENT AND MANAGEMENT MASTER PLAN IN THE FORMER YUGOSLAV REPUBLIC OF MACEDONIA

JAPAN INTERNATIONAL COOPERATION AGENCY

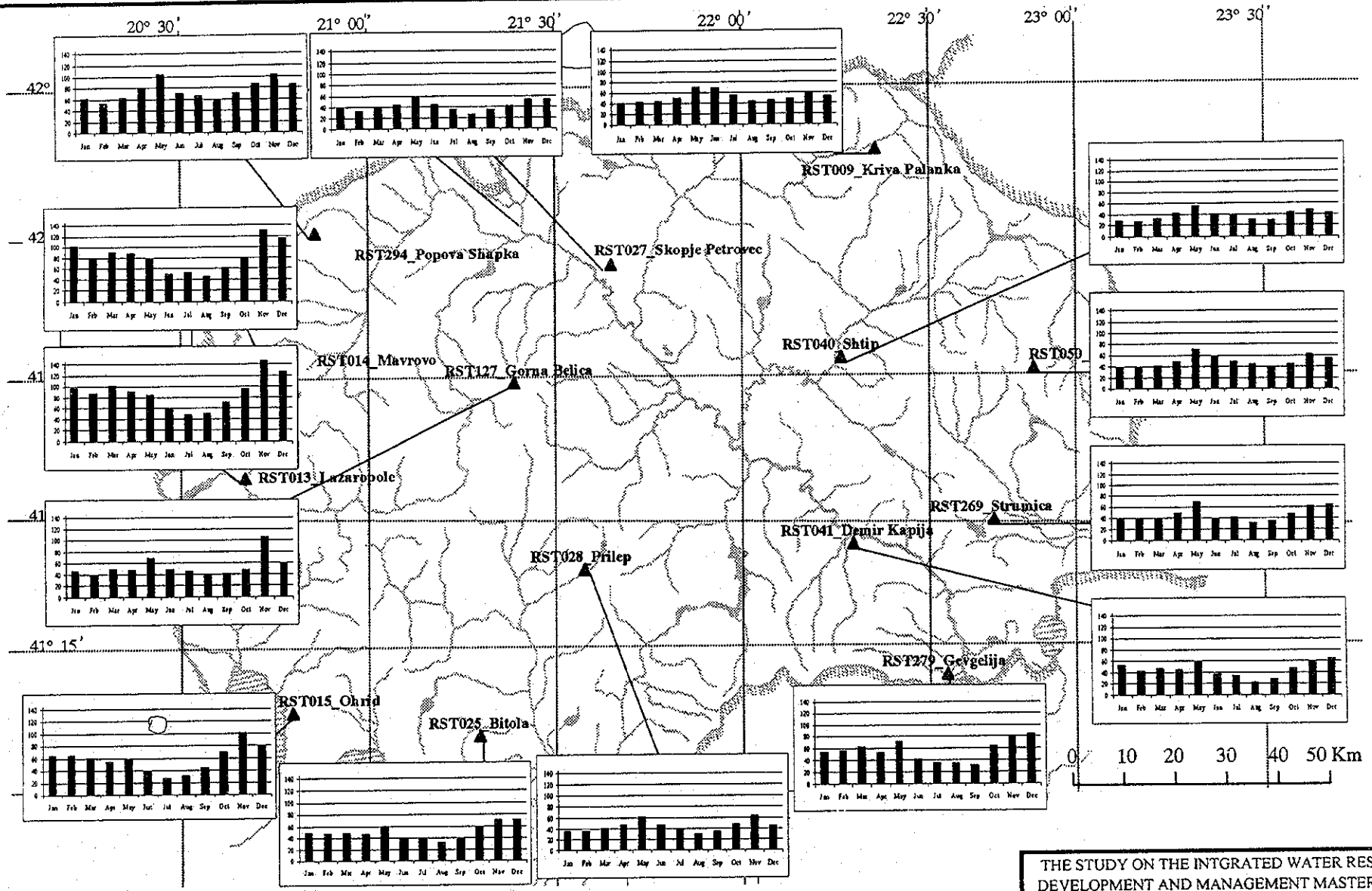


Figure A.6 Mean Monthly Temperature for the Main Meteorological Network Stations

THE STUDY ON THE INTGRATED WATER RESOURCES DEVELOPMENT AND MANAGEMENT MASTER PLAN IN THE FORMER YUGOSLAV REPUBLIC OF MACEDONIA

JAPAN INTERNATIONAL COOPERATION AGENCY

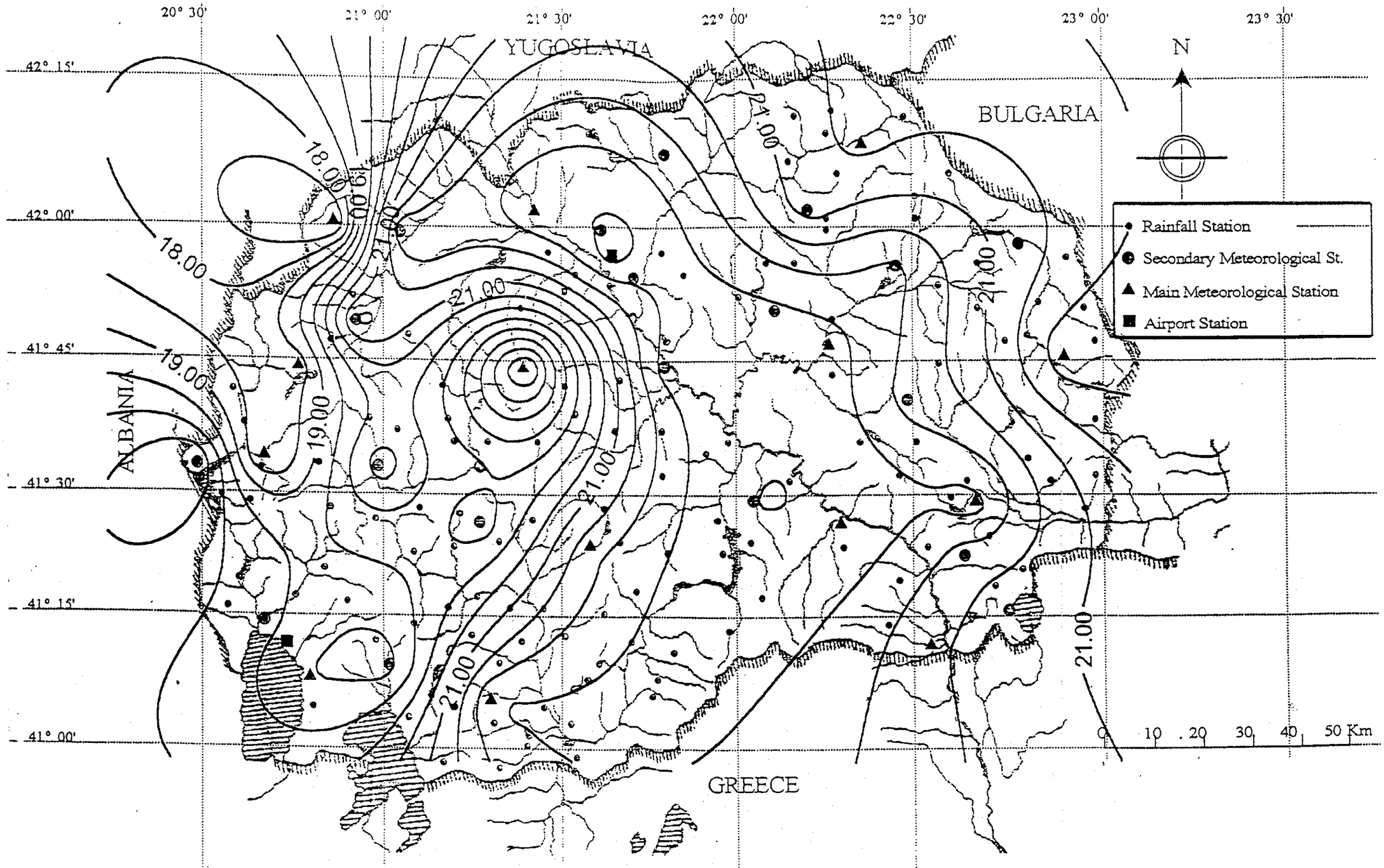


Figure A.7 Isohyetal Map of the Average Annual Temperature for the Period 1961-1996

THE STUDY ON THE INTGRATED WATER RESOURCES DEVELOPMENT AND MANAGEMENT MASTER PLAN IN THE FORMER YUGOSLAV REPUBLIC OF MACEDONIA

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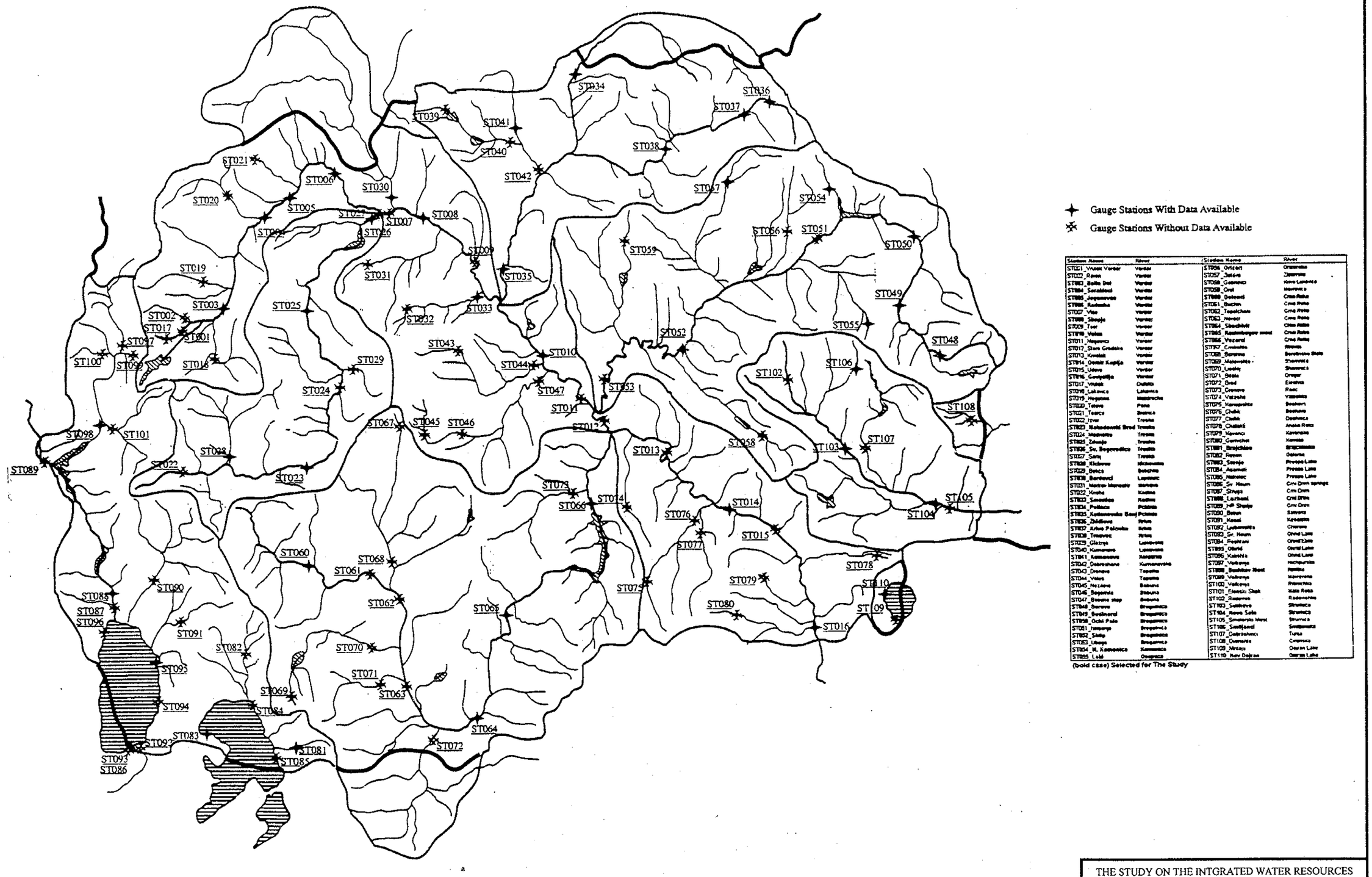


Figure A.8 Location Map of the Registered Hydrological Network Stations8

THE STUDY ON THE INTGRATED WATER RESOURCES DEVELOPMENT AND MANAGEMENT MASTER PLAN IN THE FORMER YUGOSLAV REPUBLIC OF MACEDONIA

JAPAN INTERNATIONAL COOPERATION AGENCY

Figure A.9 Average Annual Flow at Downstream of Vardar River (1925-1993)

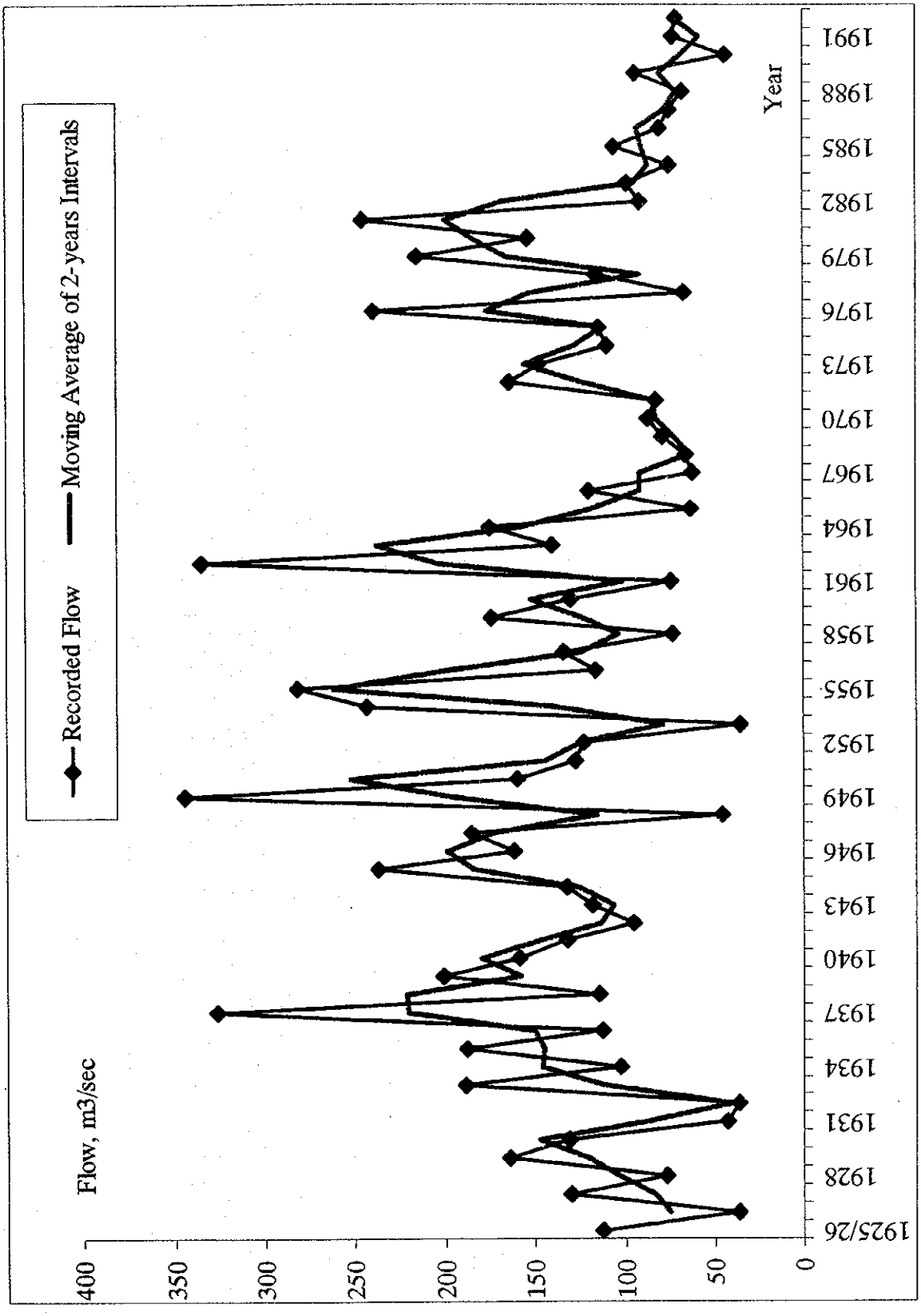


Figure A.10 Mean Monthly Flow at Downstream of Vardar River (Oct. 1925-Sep.1993)

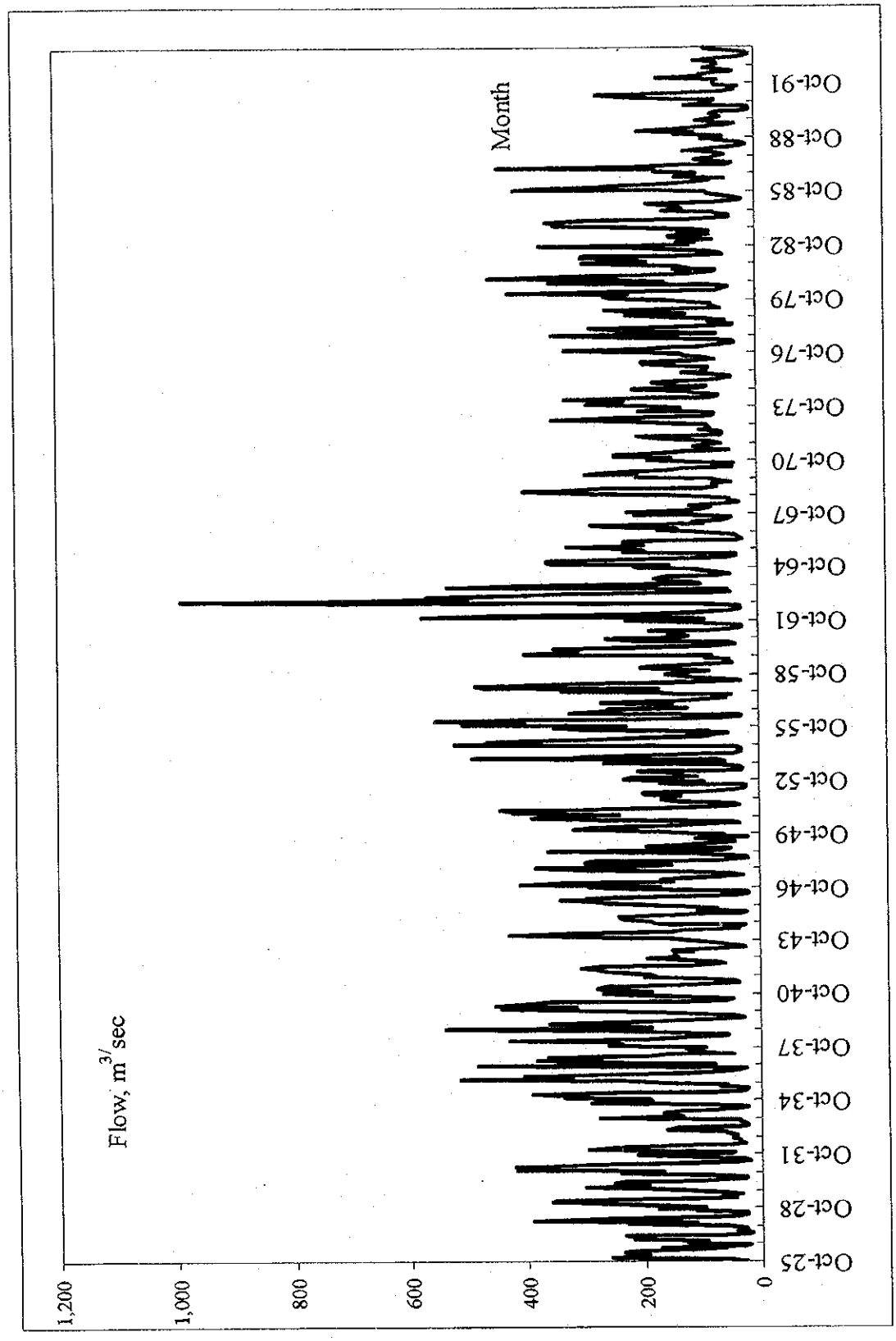
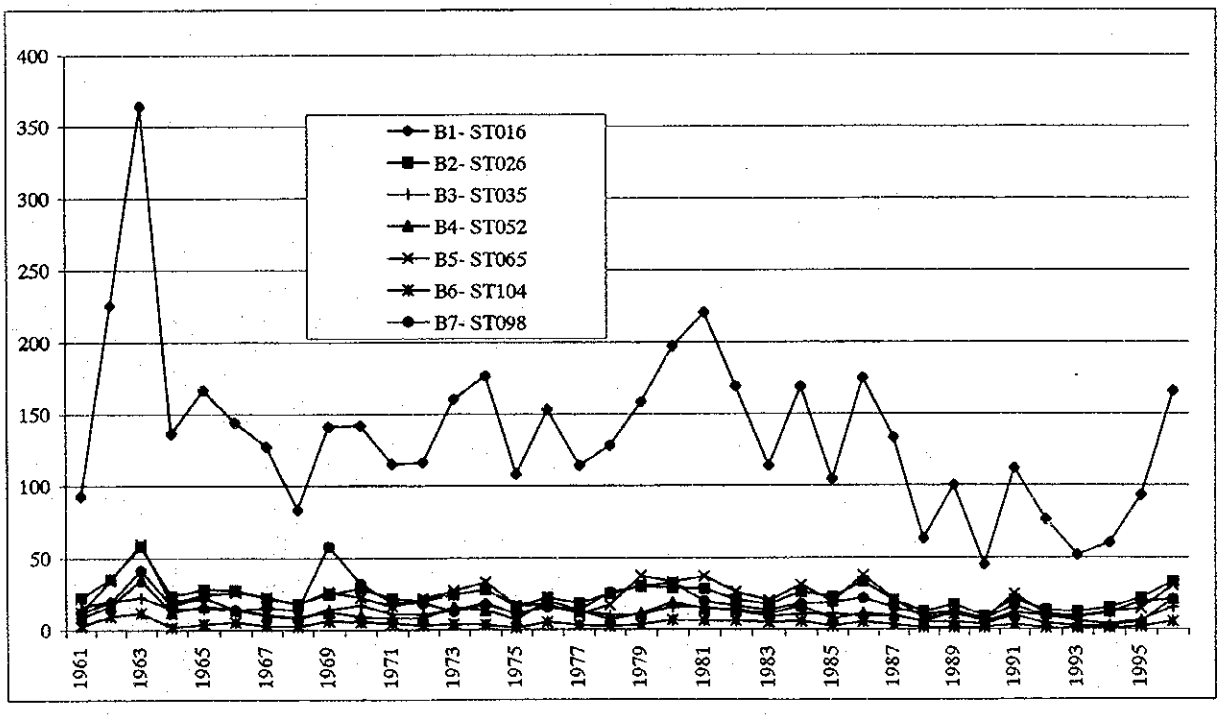


Figure A.11 Average Annual Flow for the Period 1961-1996 for the 7-Basins

units: m^3/sec

Year	B1	B2	B3	B4	B5	B6	B7
1961	92.81	22.02	16.08	8.61	11.57	2.81	12.27
1962	225.30	35.26	19.41	16.58	34.42	9.51	19.11
1963	364.17	57.80	22.53	34.86	59.25	11.82	41.26
1964	136.10	23.40	14.14	12.07	18.98	1.72	17.06
1965	166.50	28.00	14.84	16.38	23.76	3.93	22.59
1966	143.69	27.10	13.88	13.73	26.11	5.22	13.51
1967	126.78	21.52	10.61	10.12	22.34	2.76	14.95
1968	83.37	17.85	7.21	8.62	17.72	2.29	13.52
1969	141.05	24.87	13.79	12.22	26.22	6.07	57.70
1970	141.65	28.46	17.05	9.27	21.89	5.06	31.81
1971	114.85	21.43	10.75	7.59	16.11	4.24	18.57
1972	115.96	20.09	10.24	8.32	21.31	2.83	18.25
1973	159.85	24.22	13.50	15.61	26.79	4.04	12.77
1974	176.39	27.78	18.04	13.47	33.02	3.52	17.41
1975	107.80	16.15	10.85	6.94	16.38	1.48	11.08
1976	153.06	22.26	15.39	20.08	17.22	5.04	15.49
1977	113.78	18.34	12.38	13.07	10.89	3.08	13.59
1978	127.69	24.50	10.07	7.08	16.90	2.15	25.36
1979	158.08	29.93	10.50	11.11	37.09	3.47	29.88
1980	196.69	29.04	15.80	18.67	32.96	6.40	32.34
1981	220.17	28.07	15.31	14.19	36.76	6.03	19.65
1982	168.96	20.90	12.80	13.85	25.99	6.23	16.23
1983	113.33	17.27	9.09	10.88	19.75	4.93	13.63
1984	168.39	26.11	10.46	15.88	30.62	5.74	17.60
1985	104.44	22.50	10.70	7.46	19.32	2.37	18.50
1986	174.59	33.06	9.06	11.00	37.11	5.26	21.68
1987	132.93	19.87	9.66	9.68	20.92	3.21	14.78
1988	62.99	12.13	5.72	5.11	7.92	1.37	10.10
1989	100.14	16.77	11.65	4.89	10.32	1.27	12.10
1990	44.73	9.08	5.14	3.48	6.36	1.49	7.57
1991	111.85	20.43	11.35	9.56	24.41	2.92	15.94
1992	76.40	12.83	9.54	3.75	10.38	0.88	9.18
1993	51.79	12.28	5.46	2.08	8.87	0.52	8.40
1994	59.67	14.66	3.17	2.20	11.76	0.95	11.10
1995	93.03	21.53	6.61	5.40	14.15	1.95	19.17
1996	165.65	32.83	15.26	20.89	30.52	5.41	20.72
Average	135.96	23.34	11.89	11.24	22.39	3.83	18.75



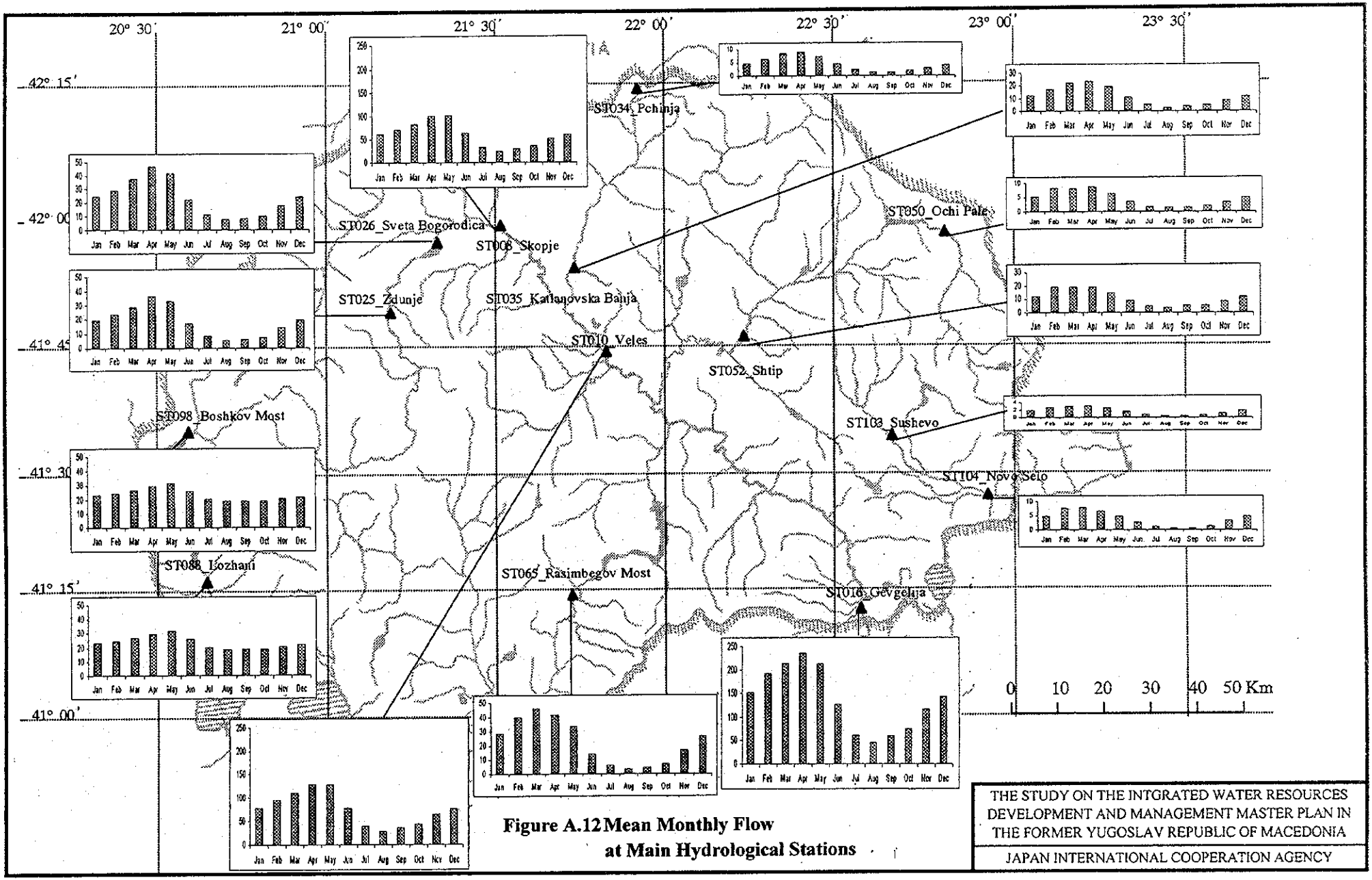


Figure A.12 Mean Monthly Flow at Main Hydrological Stations

THE STUDY ON THE INTGRATED WATER RESOURCES DEVELOPMENT AND MANAGEMENT MASTER PLAN IN THE FORMER YUGOSLAV REPUBLIC OF MACEDONIA

JAPAN INTERNATIONAL COOPERATION AGENCY

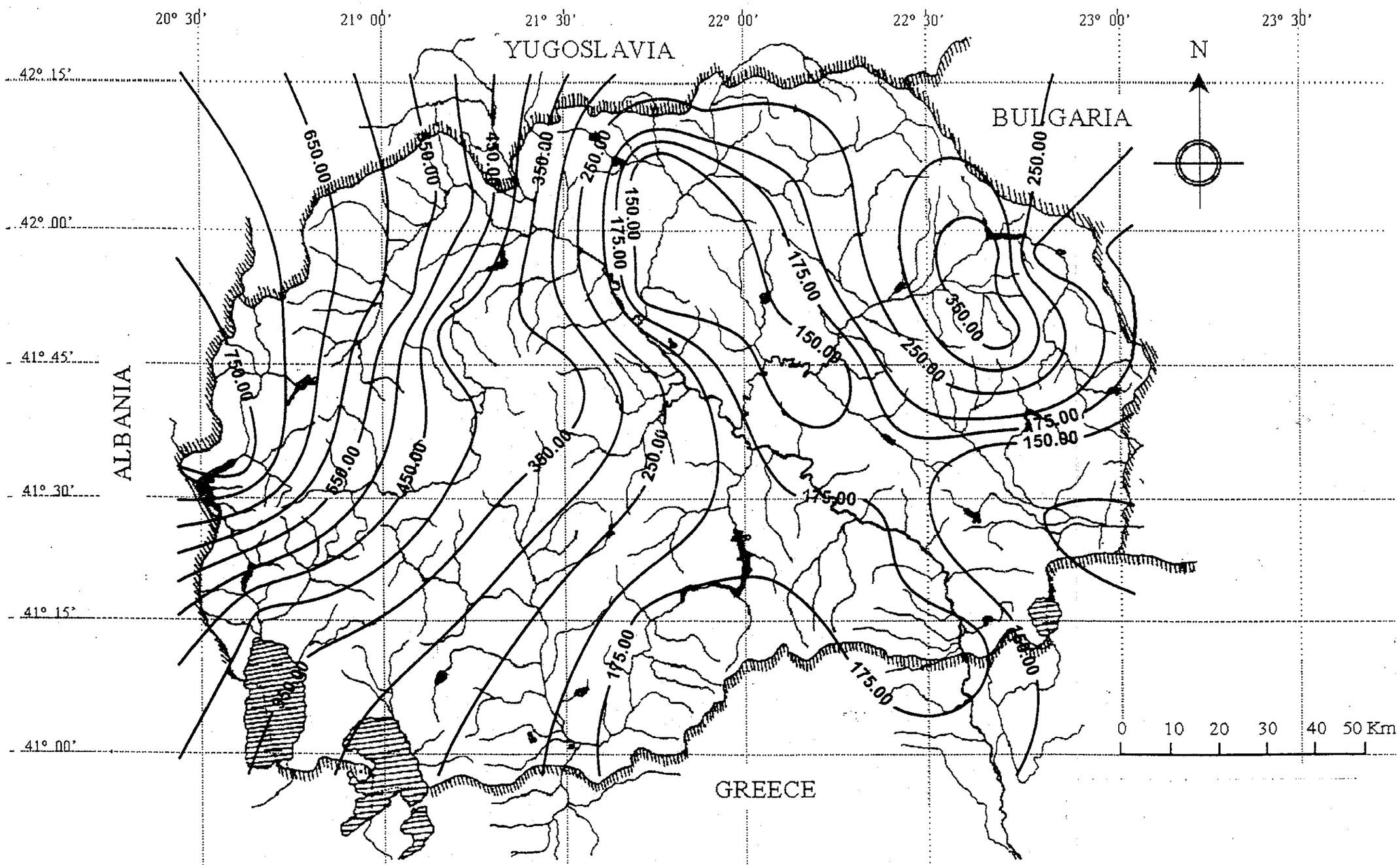


Figure A.13 Isohyetal Map of the Average Annual Flow for the Period 1961-1996

Figure A.14 Non-Dimensional Flow Duration Curves for 24 Hydrological Stations Based on Daily Flow Records (1/3)

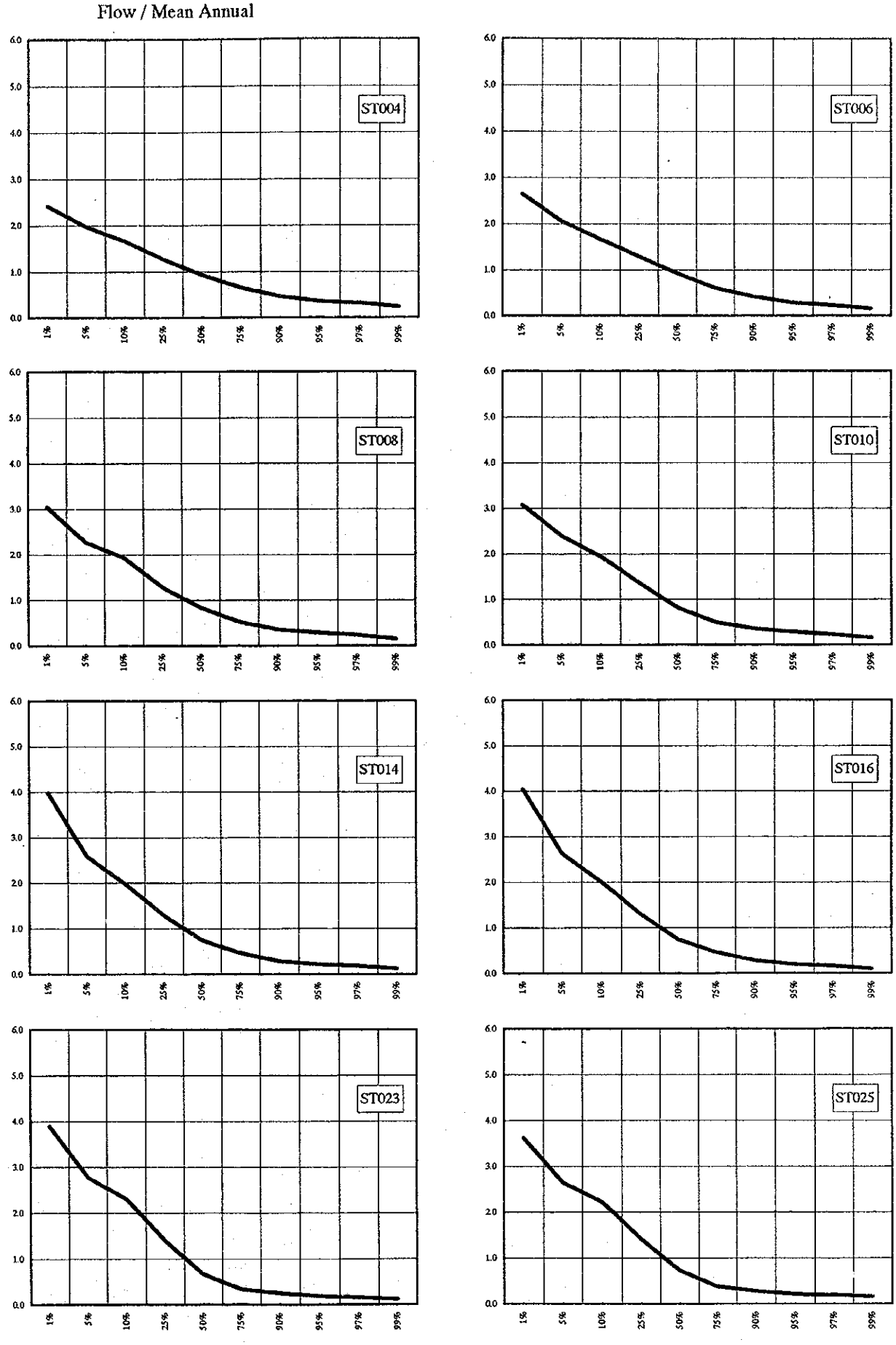


Figure A.14 Non-Dimensional Flow Duration Curves for 24 Hydrological Stations Based on Daily Flow Records (2/3)

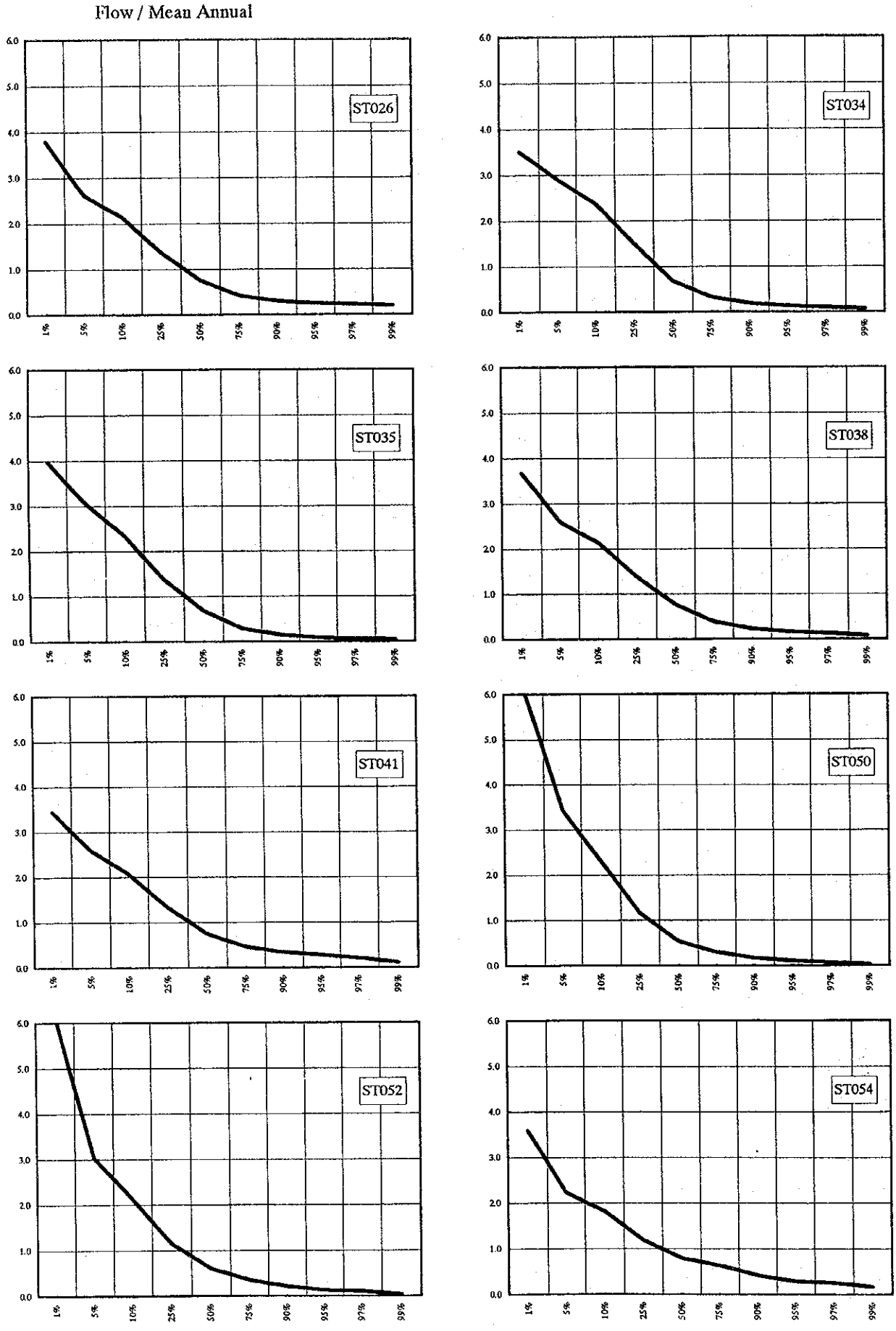


Figure A.14 Non-Dimensional Flow Duration Curves for 24 Hydrological Stations Based on Daily Flow Records (3/3)

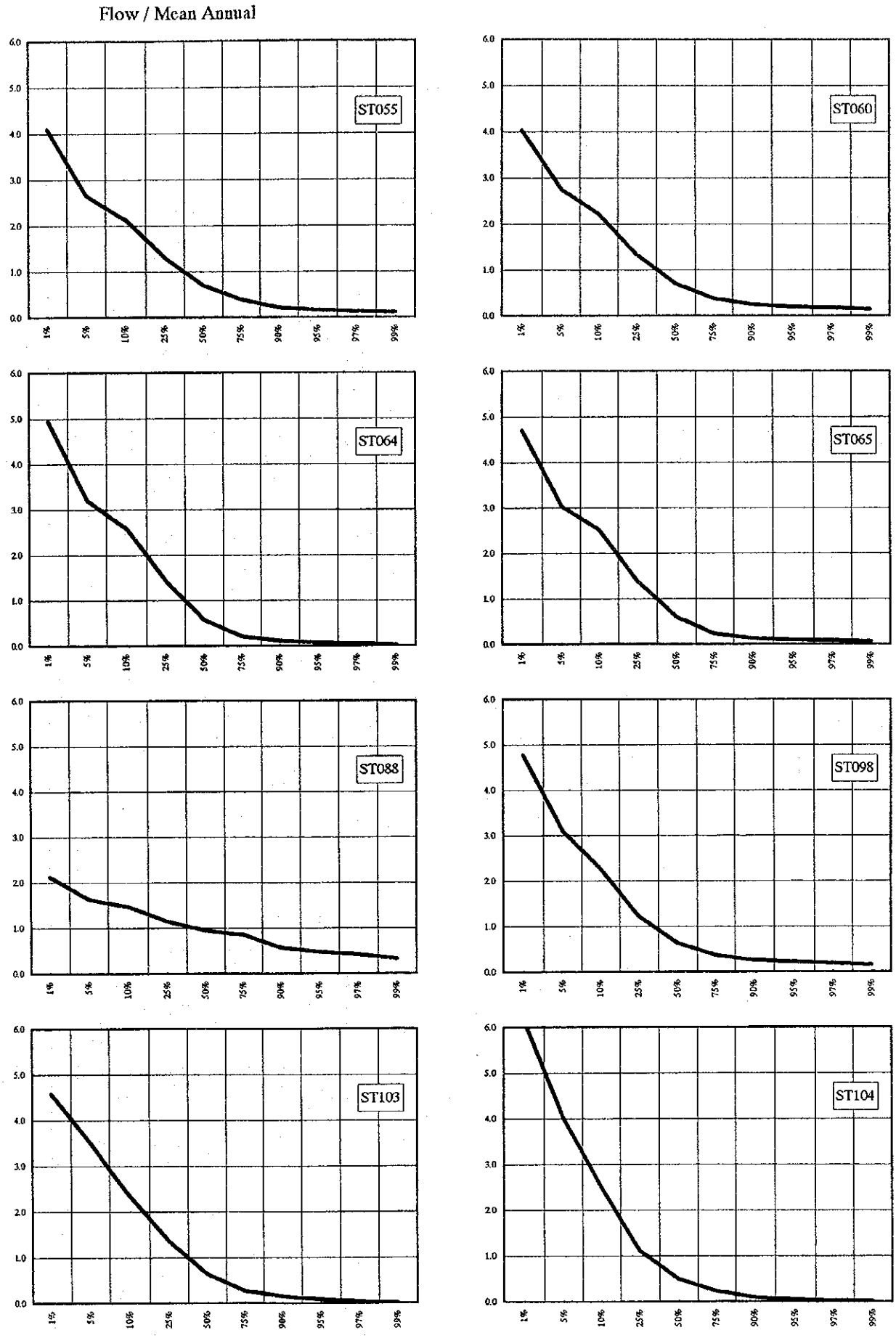
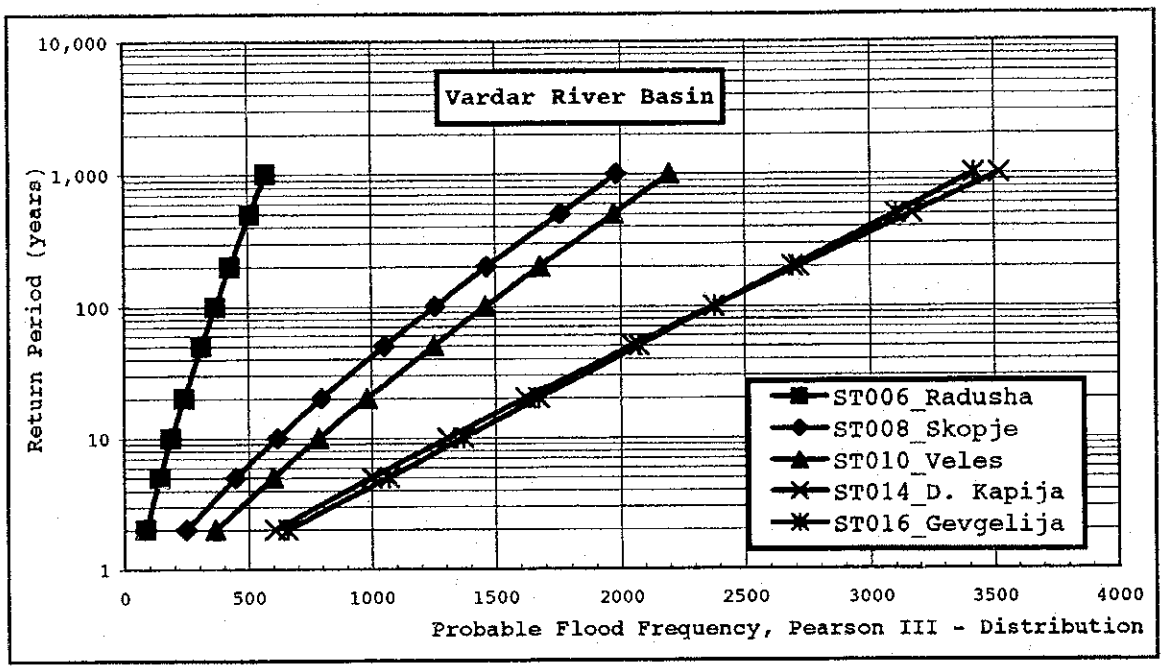


Figure A.15 Probable Flood for Different Return Periods (1/3)



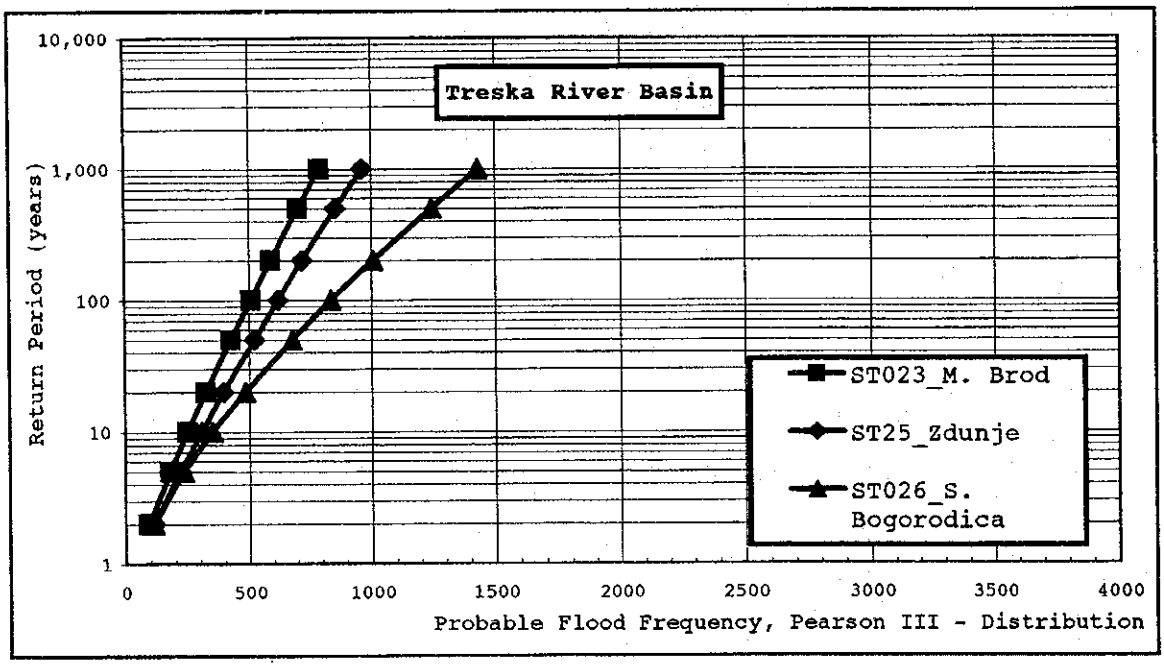
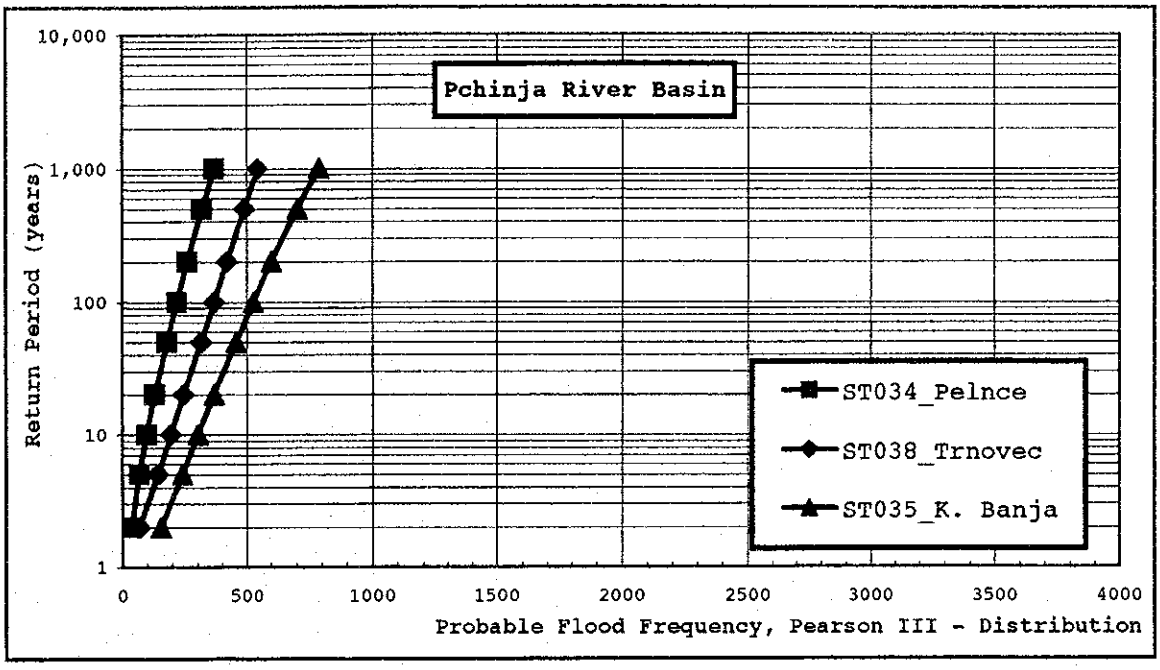


Figure A.15 Probable Flood for Different Return Periods (2/3)



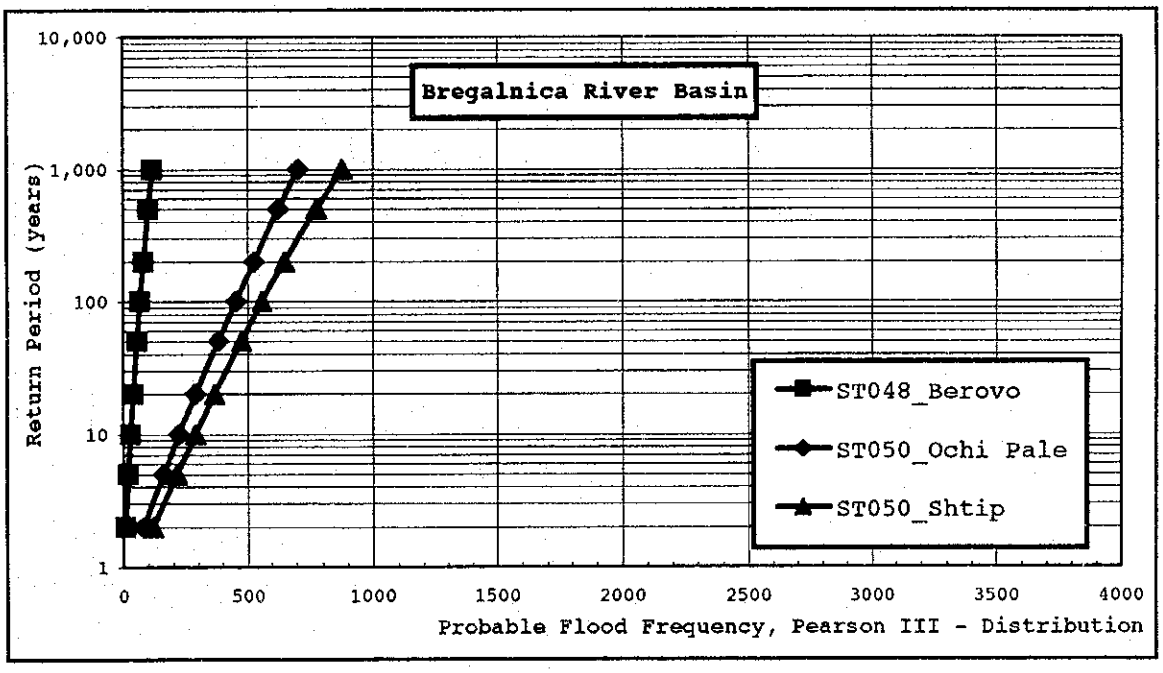
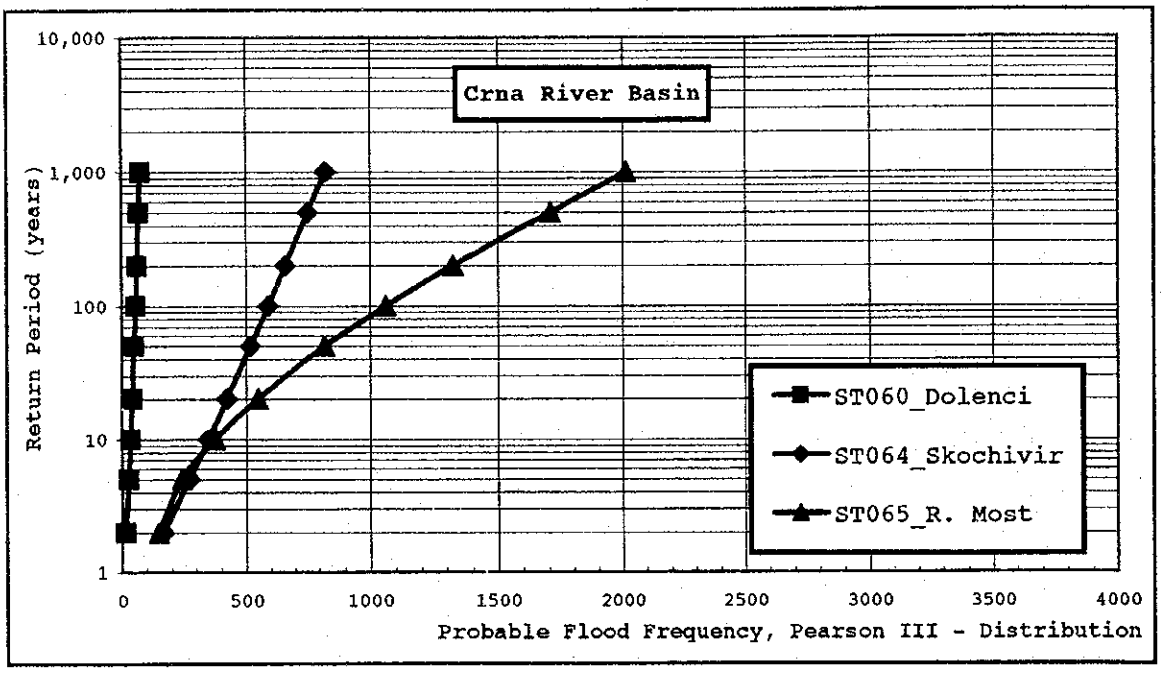


Figure A.15 Probable Flood for Different Return Periods (3/3)



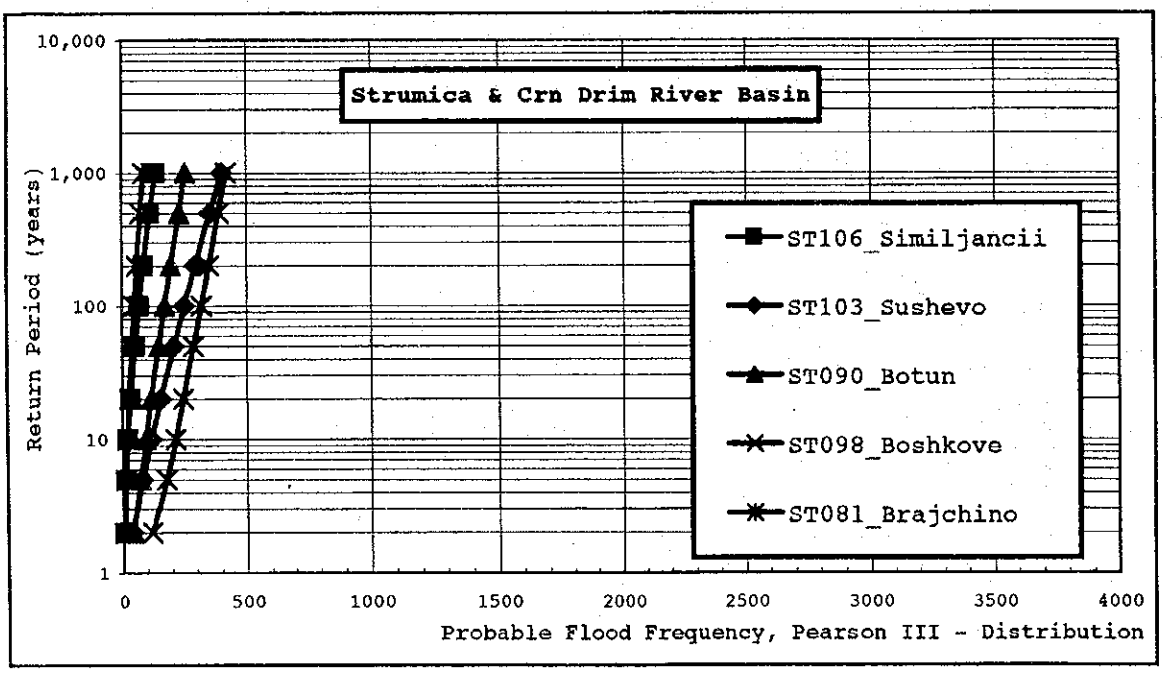
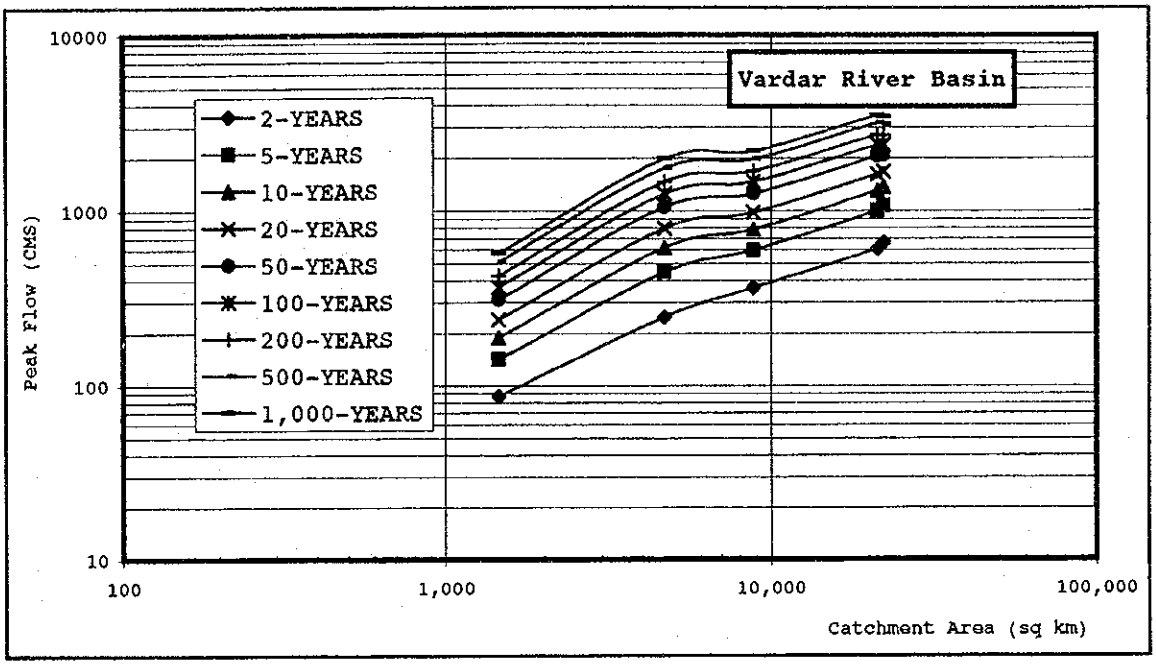


Figure A.16 Envelope of Regional Flood Frequency Based on Catchment Areas for Each Station (1/4)



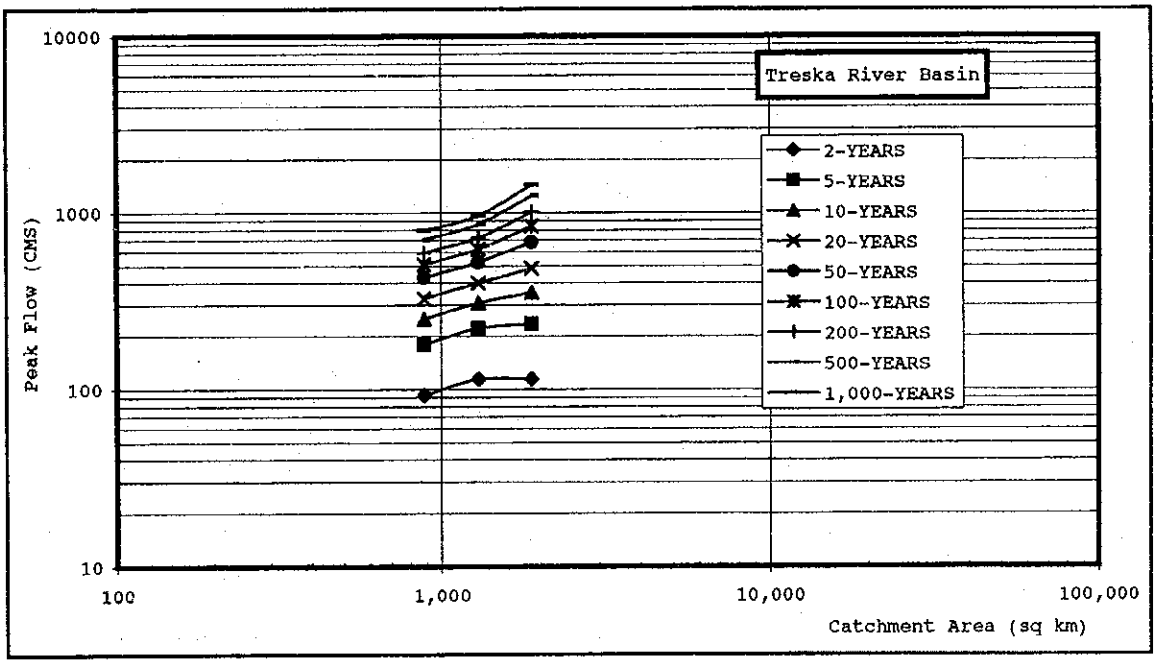
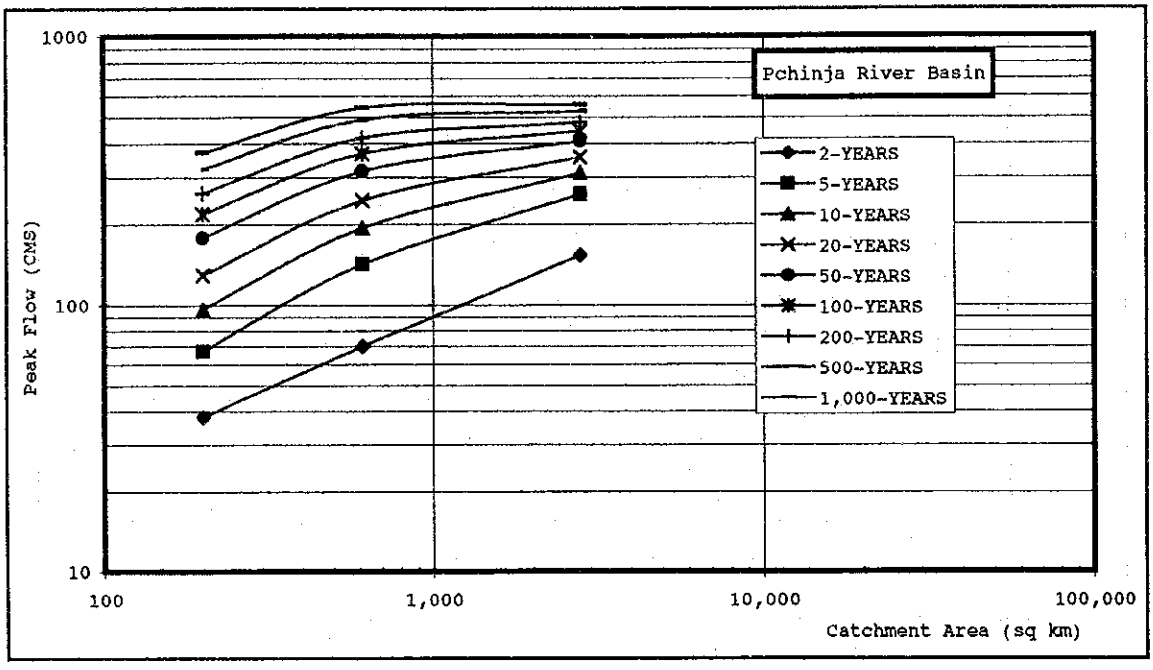


Figure 1.16 Envelope of Regional Flood Frequency Based on Catchment Areas for Each Station (2/4)



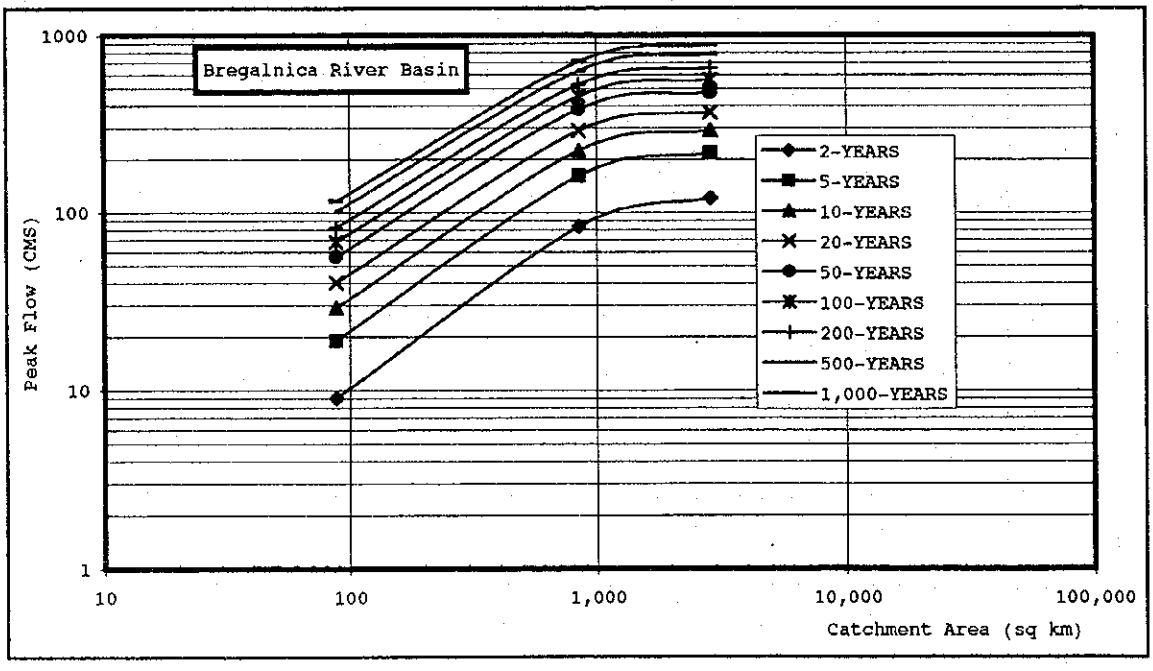
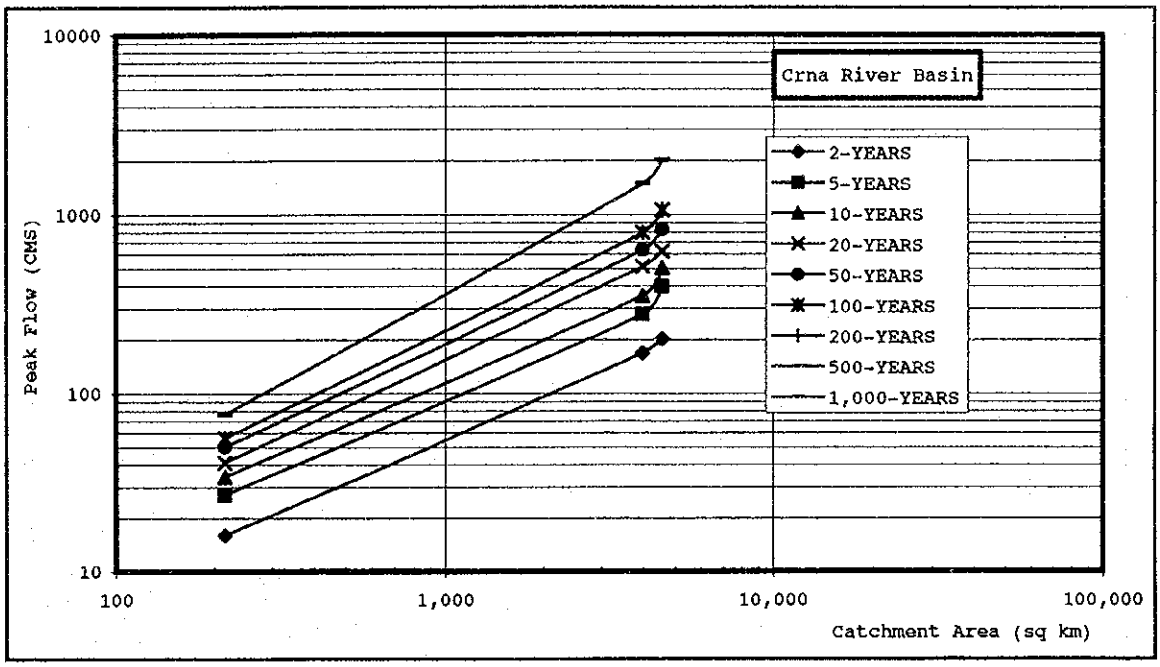


Figure 1.16 Envelope of Regional Flood Frequency Based on Catchment Areas for Each Station (3/4)



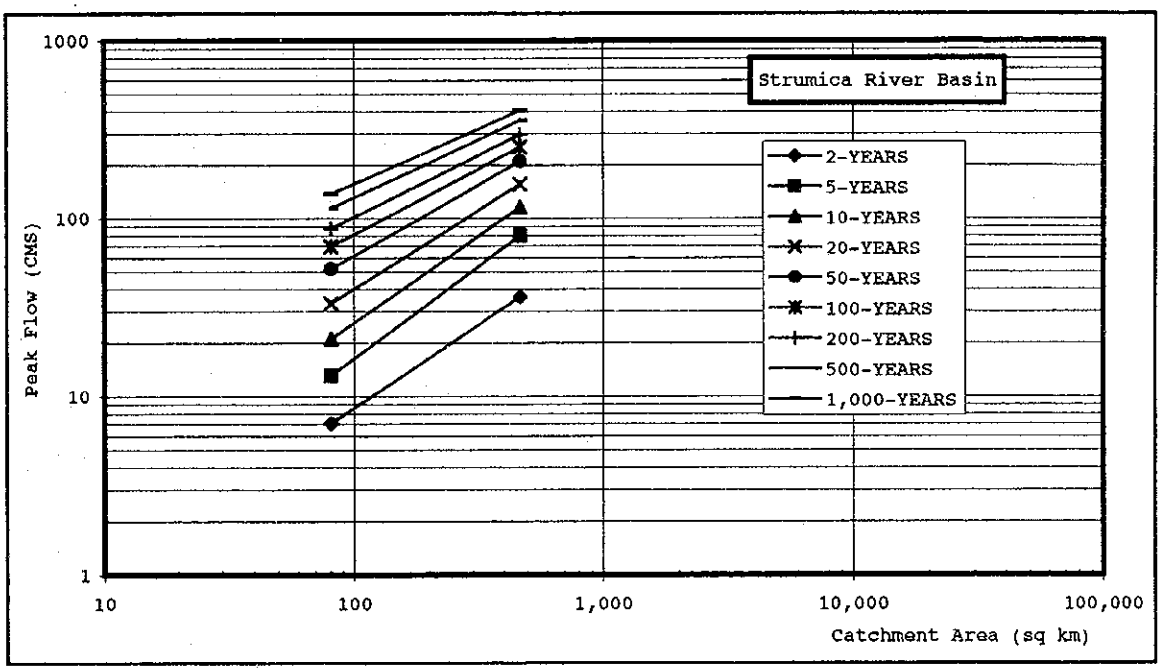


Figure 1.16 Envelope of Regional Flood Frequency Based on Catchment Areas for Each Station (4/4)