

Table 5.1 AVAILABLE DATA ON FLOOD

[illegible]

Table 5.1 AVAILABLE DATA ON FLOOD (continued)

[illegible]

Table 5.1 AVAILABLE DATA ON FLOOD (continued)

Date	River	Hydrograph				Hydrograph				Rampas Bungur PDSA	Information Source	Angka Kawa Buaya	Pasangirahan Kabong Jauk	W.B.C. Karet Bwak Band Mili	Hydrograph		Cleaning Cuayang As217.6	Bekasi Bekasi Bekasi	
		Jenis BMG El=7 m	Geog BMG El=26 m	Damaga BMG El=250 m	Chik BMG El=200 m	Chik Cinmas IHE	Chik Cinmas IHE	Krakat P.LTA	Sawangan P.LTA										
02-71	Casidane									Casidane Dines									
14-08-71	Casidane									IHE									
15-06-71	Casidane									Casidane P/S									
12-72	Casidane									Casidane Dines									
73	East Jakarta																		
02-73	Casidane									Casidane Dines									
21-09-73	Casidane									IHE									
09-74	Casidane									Casidane Dines									
18-06-74	Casidane									IHE									
09-76	Casidane									Casidane Dines									
01-76	Casidane									Casidane Dines									
01-78	Jakarta									IHE									
03-01-76	Casidane									Casidane Dines									
01-77	Casidane									POU									
10-01-77	Bekasi																		
18-01-77	Jakarta																		
19-01-77	Jakarta																		
20-01-77	Casidane																		
02-77	East Jakarta																		
23-05-77	Casidane									C/C									
24-05-77	Casidane									C/C									
25-05-77	Casidane									C/C									
01-78	Casidane									Casidane Dines									
09-01-78	Casidane									C/C									
10-01-78	Casidane									C/C									
11-01-78	Casidane									C/C									
16-02-78	Casidane									C/C									
01-72-78	Bekasi									POU									
19-01-79	Jakarta									POU									
20-01-79	Jakarta																		
25-01-79	Casidane									C/C									
26-01-79	Casidane									C/C									
02-79	Casidane									Casidane Dines									
26-02-79	Bekasi									POU									
09-04-79	Casidane																		
20-10-79	Casidane									Casidane P/S									
3-01-80	Casidane									IHE									
14-03-80	Casidane									POU									
31-03-80	Bekasi									POU									
21-05-80	Casidane									IHE									
09-80	Casidane									Casidane Dines									
13-12-80	Casidane									IHE									
23-01-81	East Jakarta																		
24-01-81	East Jakarta																		
21-02-81	Casidane									IHE									
18-03-81	Casidane									Casidane P/S									
18-03-81	Casidane									IHE									
07-81	Casidane									Casidane Dines									
21-09-81	Bekasi									POU									
24-12-81	West Jakarta																		
26-12-81	Casidane									IHE									
26-12-81	Casidane									POU									
26-12-81	West Jakarta																		
27-12-81	West Jakarta									IHE									
27-12-81	West Jakarta																		
28-12-81	West Jakarta																		

Table 5.1 AVAILABLE DATA ON FLOOD (continued)

Date	River	Hydrograph										Hydrograph					Information Source		
		Jatung BMG EL+7 m EL+25 m	Meim BMG EL+25 m	Cicog BMG EL+25 m	Damaga BMG EL+250 m	Cromo BMG EL+220 m	Comas IHE	Clenmor IHE	Kyack PLTA	Sawangan PDSA	Ranca Bungur PDSA	Angke Rawa Burek	Pesanggrahan Kelang Jenuk	W.B.C. Kawi Burek	Krukut Bend. Hilir	Kabulung Kampun Kelapa	Cihwang Rangjaya Suputamu	Cihwang Cihwang	Besau Besau
01-12	Candane																		
02-01-92	Cikung																		
02-02-92	Cikung																		
06-04-92	Besau																		
24-04-92	Candane																		
04-53	Candane																		
06-04-93	Cikung																		
07-04-93	Cikung																		
01-11-93	Cikung																		
02-11-93	Cikung																		
14-12-93	Besau																		
01-04	Candane																		
24-04-94	Besau																		
27-04-94	Cikung																		
28-04-94	Cikung																		
04-05-94	Cikung																		
15-05-94	West Jakarta																		
16-05-94	West Jakarta																		
16-05-94	Cikung																		
16-05-94	Candane																		
01-05	Candane																		
15-07-95	West Jakarta																		
23-07-95	Cikung																		
30-07-95	Besau																		
06-08-95	Cikung																		
06-08-95	Candane																		
07-08-95	Cikung																		
28-08-95	Cikung																		
01-09-95	Candane																		
05-09-95	Candane																		
06-09-95	Candane																		
13-09-95	Candane																		
16-09-95	Besau																		
06-11-95	Candane																		
12-96	Candane																		
31-12-96	Cikung																		
23-02-97	Cikung																		
03-07	Candane																		
11-02-97	Cikung																		
26-03-97	Besau																		
11-04-97	Candane																		
12-98	Candane																		
19-12-98	Besau																		
19-12-98	Cikung																		
02-99	Candane																		
13-02-99	Besau																		
13-02-99	Cikung																		
01-99	Candane																		
09-09-99	Cikung																		
21-12-99	Besau																		
21-03-99	Besau																		
23-03-99	Candane																		
01-05-99	Cikung																		
03-99	Candane																		
01-04-99	Cikung																		
30-12-99	Cikung																		

Table 5.1 AVAILABLE DATA ON FLOOD (continued)

Date	River	Hydrograph						Hydrograph						Hydrograph							
		Jakarta BMG EL=7 m	Malim BMG EL=206 m	Cikudug BMG EL=206 m	Danreaga BMG EL=250 m	Comes BMG EL=920 m	Comes IHE	Chiem IHE	Krekat PLTA	Sawangan POSA	Rendu Bungur POSA	Informasi Source	Angkle Rawa Buaya	Pesanggrahan Kabong Jeruh	W.B.C. Karet Bukit	Krukut Bend. Miri	Kampung Kelapa Antung	Katunya Antung	Cikarang A=217.6	Cikarang Qpm 169.8	Bakau Bekau
16-03-92	Cikarang																				
17-03-92	Cikarang																				
07-05-91	Pekay																				
10-92	Cikarang																				Qpm 354.7
13-11-92	Cikarang																				
15-11-92	Cikarang																				
02-12-92	Cikarang																				
03-12-92	Cikarang																				
03-12-92	Cikarang																				
30-01-93	Cikarang																				Qpm 83.9
30-04-93	Cikarang																				Qpm 109.2
08-05	Cikarang																				
10-11-93	Cikarang																				
05-12-93	Bekau																				Qpm 407.8
07-12-93	Cikarang																				
24-12-93	Cikarang																				
25-12-93	Cikarang																				
04-04	Cikarang																				
05-04-94	Cikarang																				
26-04-94	Angkle																				
06-05-94	W.B.C.																				
22-06-94	Cikarang																				
28-11-94	Bekau																				
30-11-94	Pesanggrahan																				
22-01-95	Cikarang																				
01-02-95	Angkle																				
09-02-95	Krukut																				
09-02-95	W.B.C.																				
25-03-95	Krukut																				
26-03-95	Angkle																				
26-03-95	Pesanggrahan																				
30-03-95	Cikarang																				
17-04-95	Cikarang																				
18-04-95	Pesanggrahan																				
04-05-95	Cikarang																				
04-05-95	Cikarang																				
11-05-95	W.B.C.																				
22-06-95	Krukut																				

Note) O : Hourly rainfall is available

Qp : Peak discharge is available

Q : Discharge hydrograph is available

H : Water-level hydrograph is available

Cabana Dinas : Cabang Dinas Pengiran Tangerang

IHE : Institute of Hydraulic Engineering (Pusat Litbang Pengairan)

POJ : Perusahaan umum Oponita Jatiluhur

CJC : Cisdane-Jakarta-Cibet Water Resources Development Plan, 1980, Annex C

POSA : Pengembangan Data Sumber Air

Table 5.2 CONSTANTS OF SUB-BASINS FOR PRESENT LAND USE

River Basin	Area (km ²)	Length of Basin L (Km)	Slope of Basin I	Ratio of Present Land Use				N	Constants						
				Urban Area (%)	Paddy Field, Pond (%)	Cultivated Green (%)	Forest, Bush (%)		K	P	Ti (hr)	Qb (m ³ /s)	fi (mm)	Rsa	
<i>(Cidurian river)</i>															
CD.1	378	70.5	1/150	1	9	34	56	0.097	92.6	0.333	2.80	2.6	0.65	150	
CD.2	218	50	1/200	0	0	77	23	0.071	66.1	0.333	1.80	1.5	0.65	150	
<i>(Cimanucuri river)</i>															
CM.1	233	30	1/150	0	8	45	47	0.091	65.3	0.333	0.90	1.6	0.65	150	
CM.2	66	7	1/330	34	0	66	0	0.200	51.2	0.6	0.00	0.5	0.65	150	
CM.3	116	29	1/480	28	4	47	21	0.330	181.6	0.6	0.80	0.8	0.65	150	
<i>(Cisarah river)</i>															
CR.1	147	37.5	1/700	30	27	43	0	0.410	270.3	0.6	1.20	1.0	0.65	150	
<i>(Cisadane river)</i>															
CS.1	193	26.5	1/15	0	0	57	43	0.084	26.7	0.333	0.25	1.3	0.65	150	
CS.2	12	7.5	1/32	40	0	60	0	0.038	10.4	0.333	0.00	0.1	0.65	150	
CS.3	643	48.5	1/29	0	2	45	53	0.091	44.3	0.333	0.75	4.4	0.65	150	
CS.4	320	26.5	1/190	9	0	73	18	0.064	47.3	0.333	0.25	2.2	0.65	150	
CS.5	80	19.5	1/390	32	3	65	0	0.230	108.3	0.6	0.25	0.6	0.65	150	
<i>(Cengkareng Floodway)</i>															
CF.1	72	26	1/300	0	0	100	0	0.056	48.2	0.333	0.70	0.5	0.65	150	
CF.2	22	4	1/110	70	0	30	0	0.100	17.4	0.6	0.00	0.2	0.65	150	
CF.3	30	20	1/250	64	0	36	0	0.120	65.1	0.6	0.40	0.2	0.65	150	
CF.4	13	0.6	1/30	100	0	0	0	0.020	1.4	0.6	0.00	0.1	0.65	150	
CF.5	107	44	1/300	20	0	80	0	0.240	167.4	0.6	1.50	0.7	0.65	150	
CF.6	117	32	1/300	20	0	80	0	0.240	138.2	0.6	0.90	0.8	0.65	150	
CF.7	31	16	1/380	63	0	37	0	0.120	64.6	0.6	0.20	0.2	0.65	150	
CF.8	67	20	1/570	28	0	72	0	0.220	120.0	0.6	0.40	0.5	0.65	150	
<i>(Western Banjir Canal)</i>															
WB.1	88	18	1/18	0	0	32	68	0.100	29.7	0.333	0.30	0.6	0.65	150	
WB.2	64	14.5	1/7	10	0	48	42	0.078	15.9	0.333	0.10	0.4	0.65	150	
WB.3	62	20	1/74	70	0	30	0	0.100	40.5	0.6	0.40	0.4	0.65	150	
WB.4	123	15	1/170	90	0	10	0	0.080	28.9	0.6	0.10	0.8	0.65	150	
WB.5	84	30	1/400	78	0	22	0	0.080	75.0	0.6	0.90	0.6	0.65	150	
WB.6	55	14	1/560	100	0	0	0	0.020	22.9	0.6	0.10	0.4	0.65	150	

Table 5.2 CONSTANTS OF SUB-BASINS FOR PRESENT LAND USE (continued)

River Basin	Area (km ²)	Length of Basin L (Km)	Slope of Basin I	Ratio of Present Land Use				N	C	Constants					
				Urban Area (%)	Paddy Field, Pond (%)	Cultivated la Green (%)	Forest, Bush (%)			K	P	Tl (hr)	Qb (m ³ /s)	f1 (mm)	
<i>(Eastern Banjir Canal)</i>															
CP.1 Cipinang river	50.5	30	1/ 500	80	0	20	0	0.080		80.2	0.6	0.90	0.3	0.65	150
SU.1 Sunter river	73.1	33	1/ 500	50	0	50	0	0.160		128.7	0.6	1.00	0.5	0.65	150
BU.1 Buaran river	13	9	1/ 650	80	0	20	0	0.080		42.1	0.6	0.00	0.1	0.65	150
JT.1 Jatikramat river	16.5	16	1/ 600	80	0	20	0	0.080		58.1	0.6	0.20	0.1	0.65	150
CK.1 Cakung river	34.5	33	1/ 450	60	4	36	0	0.160		124.7	0.6	1.00	0.2	0.65	150
<i>Eastern Banjir Canal</i>															
EB.1	50.5	30	1/ 500	80	0	20	0	0.080		80.2	0.6	0.90	0.3	0.65	150
EB.2	73.8	33	1/ 500	50	0	50	0	0.160		128.7	0.6	1.00	0.5	0.65	150
EB.3	34.1	16	1/ 600	80	0	20	0	0.080		58.1	0.6	0.20	0.2	0.65	150
EB.4	48.6	33	1/ 450	60	4	36	0	0.160		124.7	0.6	1.00	0.3	0.65	150
<i>(CBL Floodway)</i>															
CB.1 Cileungsir river	261	50.5	1/ 120	15	5	30	50		0.085	66.9	0.333	1.80	1.8	0.65	150
CB.2 Cikemas river	110	49	1/ 250	30	1	49	20		0.056	56.3	0.333	1.70	0.8	0.65	150
CB.3 Bekasi river	18	8	1/ 530	30	10	60	0	0.290		80.0	0.6	0.00	0.1	0.65	150
CB.4 Bekasi river	14	3	1/ 430	30	70	0	0	0.710		71.3	0.6	0.00	0.1	0.65	150
CB.5 Cikarang river	216	38	1/ 450	0	1	67	32		0.077	86.2	0.333	1.20	1.5	0.65	150
CB.6 Cikarang river	14	3	1/ 380	0	100	0	0	1.000		84.4	0.6	0.00	0.1	0.65	150
CB.7 Cisdang river	135	30.5	1/ 400	0	30	70	0	0.510		230.2	0.6	0.90	0.9	0.65	150
CB.8	109	28	1/ 490	0	50	50	0	0.650		268.8	0.6	0.80	0.8	0.65	150
<i>(Cilemehabang river)</i>															
CL.1	121	31	1/ 690	0	40	60	0	0.580		295.7	0.6	0.90	0.8	0.65	150

$$K = 7.35 (N L)^{1/2} L^{1/3}$$

$$K = 43.4 C L^{1/3} L^{1/3}$$

Equivalent Roughness (N),
Reserve Coefficient (C)

	N	C
Urban area	0.02	0.012
Paddy Field, Pond	1.00 (0.120)	
Cultivated land, Green	0.30 (0.056)	
Forest, Bush	0.70	0.120

Table 5.3 CONSTANTS OF SUB-BASINS FOR FUTURE LAND USE

River Basin	Area (km ²)	Length of Basin L (km)	Slope of Basin 1	Ratio of Future Land Use				N	C	Constants				
				Urban Area	Paddy Field, Pond	Cultivated la Green	Forest, Bush			K	P	T ₁	Q _b	R _{sa}
				(%)	(%)	(%)	(%)					(hr)	(m ³ /s)	(mm)
<i>(Cidurian river)</i>														
CD.1	378	70.5	1/150	9	0	74	17	0.063	59.9	0.333	2.80	2.6	0.65	150
CD.2	218	50	1/200	0	0	94	6	0.060	56.0	0.333	1.80	1.5	0.65	150
<i>(Cinancur river)</i>														
CM.1	233	30	1/150	0	0	53	47	0.086	61.7	0.333	0.90	1.6	0.65	150
CM.2	66	7	1/330	76	0	24	0	0.090	31.7	0.6	0.00	0.5	0.65	150
CM.3	116	29	1/480	28	0	51	21	0.310	175.0	0.6	0.80	0.8	0.65	150
<i>(Citarab river)</i>														
CR.1	147	37.5	1/700	94	3	3	0	0.060	85.3	0.6	1.20	1.0	0.65	150
<i>(Cisadane river)</i>														
CS.1	193	26.5	1/15	35	0	20	45	0.069	22.1	0.333	0.25	1.3	0.65	150
CS.2	12	7.5	1/32	100	0	0	0	0.012	3.2	0.333	0.00	0.1	0.65	150
CS.3	643	48.5	1/29	25	0	24	51	0.078	37.8	0.333	0.75	4.4	0.65	150
CS.4	320	26.5	1/190	43	0	35	22	0.051	38.1	0.333	0.25	2.2	0.65	150
CS.5	80	19.5	1/390	100	0	0	0	0.020	25.0	0.6	0.25	0.6	0.65	150
<i>(Cengkareng Floodway)</i>														
CF.1	72	26	1/300	42	0	58	0	0.038	32.3	0.333	0.70	0.5	0.65	150
CF.2	22	4	1/110	100	0	0	0	0.020	6.6	0.6	0.00	0.2	0.65	150
CF.3	30	20	1/250	100	0	0	0	0.020	22.2	0.6	0.40	0.2	0.65	150
CF.4	13	0.6	1/30	100	0	0	0	0.020	1.4	0.6	0.00	0.1	0.65	150
CF.5	107	44	1/300	95	0	5	0	0.030	48.1	0.6	1.50	0.7	0.65	150
CF.6	117	32	1/300	95	0	5	0	0.030	39.7	0.6	0.90	0.8	0.65	150
CF.7	31	16	1/380	100	0	0	0	0.020	22.1	0.6	0.20	0.2	0.65	150
CF.8	67	20	1/570	100	0	0	0	0.020	28.5	0.6	0.40	0.5	0.65	150
<i>(Western Banjir Canal)</i>														
WB.1	88	18	1/18	0	0	32	68	0.100	29.7	0.333	0.30	0.6	0.65	150
WB.2	64	14.5	1/7	30	0	28	42	0.070	14.1	0.333	0.10	0.4	0.65	150
WB.3	62	20	1/74	96	0	4	0	0.030	19.7	0.6	0.40	0.4	0.65	150
WB.4	123	15	1/170	100	0	0	0	0.020	16.7	0.6	0.10	0.8	0.65	150
WB.5	84	30	1/400	100	0	0	0	0.020	32.6	0.6	0.90	0.6	0.65	150
WB.6	55	14	1/560	100	0	0	0	0.020	22.9	0.6	0.10	0.4	0.65	150

Table 5.3 CONSTANTS OF SUB-BASINS FOR FUTURE LAND USE (continued)

River Basin	Area (km ²)	Length of Basin L (Km)	Slope of Basin I	Ratio of Future Land Use				N	C	Constants					
				Urban Area (%)	Paddy Field, Pond (%)	Cultivated Green (%)	Forest, Bush (%)			K	P	Tl (hr)	Qb (m ³ /s)	f1 (mm)	Rsa (mm)
<i>(Eastern Banjir Canal)</i>															
CP.1 Cipinang river	50.5	30	1/ 500	100	0	0	0	0.020		34.9	0.6	0.90	0.3	0.65	150
SU.1 Sunier river	73.1	33	1/ 500	100	0	0	0	0.020		37.0	0.6	1.00	0.5	0.65	150
BU.1 Buaran river	13	9	1/ 650	100	0	0	0	0.020		18.3	0.6	0.00	0.1	0.65	150
JT.1 Jatikramat river	16.5	16	1/ 600	100	0	0	0	0.020		25.3	0.6	0.20	0.1	0.65	150
CK.1 Cakung river	34.5	33	1/ 450	100	0	0	0	0.020		35.8	0.6	1.00	0.2	0.65	150
<i>Eastern Banjir Canal</i>															
EB.1	50.5	30	1/ 500	100	0	0	0	0.020		34.9	0.6	0.90	0.3	0.65	150
EB.2	73.8	33	1/ 500	100	0	0	0	0.020		37.0	0.6	1.00	0.5	0.65	150
EB.3	34.1	16	1/ 600	100	0	0	0	0.020		25.3	0.6	0.20	0.2	0.65	150
EB.4	48.6	33	1/ 450	100	0	0	0	0.020		35.8	0.6	1.00	0.3	0.65	150
<i>(CBL Floodway)</i>															
CB.1 Cileungsir river	261	50.5	1/ 120	30	0	0	20	50	0.075	59.2	0.333	1.80	1.8	0.65	150
CB.2 Cikeas river	110	49	1/ 250	75	0	0	17	8	0.028	28.1	0.333	1.70	0.8	0.65	150
CB.3 Bekasi river	18	8	1/ 530	100	0	0	0	0	0.020	16.1	0.6	0.00	0.1	0.65	150
CB.4 Bekasi river	14	3	1/ 430	80	20	0	0	0	0.220	35.3	0.6	0.00	0.1	0.65	150
CB.5 Cikarang river	216	38	1/ 450	25	0	0	43	32	0.065	73.2	0.333	1.20	1.5	0.65	150
CB.6 Cikarang river	14	3	1/ 380	100	0	0	0	0	0.020	8.1	0.6	0.00	0.1	0.65	150
CB.7 Cisdang river	135	30.5	1/ 400	93	0	0	7	0	0.040	50.0	0.6	0.90	0.9	0.65	150
CB.8	109	28	1/ 490	85	15	0	0	0	0.170	120.2	0.6	0.80	0.8	0.65	150
<i>(Cilemahabang river)</i>															
CL.1	121	31	1/ 690	75	0	0	25	0	0.090	96.7	0.6	0.90	0.8	0.65	150
Equivalent Roughness (N), Reserve Coefficient (C)															
K= 7.35 (N L ^{1/3}) ^{0.6} K= 43.4 C ^{1/3} L ^{1/3}															

$$K = 7.35 (N L)^{1/2} y^{1/3}$$

$$K = 43.4 C^{1/3} L^{1/3}$$

Urban area
Paddy Field, Pond
Cultivated land, Green
Forest, Bush

N C

0.02 0.012
1.00 (0.120)
0.30 (0.056)
0.70 0.120

Equivalent Roughness (N),
Reserve Coefficient (C)

Table 5.4 CONSTANTS OF CHANNELS

River System - Channel	S (m ³)	Q (m ³ /s)	T ₁ (h)	River - Channel	S (m ³)	Q (m ³ /s)	T ₁ (h)
Cimanceuri river				Western Banjir Canal			
A Cimanceuri river	2.545E+2	18	1.1	M Ciliwung river	1.978E+2	100	0.3
	1.306E+3	300			6.561E+2	400	
	3.870E+3	950			1.697E+3	1200	
Cisadane river				N Western Banjir Canal	9.564E+1	100	0.2
B Cisadane river	4.153E+1	200	2.438E+2		400		
	1.202E+2	1200	5.118E+2		1200		
	1.813E+2	2400					
C Cisadane river	5.193E+2	200	0.3	O Western Banjir Canal	3.077E+2	100	0.5
	1.626E+3	1200			8.175E+2	400	
	2.528E+3	2400			1.774E+3	1200	
D Cisadane river	1.523E+3	200	0.8	Eastern Banjir Canal			
	4.608E+3	1200		P Eastern Banjir Canal	1.223E+1	50	0.0
	8.540E+3	2400			1.975E+1	100	
E Cisadane river	5.785E+2	200	0.6		Q Eastern Banjir Canal	3.333E+1	
	1.610E+3	1200		6.405E+1		600	
	3.205E+3	2400		3.880E+1		50	
Cengkareng Floodway				R Eastern Banjir Canal	7.758E+1	150	0.3
F Pesanggrahan river	3.125E+2	100	1.145E+2		250		
	8.502E+2	400	1.888E+2		600		
	1.879E+3	1200	8.201E+1	50			
G Pesanggrahan river	2.853E+2	100	0.4	CBL Floodway			
	7.603E+2	400		S Bekasi river	2.745E+2	100	0.5
	1.653E+3	1200			7.532E+2	400	
H Angke river	2.647E+2	100	0.4		T Bekasi river	1.676E+3	
	6.861E+2	400		3.894E+2		100	
	1.459E+3	1200		1.029E+3		400	
I Cengkareng Floodway	2.174E+1	100	0.0	U Cikarang river	2.223E+3	1200	0.2
	5.405E+1	400			1.493E+2	100	
	1.112E+2	1200			3.935E+2	400	
Western Banjir Canal				V CBL Floodway	8.481E+2	1200	0.2
J Ciliwung river	5.884E+1	100	0.0		1.606E+2	100	
	1.400E+2	400			4.387E+2	400	
	2.781E+2	1200		9.730E+2	1200		
K Ciliwung river	2.724E+2	100	0.2	W CBL Floodway	7.505E+1	100	0.1
	6.800E+2	400			2.051E+2	400	
	1.404E+3	1200			4.548E+2	1200	
L Ciliwung river	7.169E+2	100	0.8	X CBL Floodway	1.894E+2	100	0.3
	1.927E+3	400			5.174E+2	400	
	4.736E+3	1200			1.148E+3	1200	

* $T_1(h) = 7.36 \times 10^{-4} \times L(km) \times h^{1/2}$

Table 8.1 SUMMARY OF DATA COLLECTED

Station (River)	January '96 Flood								February '96 Flood							Data Source
	3-Jan	4-Jan	5-Jan	6-Jan	7-Jan	8-Jan	9-Jan	7-Feb	8-Feb	9-Feb	10-Feb	11-Feb	12-Feb	13-Feb		
Rainfall																
1 Citeko	H	H	H	H	H	H	H	H	H	H	H	H	H	H	BMG, Bogor	
2 Gadeg	D	D	D	D	D	D	D	D	D	D	D	D	D	D	BMG, Bogor	
3 Katulampa	D	D	D	D	D	D	D	D	D	D	D	D	D	D	PU, Bogor	
4 Darmaga	H/D	H/D	H/D	H/D	H/D	H/D	H/D	H/D	H/D	H/D	H/D	H/D	H/D	H/D	BMG, Bogor	
5 Empang	D	D	D	D	D	D	D	D	D	D	D	D	D	D	BMG, Bogor	
6 Curug	D	D	D	D	D	D	D	D	D	D	D	D	D	D	BMG, Bogor	
7 Depok	D	D	D	D	D	D	D	D	D	D	D	D	D	D	BMG, Bogor	
8 Halim	H/D	H/D	H/D	H/D	H/D	H/D	H/D	H/D	D	D	D	D	D	D	BMG, Wilayah II	
9 Ciledug	D	D	D	D	D	D	D	D	D	D	D	D	D	D	BMG, Wilayah II	
10 Tangerang	D	D	D	D	D	D	D	D	D	D	D	D	D	D	BMG, Wilayah II	
11 Manggarai	D	D	D	D	D	D	D	D	D	D	D	D	D	D	PU, DKI	
12 Karet	-	D	D	D	D	D	D	-	D	D	D	D	D	D	PU, DKI	
13 Cengkareng	D	D	D	D	D	D	D	D	D	D	D	D	D	D	BMG, Wilayah II	
14 Jakarta	D	D	D	D	D	D	D	D	D	D	D	D	D	D	BMG, Wilayah II	
15 Tanjung Priok	D	D	D	D	D	D	D	D	D	D	D	D	D	D	BMG, Wilayah II	
16 Cikarang	D	D	D	D	D	D	D	D	D	D	D	D	D	D	PDSA	
Water Level																
1 Katulampa (Ciliwung)	I	I	I	I	I	I	I	H	H	H	H	H	H	H	PDSA	
2 Katulampa Weir (Ciliwung)	-	-	h	H	H	H	H	H	H	H	H	H	H	H	PU, Bogor	
3 Kumpang Kelapa (Ciliwung)	I	I	I	I	I	I	I	I	I	I	I	I	I	I	PDSA	
4 Ratuja (Ciliwung)	I	I	I	I	I	I	I	I	I	I	I	I	I	I	PDSA	
5 Depok (Ciliwung)	-	-	H	H	H	H	H	h	h	H	H	H	H	H	PU, DKI	
6 Sugu Tano (Ciliwung)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	PDSA	
7 Manggarai Gate (Ciliwung)	-	-	h	H	H	H	H	h	h	H	H	H	H	H	PU, DKI	
8 Manggarai Gate (Lower Ciliwung)	-	-	h	H	H	H	H	h	h	H	H	H	H	H	PU, DKI	
9 Manggarai Gate (WBC)	-	-	h	H	H	H	H	h	h	H	H	H	H	H	PU, DKI	
10 Karet Bivak (WBC)	H	H	H	H	H	H	H	H	H	H	H	H	H	H	PDSA	
11 Karet Gate (WBC)	-	H	H	H	H	H	H	h	H	H	H	H	H	h	PU, DKI	
12 Bendung Hilir (Krukut)	H	H	H	H	H	H	H	H	H	H	H	H	H	H	PDSA	
13 Rawa Buaya (Angle)	H	H	H	H	H	H	H	H	H	H	H	H	H	H	PDSA	
14 Kebong Jeruk (Pesanggrahan)															PDSA	
15 Genteng (Cisadane)	H/I	H/I	h/I	H/I	H/I	H/I	H/I	H/I	H/I	H/I	H/I	H/I	H/I	H/I	PDSA	
16 Batu Beulah (Cisadane)	H/I	H/I	H/I	H/I	H/I	H/I	H/I	H/I	H/I	H/I	H/I	H/I	H/I	H/I	PDSA	
17 Serpong (Cisadane)	H/I	H/I	H/I	H/I	H/I	H/I	H/I	I	I	I	I	I	I	I	PDSA	
18 Bobakan (Cisadane)	I	I	I	I	I	I	I	H/I	H/I	H/I	H/I	H/I	H/I	H/I	PDSA	
19 BD. Pesur Baru (Cisadane)															PDSA	
20 Cileungsi (Bekasi)	H	H	H	H	H	H	H	H	H	H	H	H	H	H	PDSA	
21 Palmerah (Gregor)	I	I	I	I	I	I	I	I	I	I	I	I	I	I	PDSA	
Discharge																
1 Katulampa Weir (Ciliwung)	-	-	h	H	H	H	H	H	H	H	H	H	H	H	PU, Bogor	
2 Manggarai Gate (Lower Ciliwung)	-	-	h	H	H	H	H	h	h	H	H	H	H	H	PU, DKI	
3 Manggarai Gate (WBC)	-	-	h	H	H	H	H	h	-	-	-	-	-	-	PU, DKI	
4 Karet Gate (WBC)	-	h	H	H	H	h	h	h	H	H	H	h	-	h	PU, DKI	
Tide																
1 Tanjung Priok	H	H	H	H	H	H	H	H	H	H	H	H	H	H	P.T. Pelabuhan II	

Note) I: Intermittently Data (at 6 00, 12 00, 18 00)

D: Daily Data

H: Completed Hourly Data

h: Uncompleted Hourly Data

Table 8.2 HOURLY RAINFALL

Date	Time																							
	07-08	08-09	09-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	00-01	01-02	02-03	03-04	04-05	05-06	06-07
	Cutebo																							
2-Jan-96	-	-	-	-	-	-	1.9	12.1	2.2	0.5	0.2	0.4	0.1	-	-	-	-	-	-	-	-	-	-	-
3-Jan-96	-	-	-	-	-	-	-	-	-	19.0	71.0	17.6	0.7	0.2	4.3	0.2	0.1	-	5.1	0.5	-	0.3	0.6	3.4
4-Jan-96	1.0	4.0	0.8	3.0	3.0	2.2	24.8	9.2	9.8	8.2	3.7	12.3	1.1	0.4	0.1	-	-	-	-	-	0.9	5.5	4.7	4.3
5-Jan-96	3.4	3.4	5.2	1.2	3.8	5.2	8.6	1.6	28.6	0.9	5.1	10.8	0.2	-	-	-	-	-	-	-	-	1.0	1.0	1.4
6-Jan-96	2.0	0.6	0.3	0.4	1.7	12.0	1.0	1.0	-	-	-	-	-	-	-	-	4.0	1.5	0.6	19.9	9.0	13.0	20.8	5.0
7-Jan-96	34.0	45.0	16.4	0.5	0.1	11.5	3.9	10.6	0.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8-Jan-96	-	-	-	-	-	-	-	-	-	1.5	0.4	-	0.1	2.4	1.5	0.5	2.7	0.8	0.2	0.3	1.0	0.1	-	-
9-Jan-96	-	-	-	-	-	-	-	-	-	-	0.5	11.8	1.7	0.3	0.1	-	-	-	-	-	-	-	-	-
6-Feb-96	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.8	-	-	-	0.2	-
7-Feb-96	-	0.4	0.1	-	0.1	0.2	-	0.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8-Feb-96	-	-	-	-	-	-	-	-	1.5	1.0	1.0	0.5	1.0	0.5	-	-	-	-	0.5	1.0	0.5	2.5	0.1	-
9-Feb-96	-	-	1.0	0.6	-	-	-	-	-	-	-	-	-	-	-	-	0.4	1.0	-	-	0.6	0.4	0.5	0.1
10-Feb-96	-	-	-	2.0	-	-	-	0.1	4.7	11.2	4.2	0.4	1.1	0.2	-	-	-	-	-	-	0.3	0.6	5.4	2.6
11-Feb-96	10.0	30.0	20.0	6.5	4.5	3.0	0.1	0.4	-	0.7	0.1	-	-	-	1.7	1.2	6.5	2.2	14.0	8.0	0.4	0.4	0.7	0.7
12-Feb-96	1.0	0.1	0.7	-	-	-	-	0.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13-Feb-96	-	-	-	-	-	-	-	30.0	37.0	-	1.9	-	-	5.7	0.1	-	-	-	-	-	-	-	-	-
	Darnaga																							
2-Jan-96	-	-	-	-	-	1.0	6.0	1.4	0.7	-	-	0.5	0.3	0.1	0.4	-	-	-	-	-	-	-	-	-
3-Jan-96	-	-	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.7	7.0	-
4-Jan-96	1.1	-	-	-	2.4	-	-	-	-	-	7.8	-	0.6	-	-	-	-	-	0.6	6.6	4.4	1.2	4.7	-
5-Jan-96	1.2	-	-	-	-	-	0.4	0.1	0.7	1.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6-Jan-96	-	-	-	0.4	-	-	-	-	-	-	-	0.4	-	-	19.5	-	0.8	25.8	22.5	2.6	1.1	0.6	11.0	1.3
7-Jan-96	0.3	-	1.0	6.8	1.4	11.4	0.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8-Jan-96	-	-	-	-	0.1	-	-	-	-	-	-	-	-	-	-	-	0.2	2.0	2.8	0.5	-	0.1	0.1	-
9-Jan-96	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	-	-	-	-	-	-	-	-
6-Feb-96	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.2	-	-	-	-	-	-	-
7-Feb-96	-	0.1	-	-	0.3	-	-	-	-	4.8	2.0	-	-	-	-	-	-	-	-	-	0.3	-	0.1	-
8-Feb-96	-	-	-	-	-	-	-	-	-	4.5	2.7	1.6	0.2	0.1	-	-	0.9	3.9	3.3	-	-	-	0.1	-
9-Feb-96	-	-	-	-	-	-	-	-	-	-	0.3	-	-	-	-	0.1	0.1	0.3	-	-	-	0.2	0.3	0.4
10-Feb-96	-	-	-	-	-	-	-	-	-	0.5	0.2	0.3	-	-	-	-	-	0.6	-	0.2	3.1	0.1	0.4	-
11-Feb-96	14.7	11.4	6.5	2.4	1.2	1.2	0.1	-	-	-	-	-	-	2.6	13.8	33.0	11.5	1.8	1.7	0.4	-	0.1	0.2	0.2
12-Feb-96	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13-Feb-96	-	-	-	-	-	-	4.6	16.6	6.1	4.5	1.9	0.7	0.1	-	-	-	-	-	-	-	0.1	-	-	2.0
	Hahm																							
2-Jan-96	-	-	-	-	-	-	-	-	0.4	1.1	2.3	1.4	0.3	-	-	-	-	-	-	-	-	-	-	-
3-Jan-96	-	-	-	-	-	0.3	-	-	-	-	-	-	-	-	1.2	0.1	0.5	-	9.8	4.7	-	-	-	-
4-Jan-96	5.1	1.8	0.1	0.5	-	3.4	-	-	-	-	-	-	-	-	8.9	4.6	-	2.3	7.2	4.8	2.0	3.4	2.3	-
5-Jan-96	0.7	1.8	0.1	0.2	-	-	0.4	0.2	-	0.4	0.3	-	-	-	0.7	0.4	0.2	-	-	-	-	-	-	-
6-Jan-96	-	-	0.8	0.2	-	0.1	-	-	-	-	-	3.3	0.3	-	-	-	-	-	46.1	12.1	5.8	1.5	0.4	0.2
7-Jan-96	2.6	9.6	2.2	-	3.2	0.4	0.6	-	-	-	-	-	-	-	-	-	-	-	1.6	-	-	-	-	-
8-Jan-96	-	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.3	9.6	2.6	2.0	1.8	0.2	-	-
9-Jan-96	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 8.3 DAILY RAINFALL (1/2)

Date	CITERO ARR. BMG	GADOG BMG	KATULAMPA PU Bopar	DARMAGA ARR. BMG	ENIPANG BMG	CURUG BMG	DEPOK BMG	HALIM PK. BMG	CILEDUG BMG	TANGERANG BMG	MANGGARAI PU DKI	KARET PU DKI	CENOKABENG BMG	JAKARTA BMG	TO PRUK BMG	CIKARANG BMG
96/01/01	13.0	0.0	21.0	65.8	0.0	7.6	27.0	2.0	13.8	2.2	15.0	#N/A	8.8	5.5	22.6	0.0
96/01/02	17.4	0.0	12.0	5.0	61.0	5.0	6.0	4.9	2.2	5.1	33.0	#N/A	32.9	40.1	41.1	0.0
96/01/03	123.0	19.0	75.0	8.8	11.0	40.5	8.0	16.0	1.0	77.3	55.0	#N/A	85.5	99.3	66.9	57.0
96/01/04	99.0	141.0	39.0	29.4	65.0	3.5	17.0	44.2	53.7	11.0	17.0	94.0	0.0	21.5	30.8	92.0
96/01/05	81.4	15.0	80.0	3.6	14.0	41.0	2.0	5.2	2.8	1.8	16.0	21.0	0.0	54.2	11.1	9.0
96/01/06	104.0	125.0	44.0	86.0	72.0	3.0	43.0	71.0	11.0	3.3	16.0	12.0	19.9	31.8	33.2	20.0
96/01/07	122.9	60.0	15.0	21.5	110.0	55.5	53.0	19.9	2.0	61.9	36.0	#N/A	28.2	99.3	23.5	40.0
96/01/08	11.5	5.0	13.0	5.8	24.0	0.0	6.0	17.3	45.5	0.0	0.0	20.0	0.0	0.0	46.4	4.0
96/01/09	14.4	20.0	16.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	#N/A	0.0	0.0	0.0	2.0
96/01/10	4.1	5.0	0.0	17.0	14.0	0.0	0.0	0.0	0.0	0.0	0.0	#N/A	0.0	0.0	0.0	0.0
96/01/11	0.0	2.0	0.0	0.0	11.0	0.0	0.0	1.3	11.5	0.0	0.0	#N/A	0.0	0.0	0.0	1.0
96/01/12	36.0	2.0	0.0	0.5	0.0	1.0	0.0	0.0	0.0	0.0	0.0	#N/A	0.0	0.0	0.3	5.0
96/01/13	2.6	0.0	0.0	0.0	61.0	0.0	0.0	36.9	0.0	0.0	0.0	#N/A	0.0	0.0	0.0	3.0
96/01/14	26.5	20.0	6.0	1.5	0.0	2.0	0.0	0.0	0.0	0.0	0.0	#N/A	0.0	0.0	0.0	0.0
96/01/15	11.5	5.0	2.0	36.6	25.0	29.0	0.0	0.0	0.0	1.3	8.0	#N/A	2.8	2.8	0.0	2.0
96/01/16	2.5	5.0	0.0	3.9	0.0	9.1	67.0	51.0	30.8	17.2	46.0	#N/A	44.7	105.9	81.7	46.0
96/01/17	0.1	0.0	0.0	1.9	1.0	0.0	2.0	23.0	22.2	0.0	0.0	#N/A	8.3	0.5	102.1	38.0
96/01/18	5.4	0.0	0.0	3.0	2.0	0.0	0.0	0.0	0.0	0.9	0.0	#N/A	0.0	0.0	22.9	0.0
96/01/19	15.3	15.0	6.0	0.0	18.0	0.0	0.0	0.0	0.0	0.0	0.0	#N/A	0.0	0.0	0.9	0.0
96/01/20	16.2	20.0	20.0	4.0	16.0	0.0	0.0	0.0	0.0	0.0	0.0	#N/A	0.0	0.0	0.0	0.0
96/01/21	28.8	0.0	0.0	0.0	0.0	20.2	0.0	0.0	0.0	35.0	16.0	#N/A	4.3	15.1	18.0	0.0
96/01/22	7.4	18.0	6.0	15.0	13.0	11.0	100.0	50.4	35.7	2.9	3.0	#N/A	2.8	0.7	32.0	20.0
96/01/23	6.1	1.0	0.0	0.1	4.0	0.0	0.0	1.3	4.0	0.0	0.0	#N/A	0.0	0.3	4.6	2.0
96/01/24	0.2	0.0	0.0	0.0	0.0	29.5	0.0	0.0	1.7	1.1	0.0	#N/A	0.0	0.0	0.0	2.0
96/01/25	0.0	0.0	2.0	0.0	0.0	0.0	0.0	11.0	36.2	0.0	0.0	#N/A	0.0	0.0	0.3	20.0
96/01/26	7.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	1.5	5.2	17.0	#N/A	39.8	15.6	0.0	11.0
96/01/27	6.0	0.0	0.0	4.6	0.0	1.4	0.0	9.0	15.2	34.2	7.0	#N/A	14.1	5.4	0.8	20.0
96/01/28	4.5	0.0	5.0	0.2	0.0	0.2	3.0	10.1	7.1	1.3	0.0	#N/A	0.0	0.0	16.0	39.0
96/01/29	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	#N/A	0.0	0.0	0.0	0.0
96/01/30	0.0	0.0	8.0	0.1	0.0	0.0	0.0	0.0	0.0	1.2	0.0	#N/A	0.9	0.0	0.0	0.0
96/01/31	28.2	18.0	28.0	37.5	0.0	23.0	0.0	0.0	0.0	6.3	0.0	#N/A	5.8	0.2	0.5	2.0

Table 8.3 DAILY RAINFALL (2/2)

Date	CITIKO ARR. BMG	GADONG BMG	KATULAMPA PU Beger	DARMAGA ARR. BMG	ENPANG BMG	CURUG BMG	DEPOK BMG	HALIM PK. BMG	CILEDUG BMG	TANGERANG BMG	MANGGARAI PU DSI	KARET PU DSI	CENGKARENG BMG	JAKARTA BMG	TG. PRIOK BMG	CITIKARANG BMG
96/02/01	17.7	12.0	28.0	7.0	22.0	0.0	1.0	3.2	4.6	1.0	0.0	#N/A	4.8	7.3	6.8	24.0
96/02/02	12.4	12.0	0.0	1.9	33.0	1.8	5.0	1.8	0.0	0.0	0.0	#N/A	0.9	0.0	0.8	2.0
96/02/03	0.0	1.0	0.0	0.2	13.0	5.0	0.0	0.0	0.0	32.1	105.0	#N/A	112.7	0.0	0.0	0.0
96/02/04	44.5	5.0	7.0	5.4	0.0	2.0	12.0	26.8	16.0	3.2	7.0	#N/A	13.7	7.7	83.0	3.0
96/02/05	7.1	0.0	2.0	2.0	14.0	0.0	0.0	0.0	0.0	0.0	12.0	#N/A	9.2	2.3	17.5	0.0
96/02/06	1.0	0.0	0.0	1.2	0.0	0.0	35.0	7.2	2.4	1.0	0.0	#N/A	10.1	0.4	4.3	0.0
96/02/07	1.2	5.0	27.0	5.6	2.0	29.0	0.0	0.0	0.0	75.4	21.0	#N/A	65.8	37.6	5.0	27.0
96/02/08	10.1	5.0	6.0	17.3	16.0	2.0	28.0	21.0	42.8	2.0	9.0	19.0	6.2	2.6	88.9	13.0
96/02/09	4.6	6.0	15.0	2.5	3.0	24.0	0.0	4.2	3.0	175.2	150.0	7.0	106.8	216.2	10.7	8.0
96/02/10	30.6	24.0	130.0	5.4	19.0	35.8	60.0	98.9	129.5	88.0	151.0	90.0	76.6	55.7	231.1	28.0
96/02/11	114.4	80.0	3.0	102.8	102.0	0.0	65.0	86.0	92.8	1.1	0.0	67.0	1.1	0.2	97.5	36.0
96/02/12	2.4	4.0	14.0	0.0	3.0	1.5	0.0	6.8	0.0	9.0	3.0	4.0	13.8	12.8	0.8	17.0
96/02/13	74.8	2.0	13.0	36.6	23.0	8.0	3.0	7.0	11.2	3.0	5.0	11.0	7.2	12.8	11.6	13.0
96/02/14	27.0	2.0	0.0	65.5	30.0	1.0	36.0	0.0	0.8	0.0	0.0	#N/A	0.9	0.0	0.1	0.0
96/02/15	0.0	16.0	0.0	0.0	0.0	6.0	0.0	0.0	0.0	9.3	12.0	#N/A	2.1	2.1	0.0	0.0
96/02/16	1.2	25.0	0.0	13.2	0.0	45.0	0.0	2.1	6.7	23.9	13.0	#N/A	34.8	24.5	0.0	0.0
96/02/17	18.0	0.0	0.0	18.6	4.0	6.0	3.0	19.0	27.4	14.8	0.0	#N/A	9.0	9.1	19.8	32.0
96/02/18	0.9	3.0	15.0	4.6	16.0	1.0	20.0	1.2	3.9	0.0	0.0	#N/A	0.0	0.0	10.4	25.0
96/02/19	56.8	0.0	8.0	0.0	0.0	21.5	19.0	0.0	0.0	0.9	9.0	#N/A	0.0	13.0	0.0	0.0
96/02/20	25.3	0.0	10.0	6.2	0.0	64.5	0.0	3.3	19.7	46.8	18.0	#N/A	65.7	23.3	18.5	3.0
96/02/21	11.0	0.0	30.0	22.5	73.0	0.0	0.0	36.2	16.4	0.0	0.0	#N/A	2.0	1.5	60.2	29.0
96/02/22	61.6	40.0	27.0	24.5	4.0	0.0	2.0	14.2	0.0	0.0	6.0	#N/A	2.0	6.0	21.8	0.0
96/02/23	57.6	25.0	6.0	27.0	9.0	0.0	0.0	10.0	1.0	0.0	22.0	#N/A	0.0	7.0	64.0	1.0
96/02/24	6.5	0.0	9.0	36.0	16.0	6.0	10.0	13.3	1.0	13.0	17.0	#N/A	5.1	16.7	21.7	0.0
96/02/25	4.9	5.0	30.0	73.0	41.0	2.5	7.0	33.0	22.3	14.0	6.0	#N/A	34.2	0.0	5.9	17.0
96/02/26	56.4	50.0	4.0	5.2	14.0	6.7	3.0	34.0	16.8	66.2	8.0	#N/A	0.0	1.0	0.2	3.0
96/02/27	1.0	0.0	19.0	0.3	6.0	0.0	5.0	14.2	10.5	34.0	34.0	#N/A	0.0	38.0	0.4	8.0
96/02/28	3.8	5.0	12.0	28.6	27.0	28.9	1.0	15.0	13.2	45.1	64.0	#N/A	0.0	76.6	26.0	18.0
96/02/29	31.0	2.0	7.0	24.9	4.0	12.0	74.0	19.3	40.4	0.8	0.0	#N/A	0.0	0.0	46.8	35.0

Table 8.4 INUNDATION AREA IN DKI JAKARTA CAUSED BY JAN/FEB. 1996 FLOODS (1/4)

River	District	Loc. No.	Inundation Area				Note	Map Index No
			Kelurahan/Street(Jl.)	Jan. '96 (ha)	Feb. '96 (ha)	Depth(m)		
Kamal Grogol /Sekretaris	West Jakarta	KL-01	Jl. Tol Sedyatmo	-	21	-		-
	West Jakarta	GS-01	Jl. Daan Mogot	1	260	0.1 - 0.6		24-H-11
		GS-02	Jelambar	10	-	-	Rumah Sakit Jiwa Grogol	24-H-11
		GS-03	Jelambar Baru	25	63	-		24-H-13
		GS-04	Poglar	5	75	-		23-F-09
		GS-05	Pejagalan	650	31	-	Kamp. Gusti and Teluk Gong	14-G-07.08
		GS-06	Kedaung	10	92	0.1 - 1.4		23-E-09
		GS-07	Kelapa HUBAD	-	37	-		44-F-18
	South Jakarta	GS-08	Batu Sari & Tnj. Duren	-	88	-		34-H-14
		GS-09	Permata Hijau	-	37	-		44-H-19
		GS-10	Pal Merah	-	21	-		44-H-17
		GS-11	Pondok Pinang	-	50	-		64-H-25
		GS-12	Kamp. Dukuh	-	51	-		54-H-23
		GS-13	Gandaria	-	22	-		54-I-24
		GS-14	Jl. Hang Lekir	-	25	-		54-I-21
Pesanggrahan /Angke	North Jakarta	PA-01	Kapuk Muara	17	-	-	Tol Sedyatmo	13-E-05
		PA-04	Muara Karang	-	50	-		04-G-05
		PA-05	Jl. Pluit Barat raya	-	22	-		04-H-05
	West Jakarta	PA-02	Rawa Buaya	1	63	0.8 - 1.5		23-C-10
		PA-03	Tegal Alur	10	-	-		12-y-05
		PA-06	Kembangan	-	12	-		33-C-13
		PA-07	Meruya Ilir/Taman Aries	-	31	-		33-D-16
	South Jakarta	PA-08	Budi Mulia	-	33	-		33-D-14
		PA-09	Sangrila Indah	-	21	-		53-E-22
		PA-10	Komp. Depdagri	-	47	-		63-F-27
		PA-11	IKPN Bintaro	-	38	-		63-F-25
		PA-12	Ulu Jami	-	55	2.5 - 6.5		53-E-23

Table 8.4 INUNDATION AREA IN DKI JAKARTA CAUSED BY JAN/FEB. 1996 FLOODS (2/4)

River	District	Loc. No.	Inundation Area				Note	Map Index No
			Kelurahan/Street(Jl.)	Jan. '96 (ha)	Feb. '96 (ha)	Depth(m)		
Ciliwung /Western Banjir Canal	South Jakarta	CW-01	Pejaten Timur	57	-	-		65-P-27
		CW-02	Rawajati	27	-	-		65-P-25
		CW-03	Pengadegan	45	-	-		55-P-24
		CW-04	Kebon Baru	37	33	-		56-Q-21
		CW-05	Bukit Duri	5	-	-		46-P-20
		CW-06	Guntur	30	47	-		45-M-18
	East Jakarta	CW-07	Balekambang	22	-	-		65-P-28
		CW-08	Cililitan	16	-	-		66-Q-25
		CW-09	Cawang	40	-	-		56-R-24
		CW-10	Bidaracina	50	-	-		56-Q-22
		CW-11	Balimester	14	-	-		46-Q-19
		CW-12	Kampung Melayu	10	-	-	Jl.Kebon Pala	46-Q-19
	Central Jakarta	CW-13	Kebon Manggis	0.1	-	-	Jl.Slamet Riyadi	46-P-18
CW-14		Petamburan/Jati Pinggir	5	73	0.1 - 0.6		34-J-16	
CW-15		Cideng	12	47	-	Stasiun Tanah Abang, Jatibaru, Tanjung Selor	24-J-13	
CW-19		Jl.MH.Thamrin	-	58	0.1 - 0.6		35-L-15	
CW-16		Jatipulo	2	78	-		34-J-14	
West Jakarta	CW-17	Tomang	37	31	-		24-I-12	
	CW-18	Grogol	150	38	0.8 - 1.0		24-I-11	
	CH-01	Pegangsaan	1	-	-	Jl.Matraman Dalam	35-P-17	
	CH-02	Kenari	2.5	-	-	Jl.Salemba i, Jl.Kenari	35-O-16	
Ciliwung Hilir /Ciliwung Kota /Kali Beton	CH-03	Cikini	5	-	-	Kali Pasir	35-N-15	
	CH-04	Mangga Dua Selatan	20	-	-	Jembatan Merah, Mangga Besar, Jl.Pangerang Jayakarta	15-M-08	
	CH-05	Mangga Besar	3	-	-		15-M-09	
	CH-06	Tangki	2	21	-		15-L-08	
North Jakarta	CH-07	Pinangsia	20	51	-		15-K-06	

Table 8.4 INUNDATION AREA IN DKI JAKARTA CAUSED BY JAN/FEB. 1996 FLOODS (3/4)

River	District	Inundation Area						Note	Map Index No
		Loc. No.	Kelurahan/Street(Jl.)	Jan. '96		Feb. '96			
				(ha)	(ha)	(ha)	Depth(m)		
Krukut	South Jakarta	KR-01	Petogogan	-	-	31	-		54-K-24
		KR-02	Tarakanita	-	-	34	0.0 - 1.0		54-K-23
		KR-03	Kompl. POLRI Pd. Karya	-	-	14	0.2 - 4.7		55-L-23
		KR-04	Bendungan Hilir	-	-	206	1.0 - 2.0		45-K-18
Cideng	South Jakarta	CD-01	Kompl. P. AERI Gt. Subroto	-	-	26	-		55-M-21
Cideng / Krukut Hilir	West Jakarta	CK-01	Glodok	15	-	-	-	Jl. Pancoran	15-K-08
		CK-02	Kel. Jembatan Lima	-	-	93	0.1 - 1.1		14-I-07
Ciliwung Gunung Sahani	North Jakarta	CG-01	Komplek AIP, Mangga Dua Selatan, Mangga Dua	7	-	-	-		15-M-07
		CG-02	Jl. Rj. Wali Sel. & Jl. Industri	-	-	34	-		15-N-08
Polder Pluit	North Jakarta	PP-01	Penjarangan	8	-	183	0.1 - 0.8	Jl. Pluit Raya, Jl. Pluit Selatan Raya	14-I-05
Cipinang /Sunter	East Jakarta	CS-01	Makasar	5.5	40	-	-	Kampung Mahasar	66-S-28
		CS-02	Kebon Pala	5.5	19	2.2		Cipinang Halim	56-S-25
		CS-03	Cipinang Besar Selatan	5				Jl. Jend. D.I Panjaitan, Jl. Penas	46-U-21
		CS-04	Cipinang Muara	10	21	0.8			46-T-19
		CS-05	Jl. Perintis Kemerdekaan	0.5	-	-	-		37-V-13
		CS-09	Cipinang Rambutan	-	47	-	-		66-R-31
		CS-10	Halim	-	54	-	-		67-V-27
		CS-11	Kebon Nanas	-	31	0.8 - 1.1			56-S-21
		CS-12	Rawamangun	-	78	-			46-U-17
		CS-13	Pulogadung	-	34	0.9 - 2.9			37-V-16
		CS-14	Pulomas	-	136	0.1 - 2.2			26-S-12
		CS-15	Perintis Kemerdekaan	-	42	-			26-T-12
		CS-16	Sumur Batu	-	29	0.2			26-R-12

Table 8.4 INUNDATION AREA IN DKI JAKARTA CAUSED BY JAN./FEB. 1996 FLOODS (4/4)

River	District	Inundation Area				Note	Map Index No
		Loc. No.	Keturahan/Street(Jl.)	Jan. '96 (ha)	Feb. '96 (ha)	Depth(m)	
Cipinang /Sunter	North Jakarta	CS-06	Jl. Yos Sudarso	0.6	-	-	16-T-07
		CS-07	Rarwa Badak	600	382	0.5 - 1.4	07-U-04
		CS-08	Kelapa Gading Timur	800	76	0.3 - 1.6	27-V-11
		CS-17	Jl. Yos Sudarso	-	38	0.1 - 0.6	26-T-10
Polder Sunter Barat	North Jakarta	SB-01	Warakas	10	58	0.1 - 1.3	06-S-05
		SB-02	Papanggo	7	36	-	16-S-06
		SB-03	Sungai Bambu	2	-	-	16-T-07
		SB-04	Kebon Bawang	7.5	35	-	16-T-05
		SB-05	Jl. R.E. Martadinata	1	-	-	15-M-06
		SB-06	Sunter A,B,C	6	-	-	-
		SB-07	Sunter Agung Pdmoro	-	256	0.1 - 1.4	16-S-08
Suntiong /Pademangan K.Cakung	North Jakarta	SB-08	Koja	-	65	-	06-V-02
		SP-01	Pademangan	10	257	0.1 - 0.8	15-N-07
		SP-02	Gunung Sahari	2	-	-	15-N-09
		CA-01	Jatimekar	7	-	-	77-Z-31
	Kab. Bekasi	CA-02	Jatiasih	5	-	-	68-C-29

Source : Ciliwung-Cisadane River Basin Development Project Office, DPU

Remarks : Map Index No. shows the grid indices in the Jakarta Street Atlas & Names Index
by Gunther W. Holtorf, distributed by P.T. Djambatan

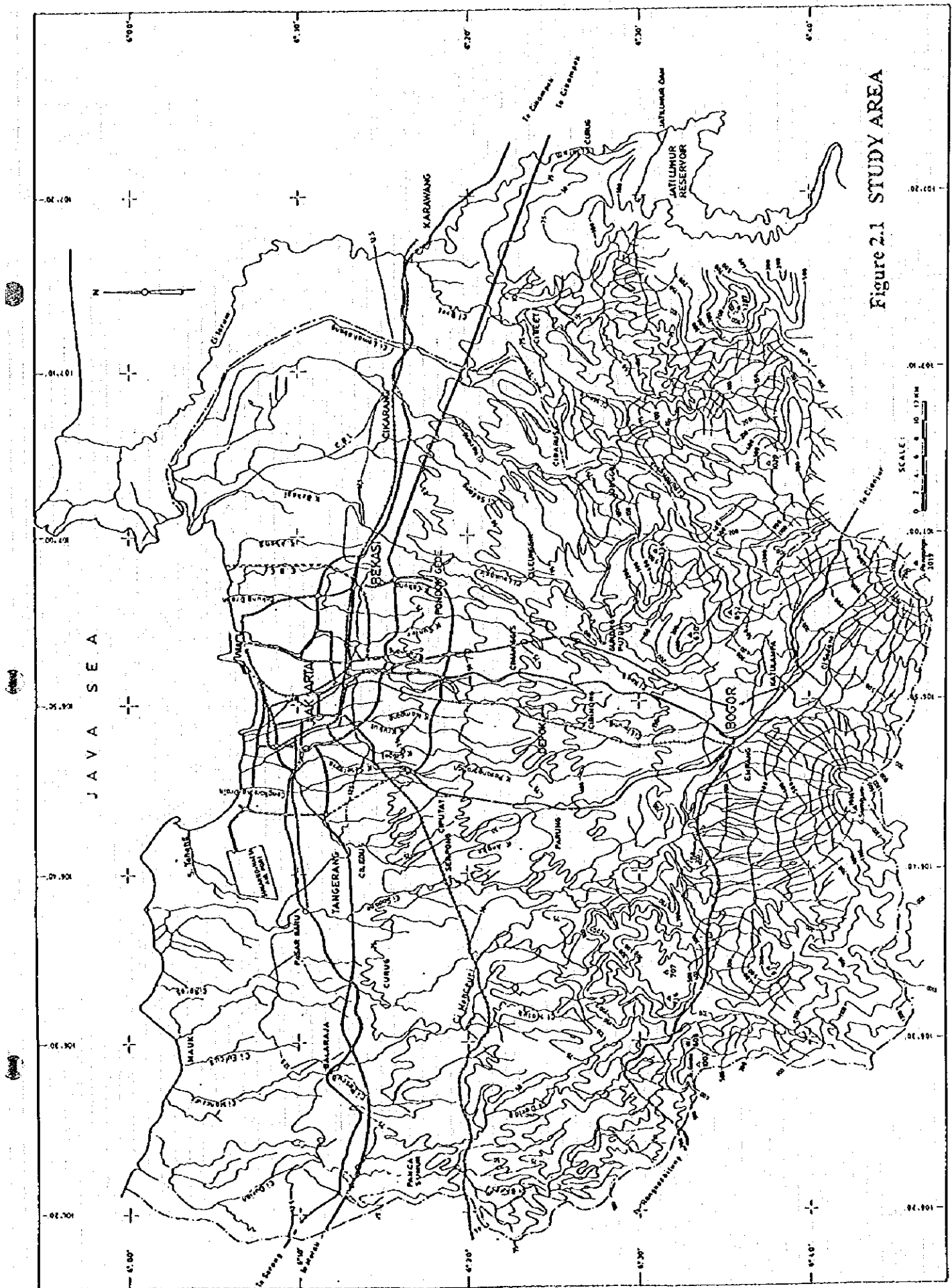


Figure 2.1 STUDY AREA

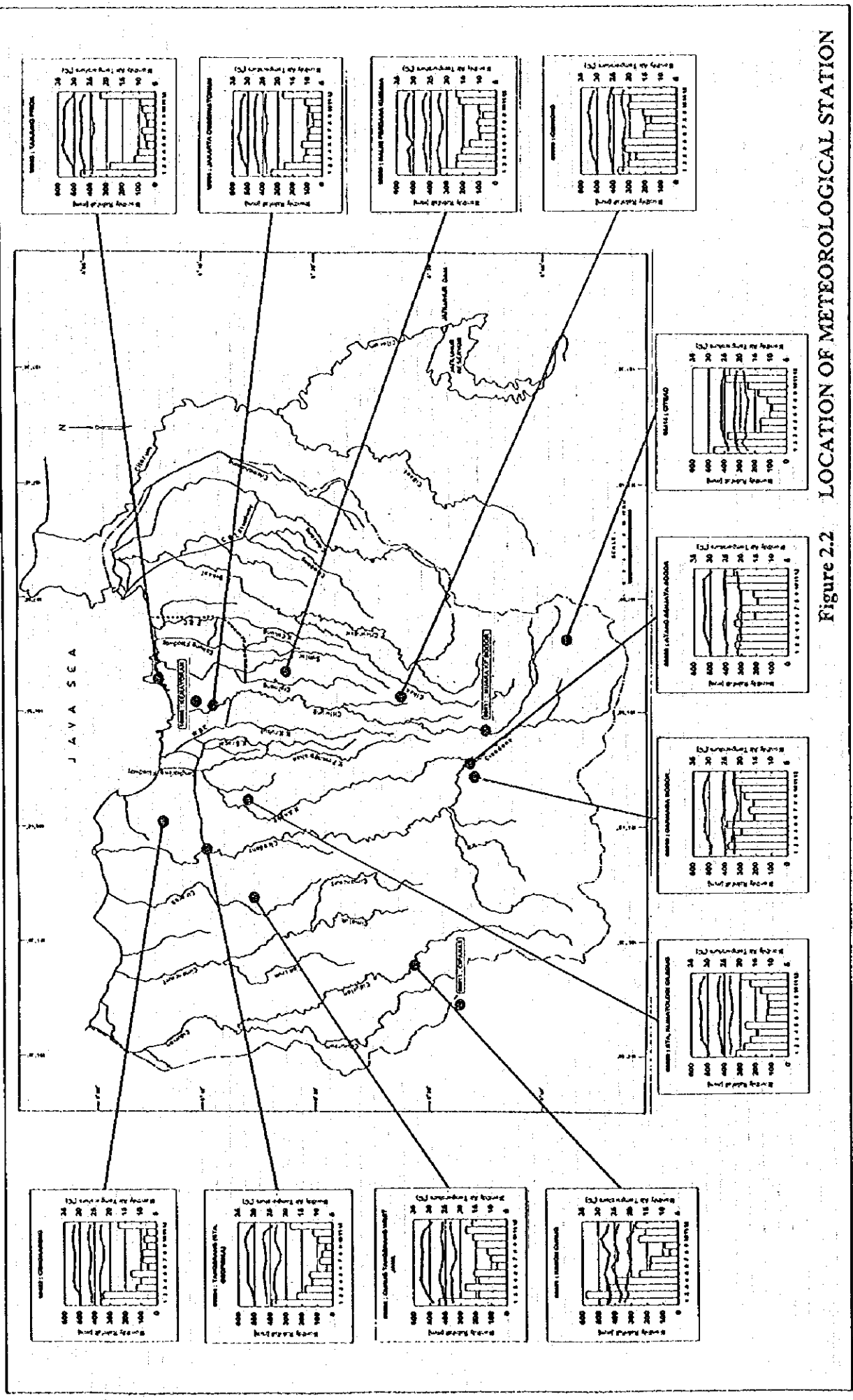
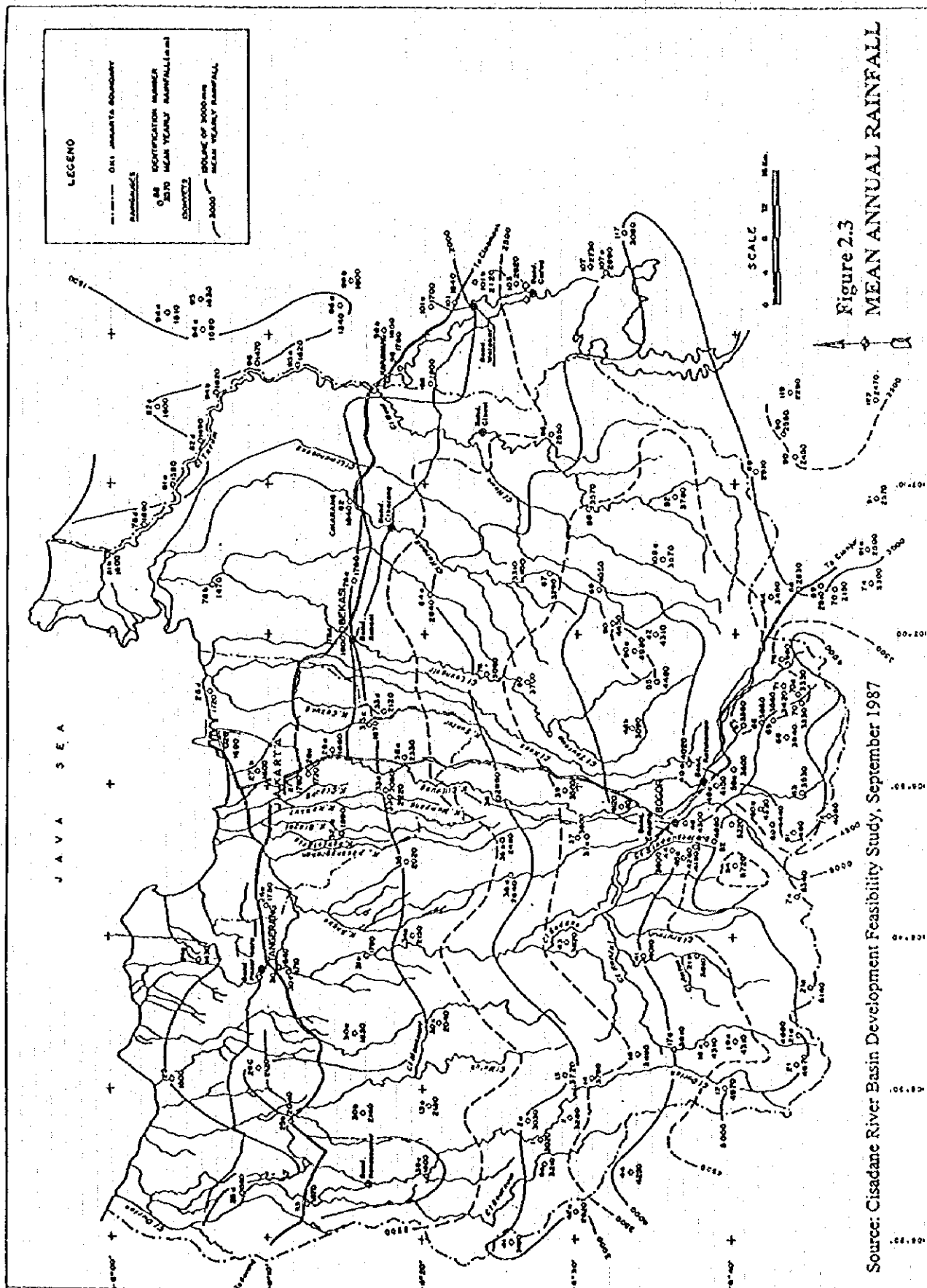


Figure 2.2 LOCATION OF METEOROLOGICAL STATION



Monthly Tide Level

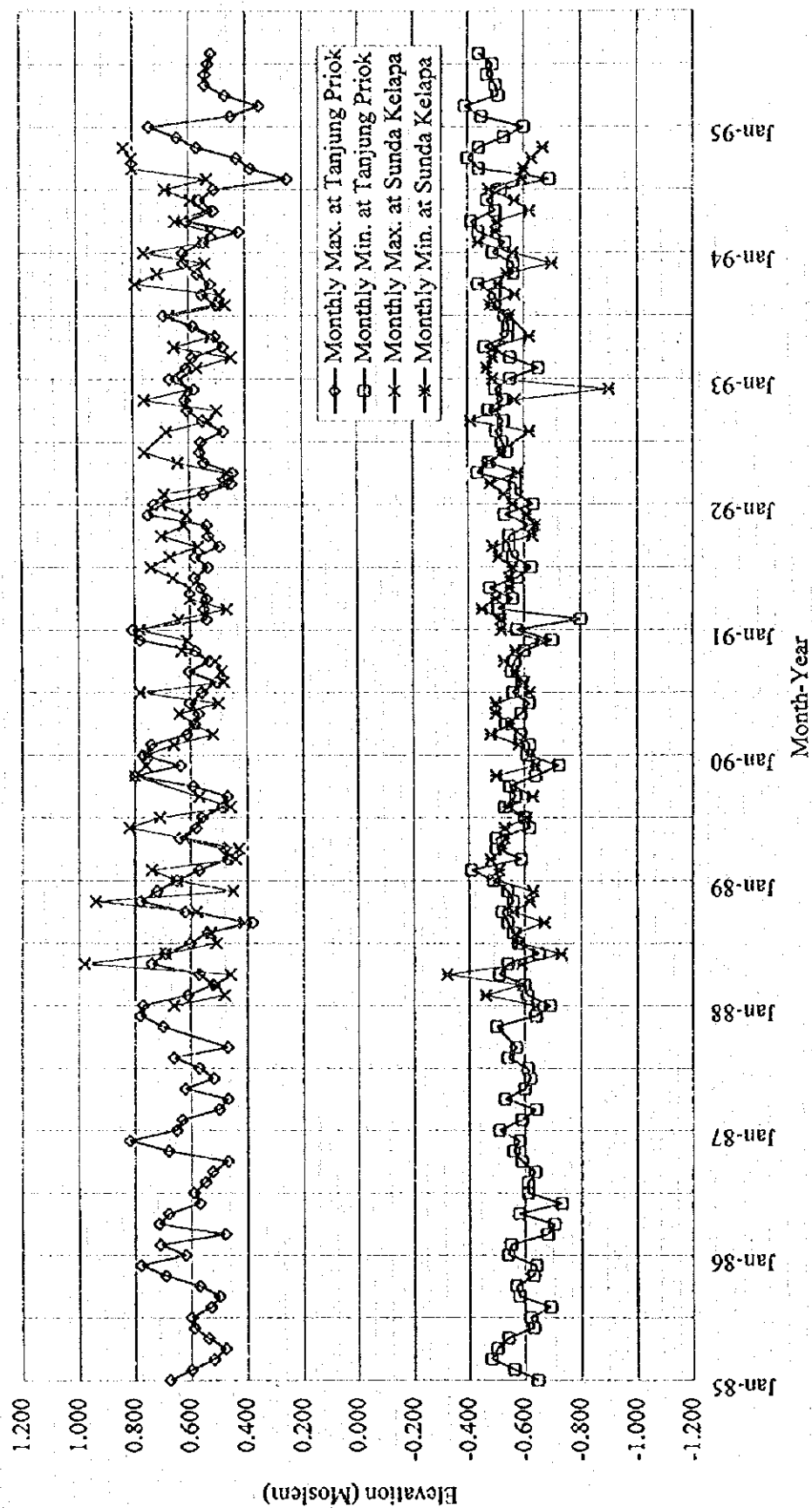
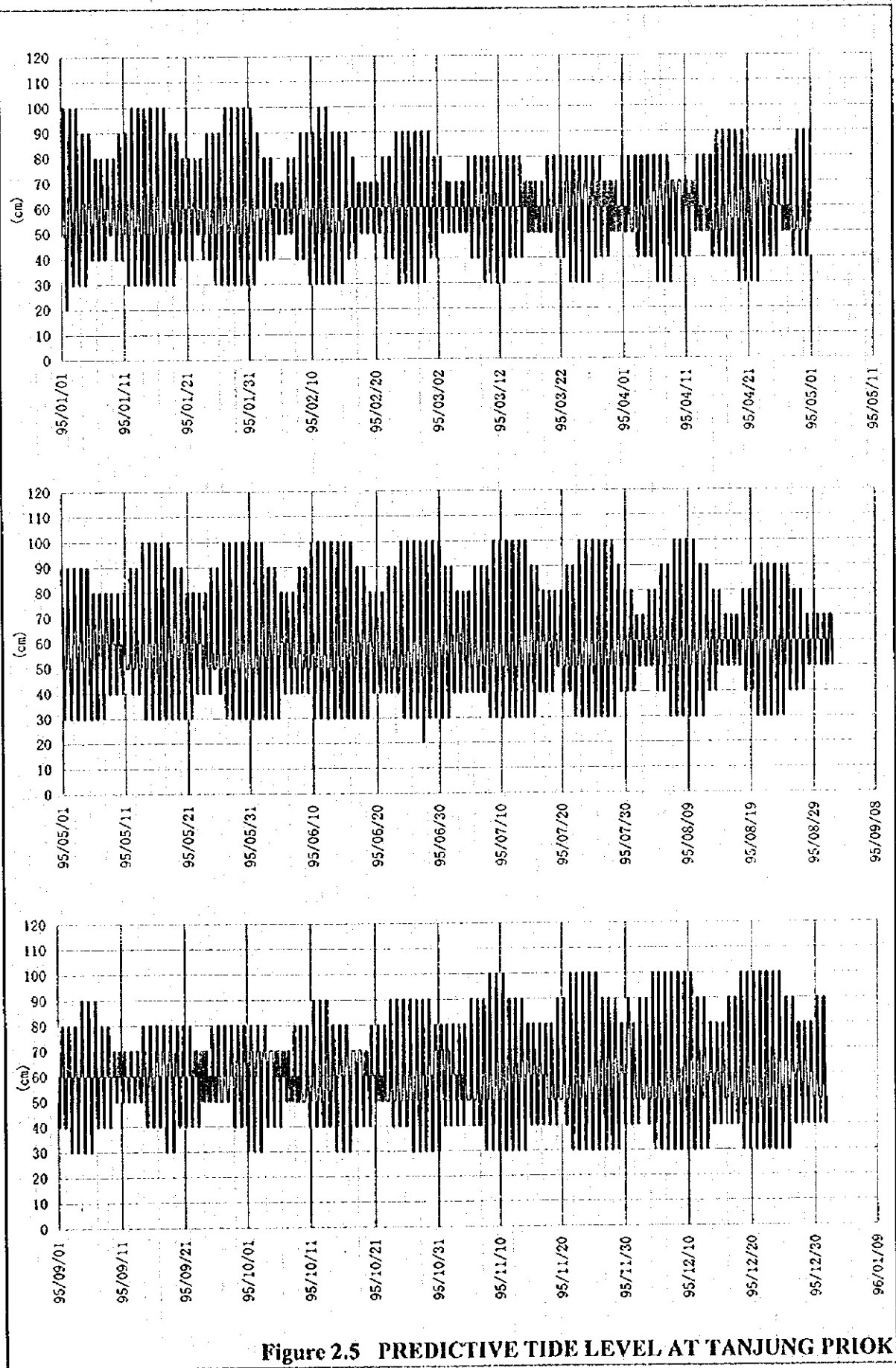


Figure 2.4 MONTHLY MAXIMUM AND MINIMUM TIDE



Region Code: 02 (in and around Jakarta)

as of November 1995

Station No.	Code	120° 0'		120° 10'		120° 20'		120° 30'		120° 40'		120° 50'		121° 0'		121° 10'		121° 20'		121° 30'		121° 40'		121° 50'		122° 0'		122° 10'		122° 20'		122° 30'		122° 40'		122° 50'		123° 0'		123° 10'		123° 20'		123° 30'		123° 40'		123° 50'		124° 0'		124° 10'		124° 20'		124° 30'		124° 40'		124° 50'		125° 0'		125° 10'		125° 20'		125° 30'		125° 40'		125° 50'		126° 0'		126° 10'		126° 20'		126° 30'		126° 40'		126° 50'		127° 0'		127° 10'		127° 20'		127° 30'		127° 40'		127° 50'		128° 0'		128° 10'		128° 20'		128° 30'		128° 40'		128° 50'		129° 0'		129° 10'		129° 20'		129° 30'		129° 40'		129° 50'		130° 0'		130° 10'		130° 20'		130° 30'		130° 40'		130° 50'		131° 0'		131° 10'		131° 20'		131° 30'		131° 40'		131° 50'		132° 0'		132° 10'		132° 20'		132° 30'		132° 40'		132° 50'		133° 0'		133° 10'		133° 20'		133° 30'		133° 40'		133° 50'		134° 0'		134° 10'		134° 20'		134° 30'		134° 40'		134° 50'		135° 0'		135° 10'		135° 20'		135° 30'		135° 40'		135° 50'		136° 0'		136° 10'		136° 20'		136° 30'		136° 40'		136° 50'		137° 0'		137° 10'		137° 20'		137° 30'		137° 40'		137° 50'		138° 0'		138° 10'		138° 20'		138° 30'		138° 40'		138° 50'		139° 0'		139° 10'		139° 20'		139° 30'		139° 40'		139° 50'		140° 0'		140° 10'		140° 20'		140° 30'		140° 40'		140° 50'		141° 0'		141° 10'		141° 20'		141° 30'		141° 40'		141° 50'		142° 0'		142° 10'		142° 20'		142° 30'		142° 40'		142° 50'		143° 0'		143° 10'		143° 20'		143° 30'		143° 40'		143° 50'		144° 0'		144° 10'		144° 20'		144° 30'		144° 40'		144° 50'		145° 0'		145° 10'		145° 20'		145° 30'		145° 40'		145° 50'		146° 0'		146° 10'		146° 20'		146° 30'		146° 40'		146° 50'		147° 0'		147° 10'		147° 20'		147° 30'		147° 40'		147° 50'		148° 0'		148° 10'		148° 20'		148° 30'		148° 40'		148° 50'		149° 0'		149° 10'		149° 20'		149° 30'		149° 40'		149° 50'		150° 0'		150° 10'		150° 20'		150° 30'		150° 40'		150° 50'		151° 0'		151° 10'		151° 20'		151° 30'		151° 40'		151° 50'		152° 0'		152° 10'		152° 20'		152° 30'		152° 40'		152° 50'		153° 0'		153° 10'		153° 20'		153° 30'		153° 40'		153° 50'		154° 0'		154° 10'		154° 20'		154° 30'		154° 40'		154° 50'		155° 0'		155° 10'		155° 20'		155° 30'		155° 40'		155° 50'		156° 0'		156° 10'		156° 20'		156° 30'		156° 40'		156° 50'		157° 0'		157° 10'		157° 20'		157° 30'		157° 40'		157° 50'		158° 0'		158° 10'		158° 20'		158° 30'		158° 40'		158° 50'		159° 0'		159° 10'		159° 20'		159° 30'		159° 40'		159° 50'		160° 0'		160° 10'		160° 20'		160° 30'		160° 40'		160° 50'		161° 0'		161° 10'		161° 20'		161° 30'		161° 40'		161° 50'		162° 0'		162° 10'		162° 20'		162° 30'		162° 40'		162° 50'		163° 0'		163° 10'		163° 20'		163° 30'		163° 40'		163° 50'		164° 0'		164° 10'		164° 20'		164° 30'		164° 40'		164° 50'		165° 0'		165° 10'		165° 20'		165° 30'		165° 40'		165° 50'		166° 0'		166° 10'		166° 20'		166° 30'		166° 40'		166° 50'		167° 0'		167° 10'		167° 20'		167° 30'		167° 40'		167° 50'		168° 0'		168° 10'		168° 20'		168° 30'		168° 40'		168° 50'		169° 0'		169° 10'		169° 20'		169° 30'		169° 40'		169° 50'		170° 0'		170° 10'		170° 20'		170° 30'		170° 40'		170° 50'		171° 0'		171° 10'		171° 20'		171° 30'		171° 40'		171° 50'		172° 0'		172° 10'		172° 20'		172° 30'		172° 40'		172° 50'		173° 0'		173° 10'		173° 20'		173° 30'		173° 40'		173° 50'		174° 0'		174° 10'		174° 20'		174° 30'		174° 40'		174° 50'		175° 0'		175° 10'		175° 20'		175° 30'		175° 40'		175° 50'		176° 0'		176° 10'		176° 20'		176° 30'		176° 40'		
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Figure 3.2 AVAILABLE DAILY RAINFALL RECORD (1/5)



Region Code: 02 (in and around of Jakarta)

as of November 1995

No.	Section	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
133	02057	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
134	02058	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
135	02059	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
136	02060	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
137	02061	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
138	02062	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
139	02063	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
140	02064	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
141	02065	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
142	02066	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
143	02067	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
144	02068	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
145	02069	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
146	02070	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
147	02071	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
148	02072	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
149	02073	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
150	02074	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
151	02075	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
152	02076	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
153	02077	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
154	02078	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
155	02079	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
156	02080	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
157	02081	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
158	02082	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
159	02083	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
160	02084	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
161	02085	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
162	02086	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
163	02087	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
164	02088	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
165	02089	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
166	02090	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
167	02091	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
168	02092	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
169	02093	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
170	02094	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
171	02095	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
172	02096	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
173	02097	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
174	02098	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
175	02099	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
176	02100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
177	02101	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
178	02102	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
179	02103	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
180	02104	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
181	02105	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
182	02106	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
183	02107	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
184	02108	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
185	02109	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
186	02110	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
187	02111	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
188	02112	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
189	02113	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
190	02114	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
191	02115	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
192	02116	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
193	02117	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
194	02118	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
195	02119	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
196	02120	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
197	02121	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
198	02122	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
199	02123	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
200	02124	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
201	02125	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Figure 3.2 AVAILABLE DAILY RAINFALL RECORD (3/5)

Region Code: 02 (in and around of Jakarta)										as of November 1995									
No	Code	Section	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
202	02098C	5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
203	02099D	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
204	02099E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
205	02099F	4	23	26	549														
206	02099G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
207	02099H	11	23	493	455														
208	02099C	5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
209	02099D	4	19	34	309														
210	02099E	18	45	60	630														
211	02099F	12	25	38	378														
212	02099G	10	24	27	397														
213	02100A	11	35	61	578														
214	02100B	8	10	24	183														
215	02100C	9	23	28	364														
216	02100D	6	20	36	300														
217	02100E	6	19	32	316														
218	02100F	4	5	24	205														
219	02100G	5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
220	02100H	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
221	02100I	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
222	02100J	10	26	37	348														
223	02100K	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
224	02100L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
225	02100M	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
226	02100N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
227	02100O	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
228	02100P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
229	02100Q	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
230	02100R	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
231	02100S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
232	02100T	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
233	02100U	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
234	02100V	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
235	02100W	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
236	02100X	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
237	02100Y	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
238	02100Z	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
239	02101A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
240	02101B	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
241	02101C	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
242	02101D	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
243	02101E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
244	02101F	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
245	02101G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
246	02101H	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
247	02101I	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
248	02101J	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
249	02101K	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
250	02101L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
251	02101M	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
252	02101N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
253	02101O	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
254	02101P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
255	02101Q	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
256	02101R	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
257	02101S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
258	02101T	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
259	02101U	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
260	02101V	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
261	02101W	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
262	02101X	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
263	02101Y	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
264	02101Z	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
265	02102A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
266	02102B	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
267	02102C	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
268	02102D	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
269	02102E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
270	02102F	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
271	02102G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
272	02102H	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
273	02102I	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
274	02102J	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
275	02102K	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
276	02102L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
277	02102M	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
278	02102N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
279	02102O	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
280	02102P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
281	02102Q	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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283	02102S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
284	02102T	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
285	02102U	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
286	02102V	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
287	02102W	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
288	02102X	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
289	02102Y	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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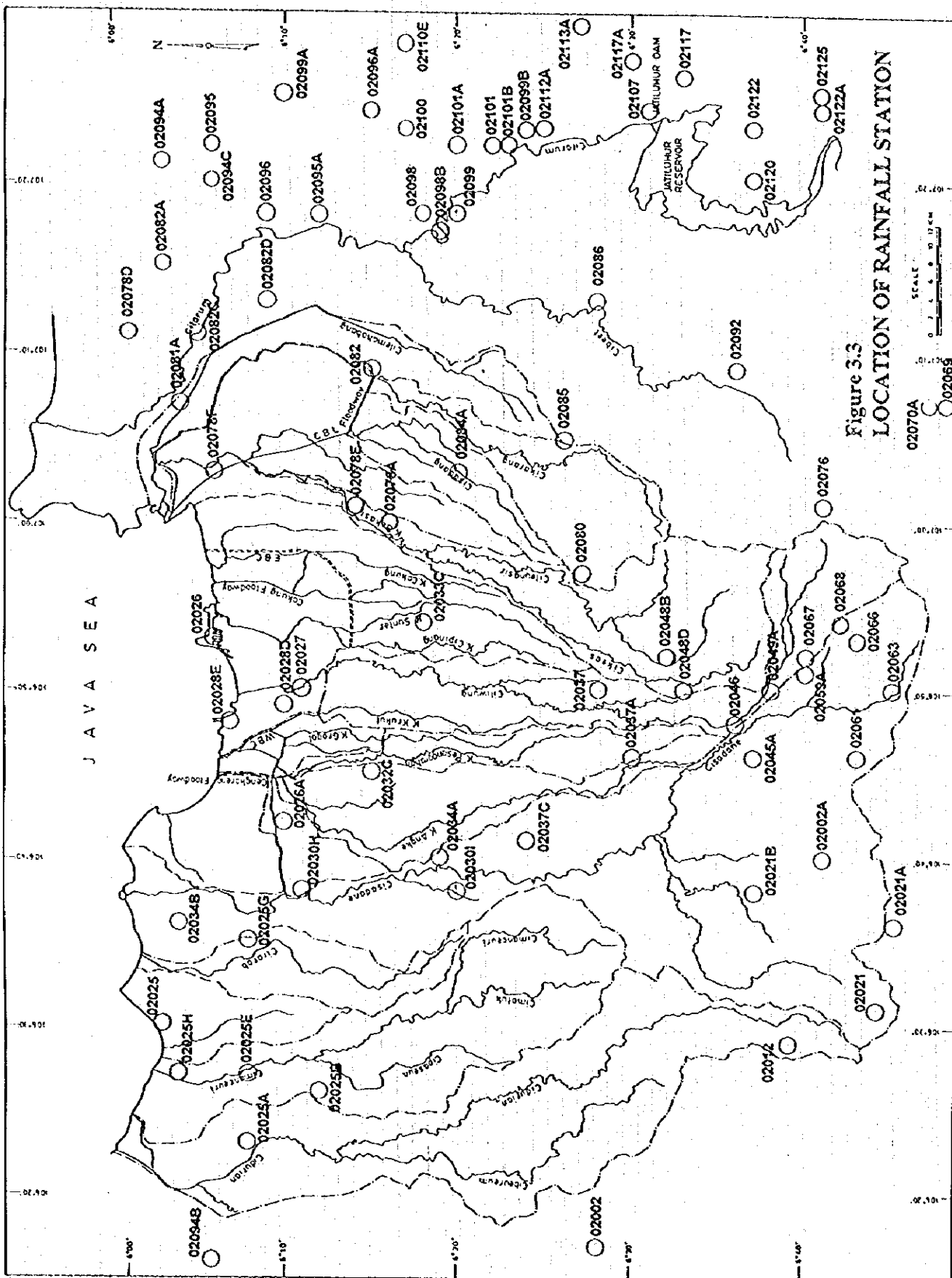
Figure 3.2 AVAILABLE DAILY RAINFALL RECORD (4/5)

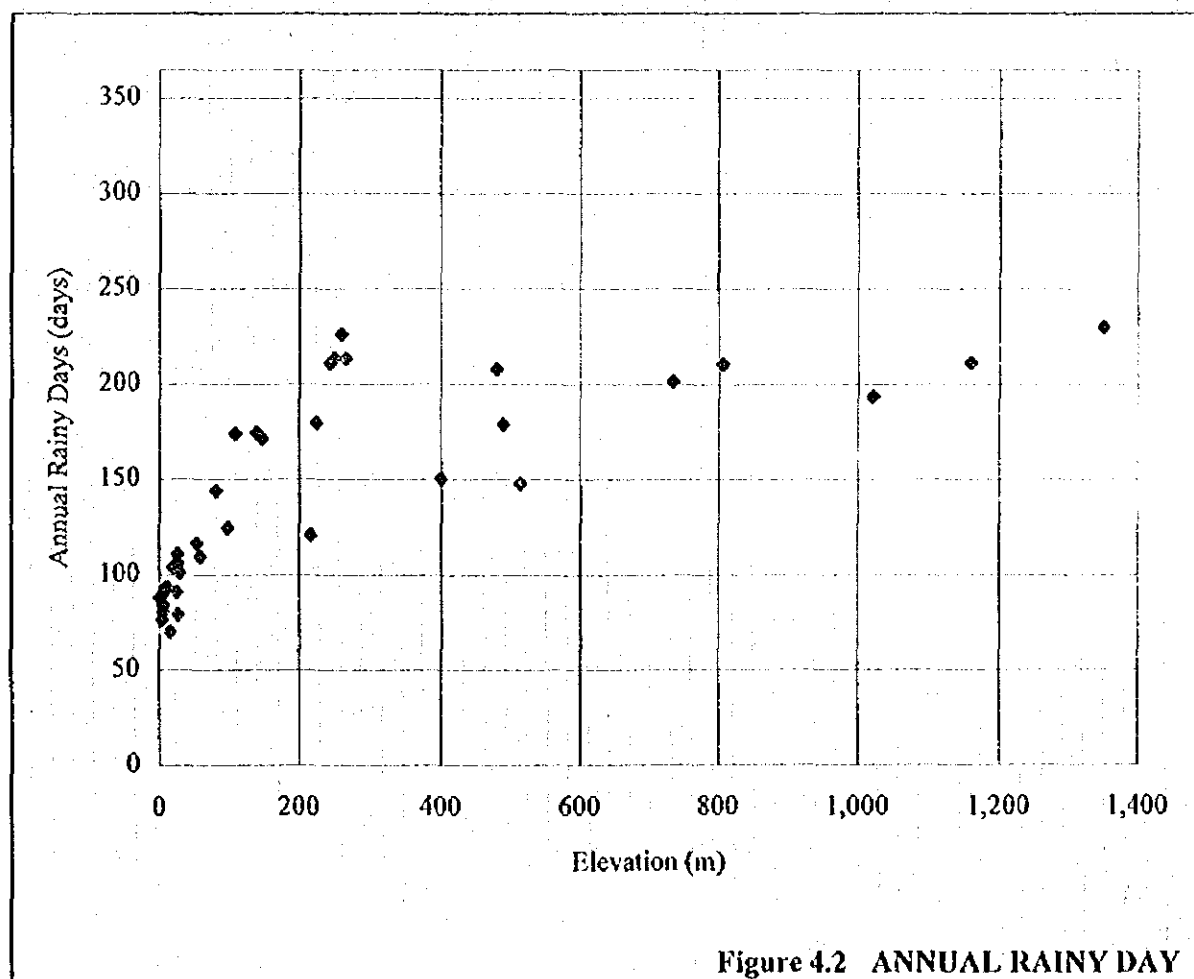
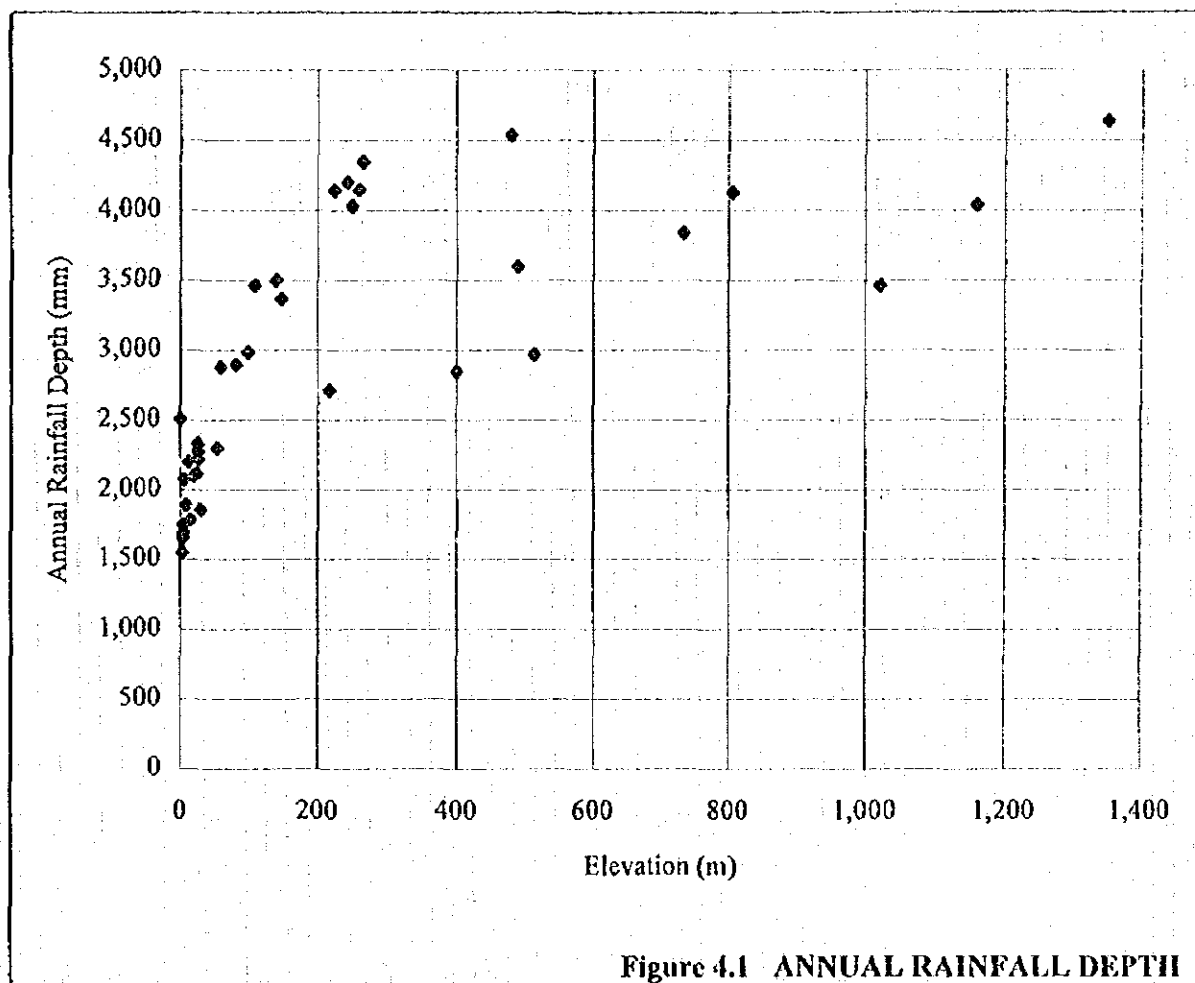
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2700	02112A	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2711	021133	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2722	02113A	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2733	02115A	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2744	02116A	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2755	02117	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2766	02118	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2777	02110	1	1	1	1	1	1	1	1	1	1	1	1	1	1
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2988	02131	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2999	02132	1	1	1	1	1	1	1	1	1	1	1	1	1	1
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3100	02143	1	1	1	1	1	1	1	1	1	1	1	1	1	1
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3222	02155	1	1	1	1	1	1	1	1	1	1	1	1	1	1
3233	02156	1	1	1	1	1	1	1	1	1	1	1	1	1	1
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3288	02161	1	1	1	1	1	1	1	1	1	1	1	1	1	1
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3300	02163	1	1	1	1	1	1	1	1	1	1	1	1	1	1
3311	02164	1	1	1	1	1	1	1	1	1	1	1	1	1	1
3322	02165	1	1	1	1	1	1	1	1	1	1	1	1	1	1

Data Source : BMG Computer Center in Jakarta, as of November 1995

- Note)
- *1 : The longest continuous data series in year
 - *2 : Total of years that has 12 months data
 - *3 : Total of years that has some months data
 - *4 : Total of months that has data available
 - : shows 12 months data are contained
 - : shows less than 12 months data are contained
 - : Data collected

Figure 3.2 AVAILABLE DAILY RAINFALL RECORD (S/S)





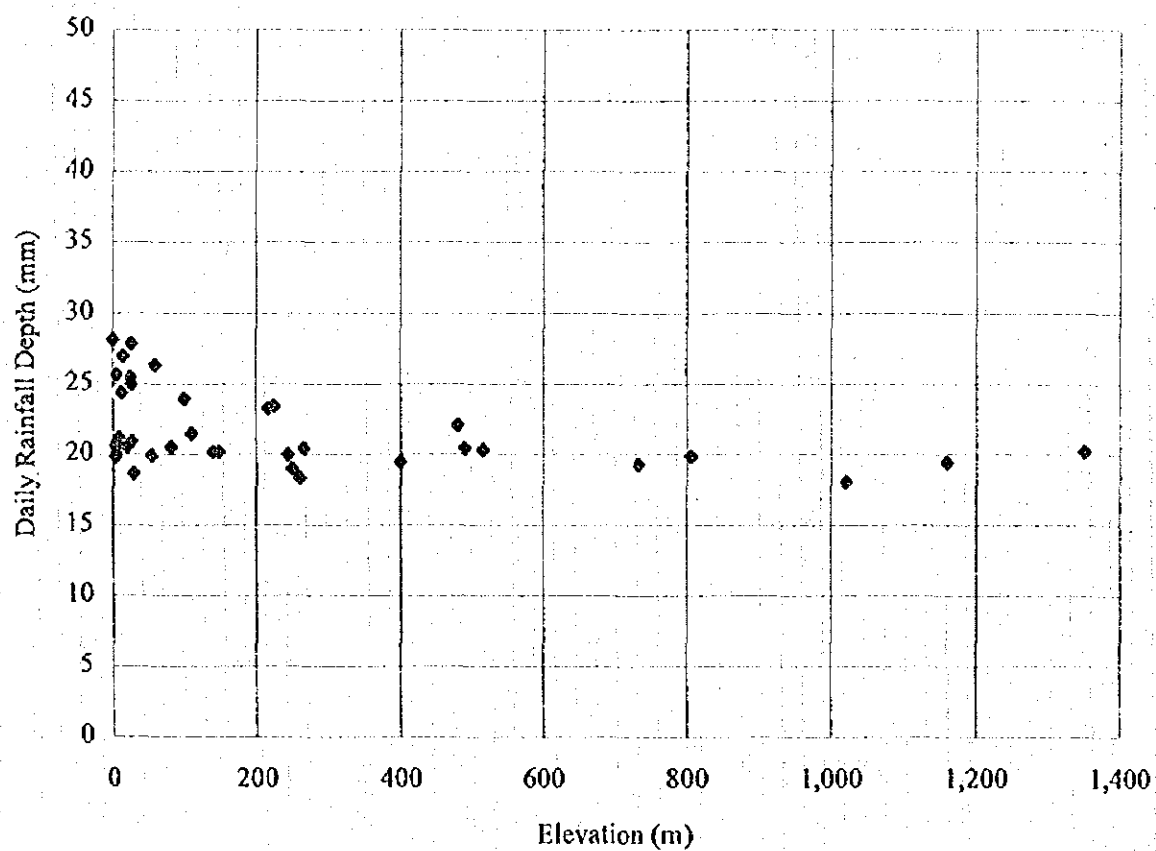
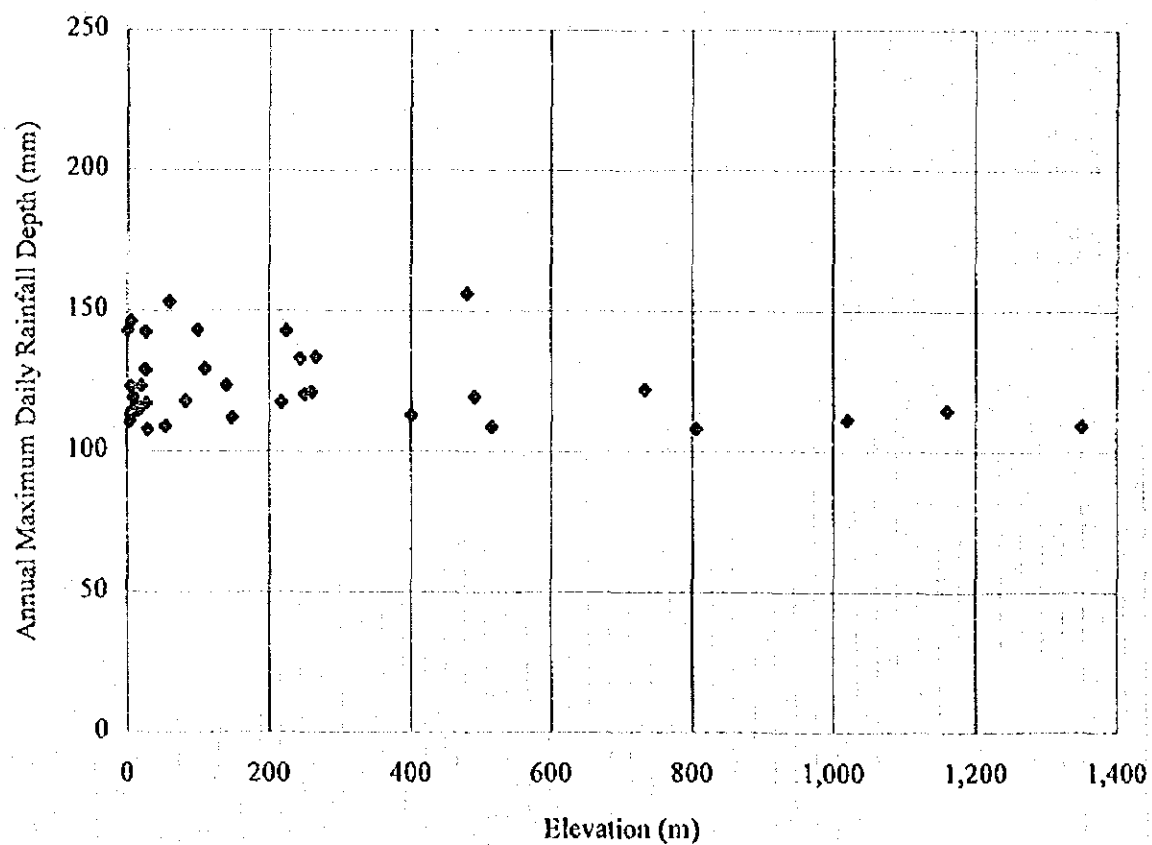


Figure 4.3 ANNUAL MEAN DAILY RAINFALL



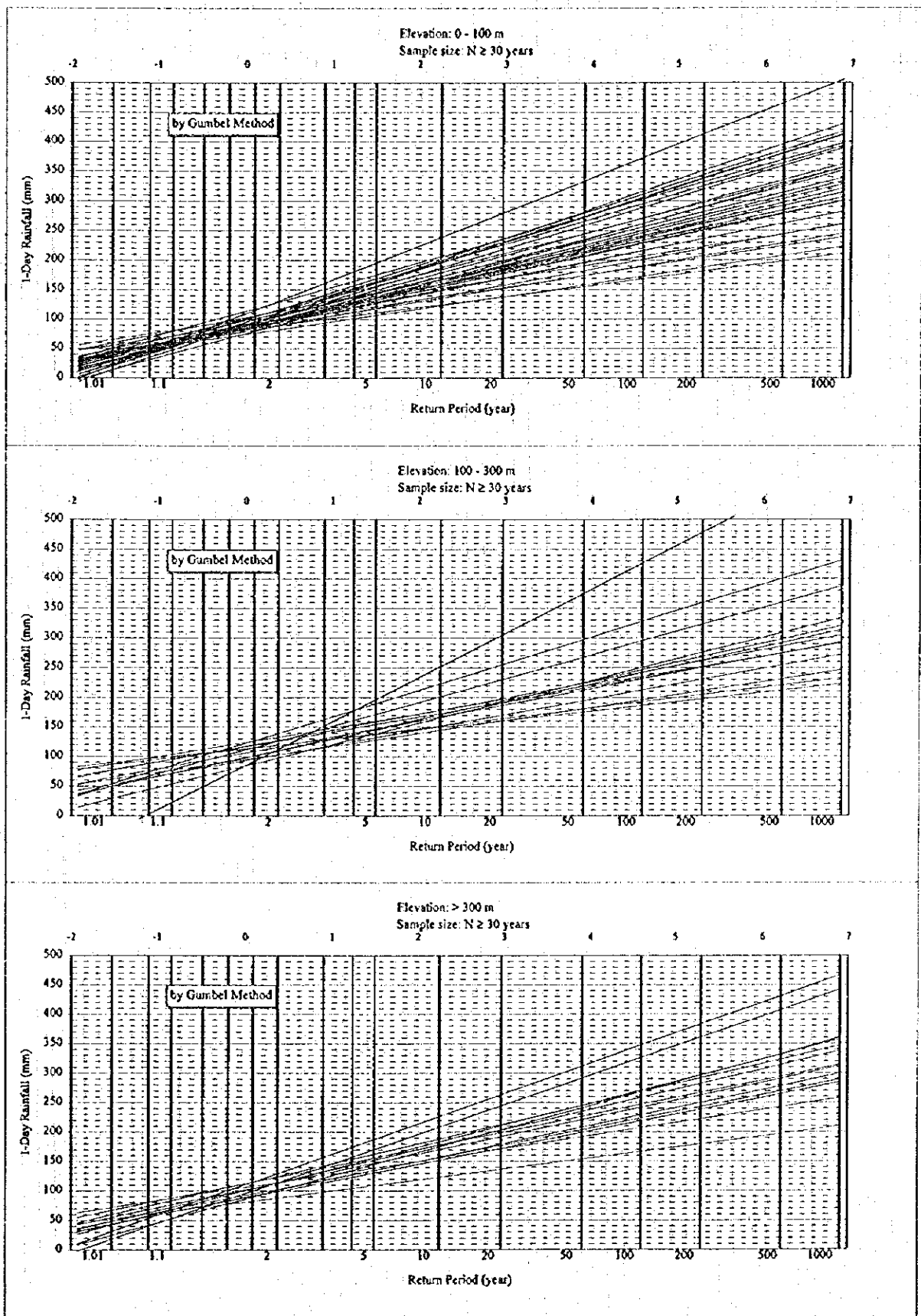


Figure 4.5 REVIEWED FREQUENCY ANALYSIS

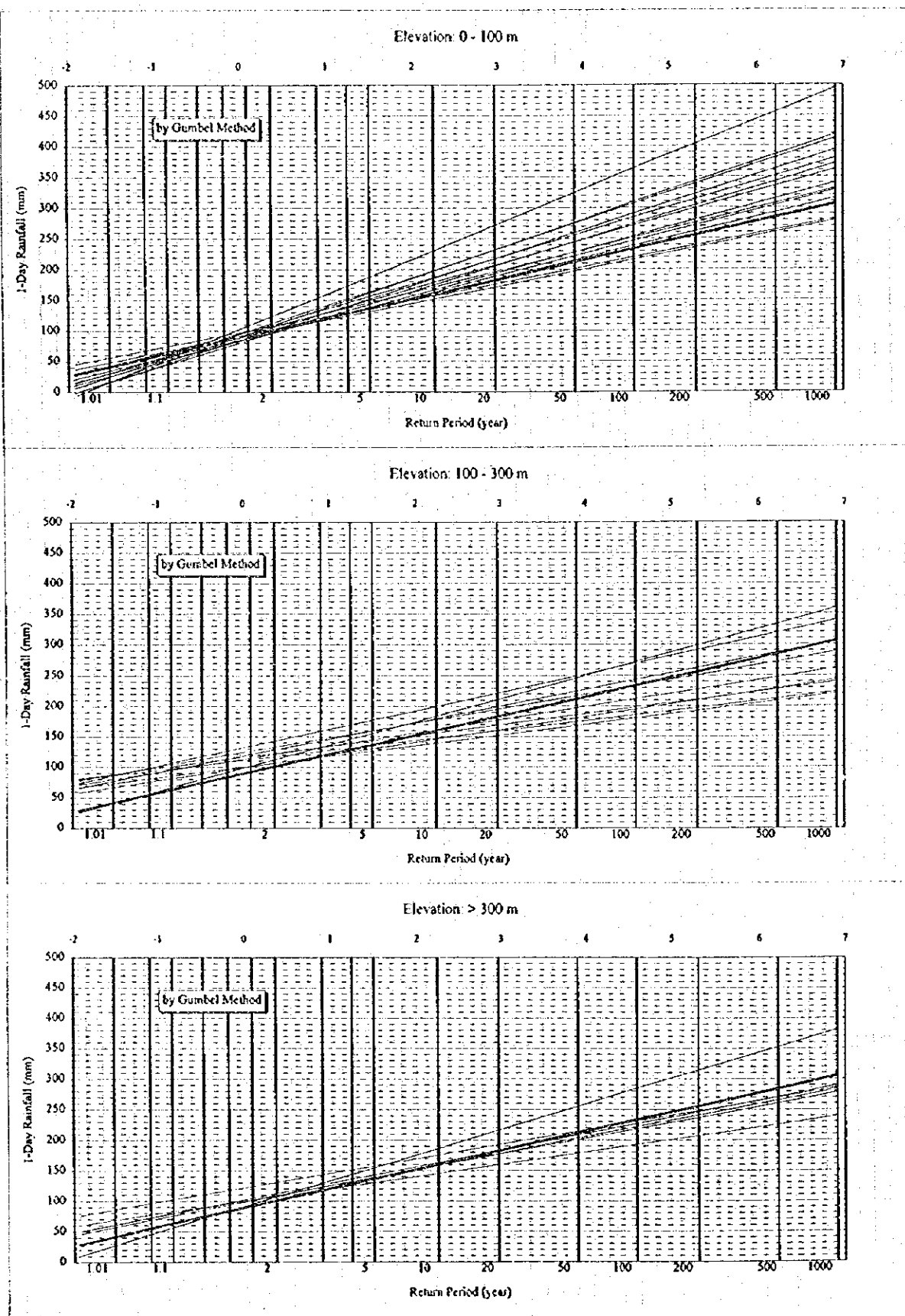


Figure 4.6 FREQUENCY ANALYSIS

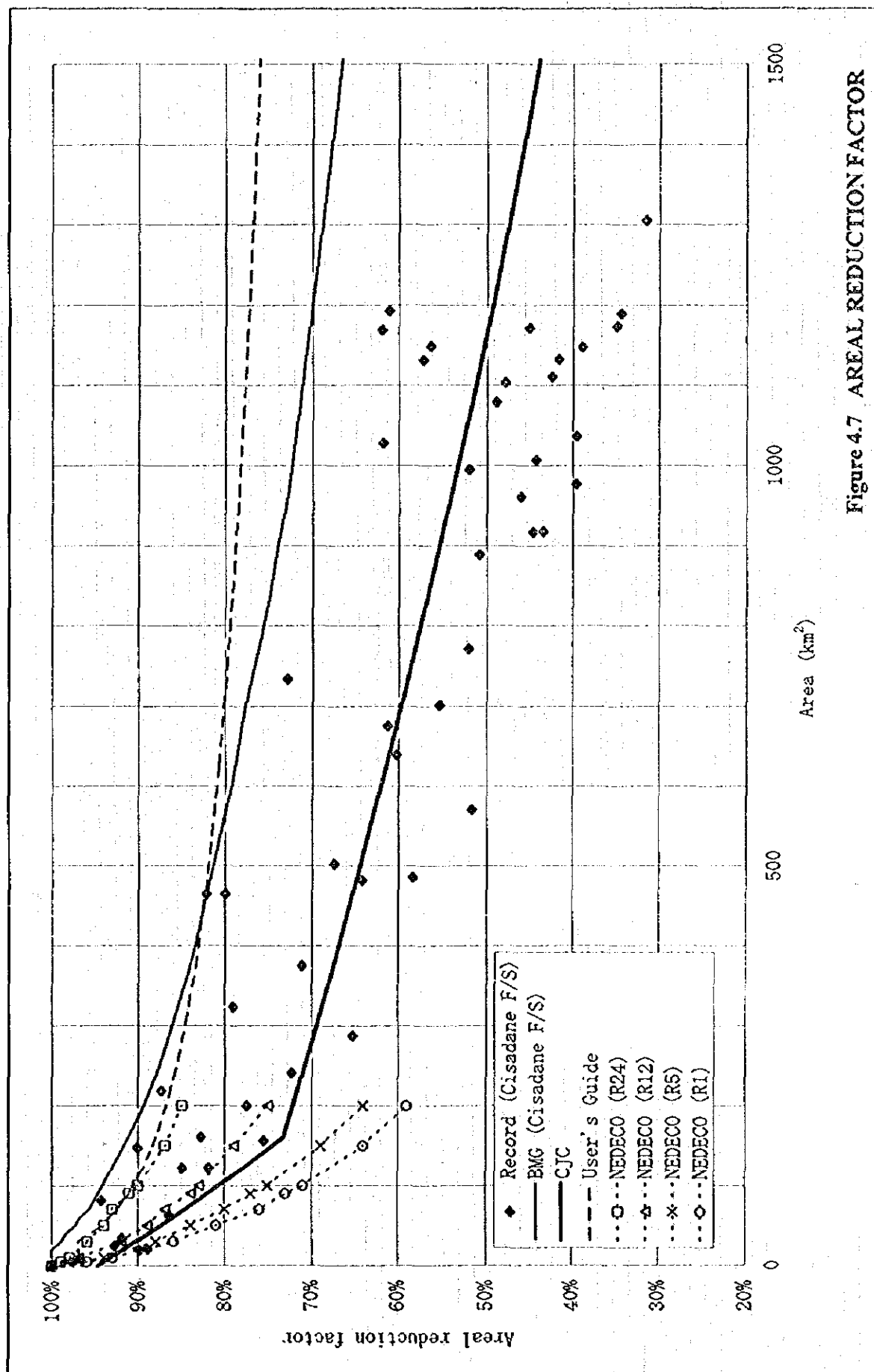
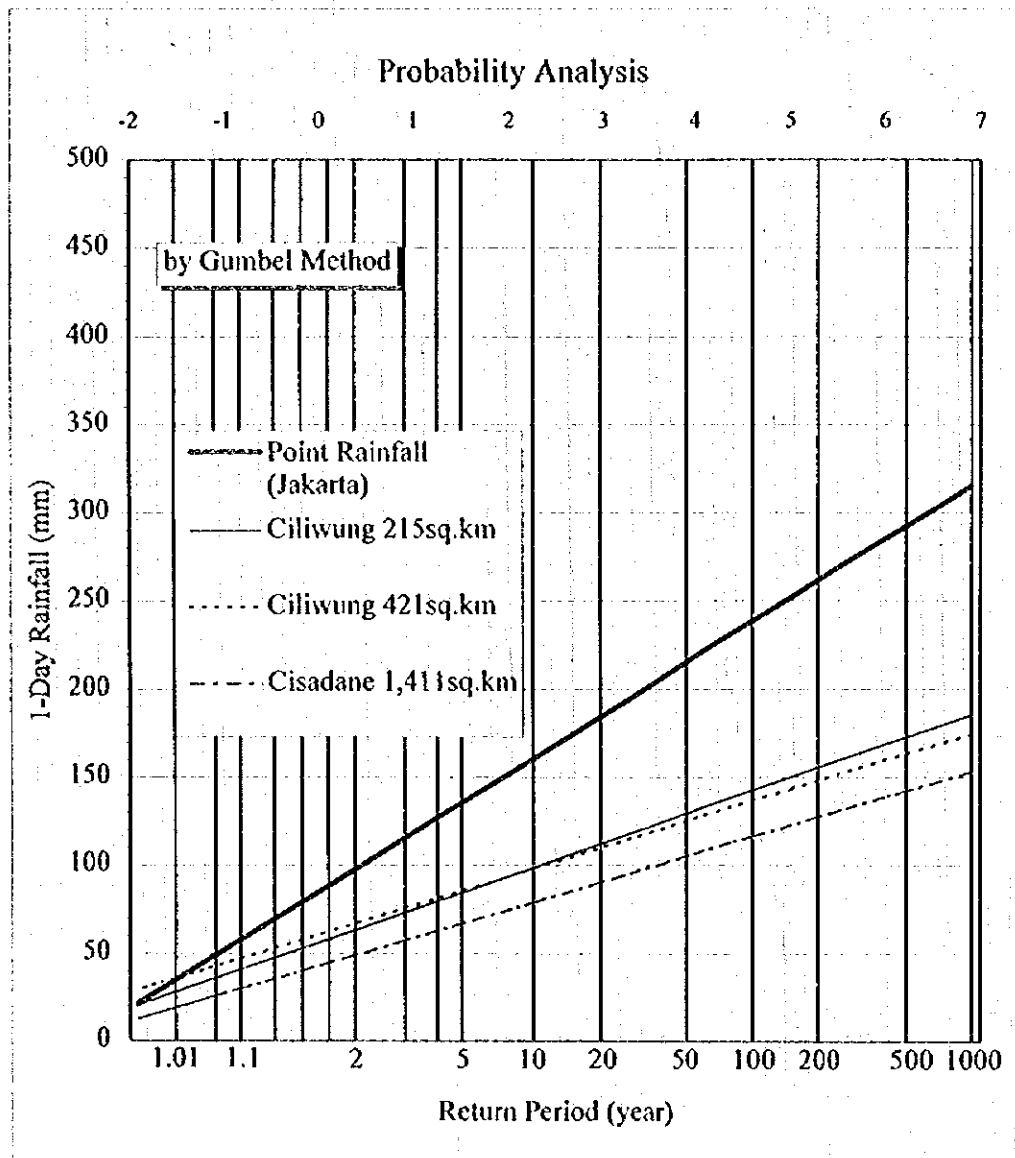


Figure 4.7 AREAL REDUCTION FACTOR



Return Period (year)	Jakarta Point Rainfall (mm)	Ciliwung $A=215 \text{ km}^2$ (mm)	Ciliwung $A=421 \text{ km}^2$ (mm)	Cisadane $A=1,411 \text{ km}^2$ (mm)
1000	315.2	185.6	174.7	153.1
500	292.1	172.7	163.3	142.0
250	269.1	159.7	151.9	131.0
200	261.6	155.5	148.2	127.5
100	238.5	142.5	136.8	116.4
50	215.3	129.4	125.3	105.3
30	198.1	119.8	116.7	97.1
25	191.9	116.3	113.7	94.1
20	184.3	112.0	109.9	90.5
10	160.3	98.6	98.1	79.0
5	135.4	84.5	85.7	67.1
2	97.7	63.3	67.1	49.1

Figure 4.8 PROBABLE DAILY RAINFALL

Depth - Area - Frequency Curve

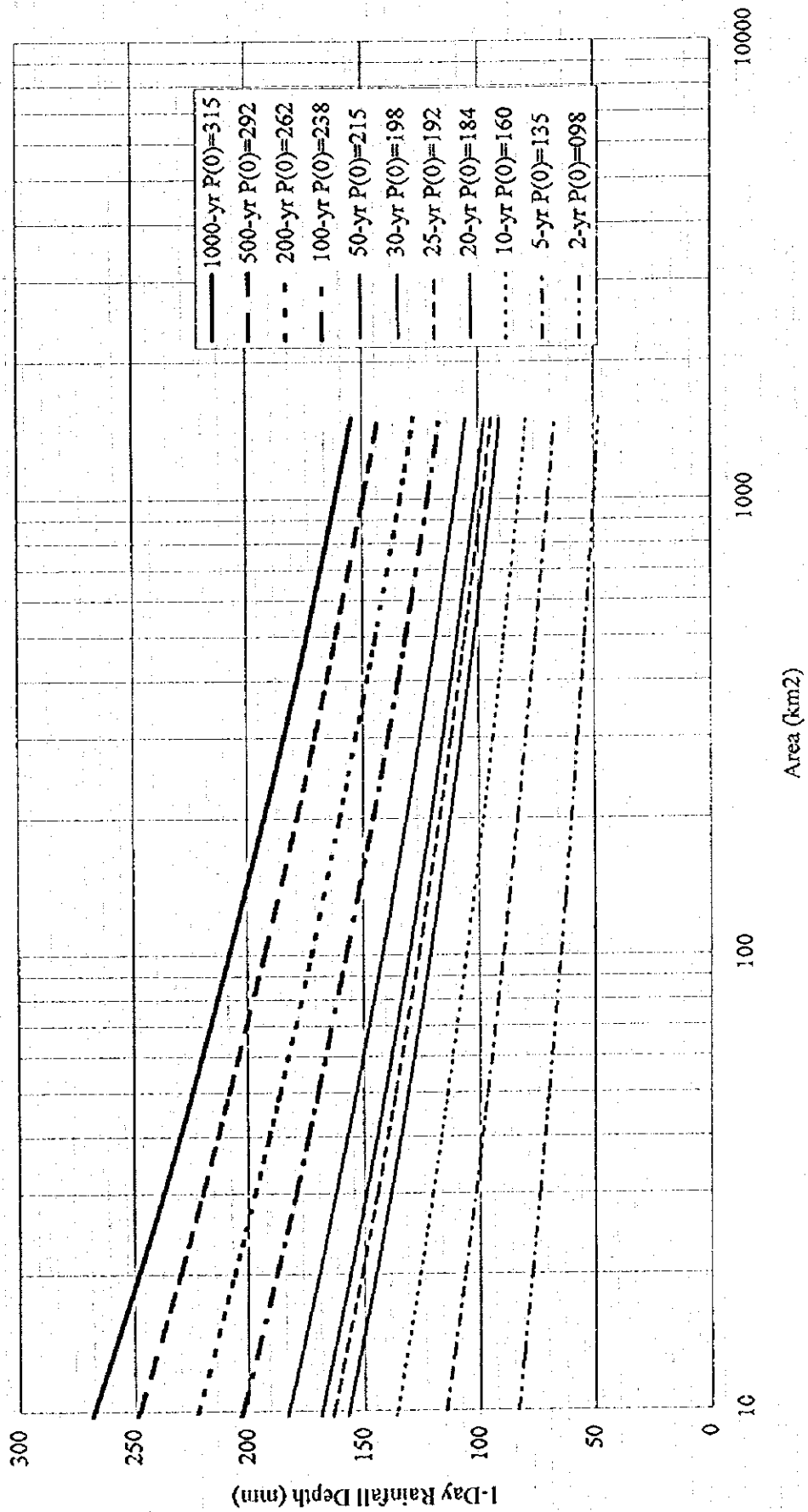
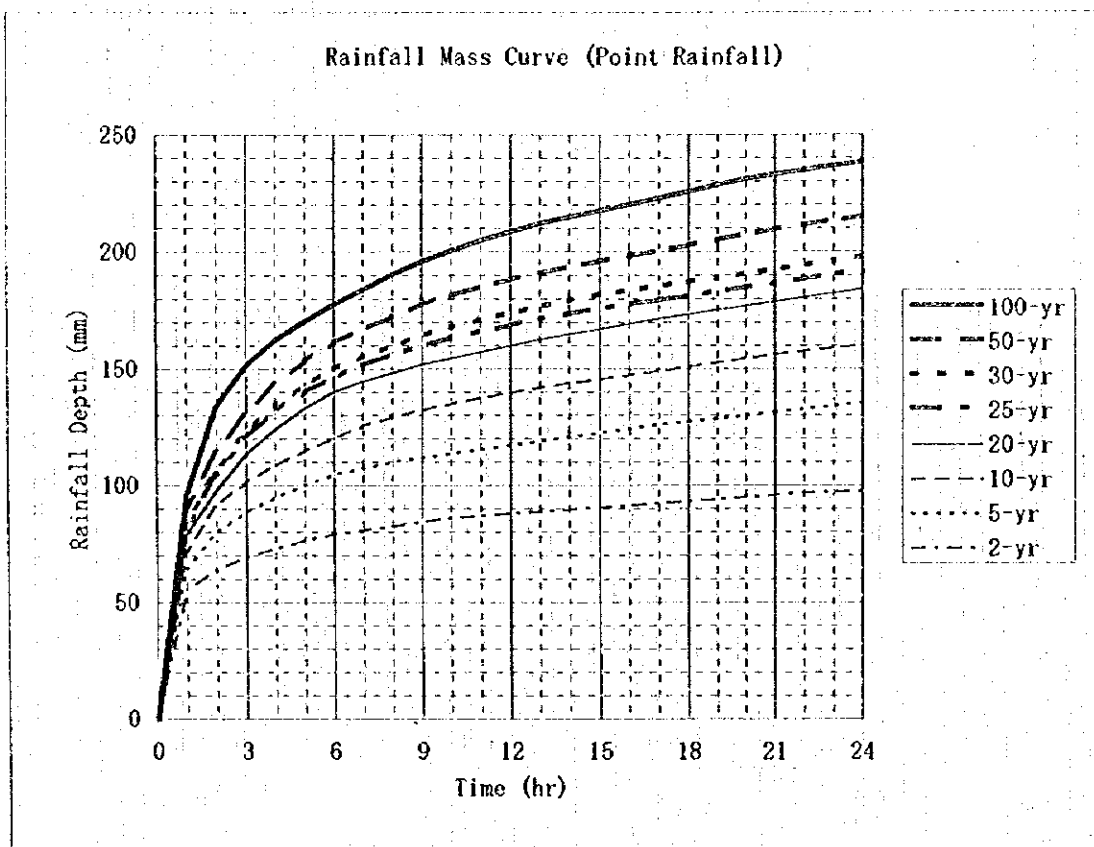
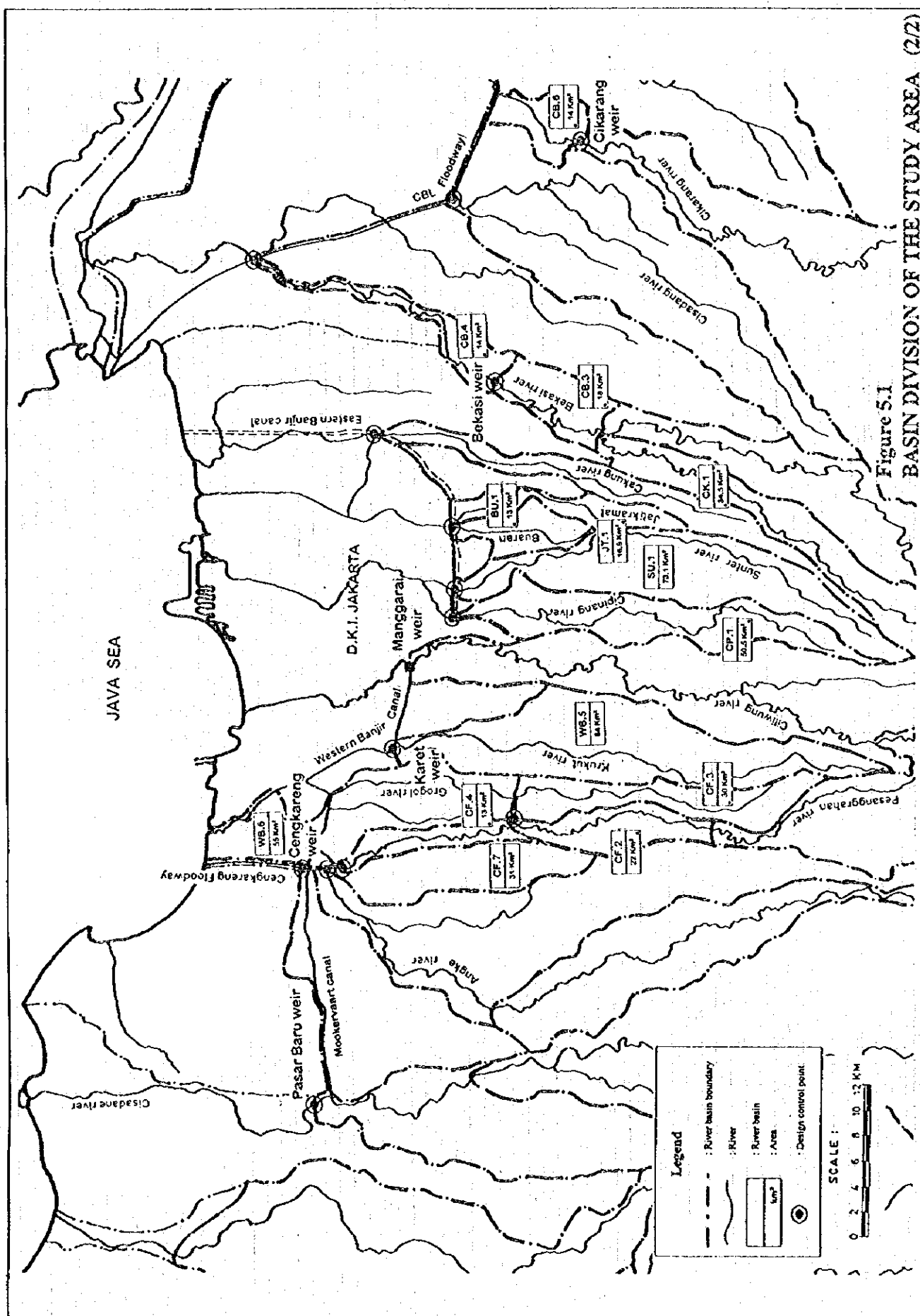


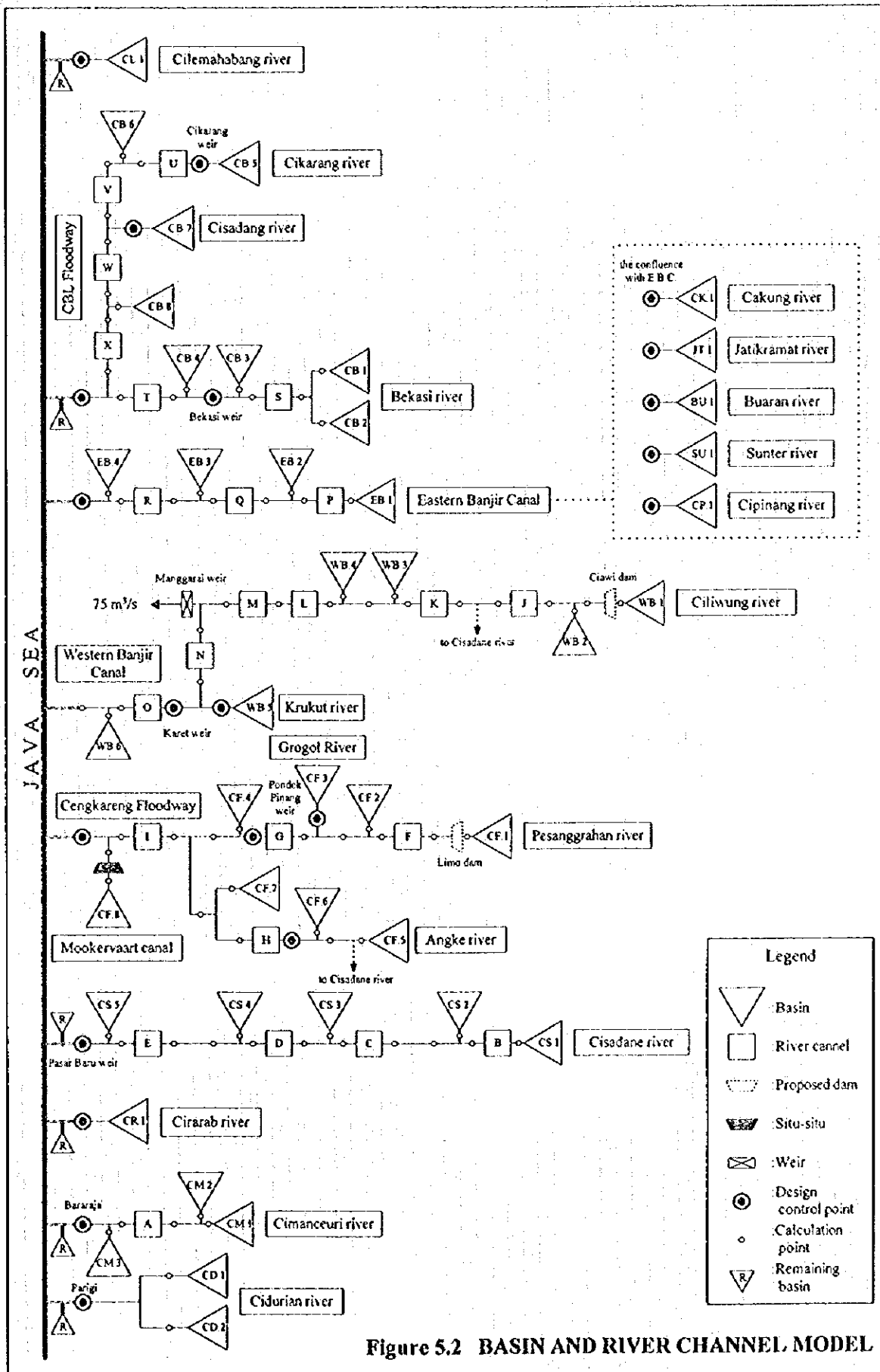
Figure 4.9 Probable Areal Rainfall



	2-yr	5-yr	10-yr	20-yr	25-yr	30-yr	50-yr	100-yr
0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	55.4	64.8	72.2	79.1	82.7	84.9	90.8	96.1
2	64.2	79.9	91.8	98.0	105.1	107.0	114.4	134.2
3	69.5	88.8	101.5	113.3	120.4	122.9	130.8	151.4
4	73.0	95.0	108.7	124.1	132.1	134.4	143.5	162.3
5	76.6	100.3	114.9	133.0	140.2	143.2	153.6	170.5
6	79.2	104.8	120.3	140.2	146.5	150.3	161.7	177.7
7	81.0	107.4	125.6	144.7	151.9	155.6	167.1	184.1
8	82.7	110.1	129.2	148.3	156.4	160.0	172.6	190.4
9	84.5	111.9	132.3	151.9	160.0	164.5	178.0	195.9
10	86.2	113.6	135.0	154.6	163.6	168.0	181.7	200.4
11	87.1	115.4	137.6	157.3	166.3	171.5	185.3	204.9
12	88.0	117.2	139.9	160.0	169.0	174.2	188.5	208.6
13	88.9	119.0	142.1	162.7	171.7	176.8	191.2	212.2
14	89.8	120.7	143.9	165.0	173.9	179.5	193.9	214.9
15	90.6	122.5	145.6	167.2	176.1	182.1	196.2	217.6
16	91.5	124.3	147.4	169.4	177.9	183.9	198.5	220.4
17	92.4	126.1	149.2	171.7	179.7	185.7	200.7	223.1
18	93.3	127.4	151.0	173.5	181.5	187.4	203.0	225.8
19	94.2	128.7	152.8	175.3	183.3	189.2	205.3	228.5
20	95.0	130.1	154.6	177.1	185.1	191.0	207.5	231.2
21	95.9	131.4	156.3	178.9	186.9	192.7	209.8	233.0
22	96.8	132.7	157.7	180.7	188.7	194.5	211.6	234.9
23	97.2	134.1	159.0	182.5	190.5	196.3	213.5	236.7
24	97.7	135.4	160.3	184.3	191.9	198.1	215.3	238.5

Figure 4.10 POINT RAINFALL MASS CURVE





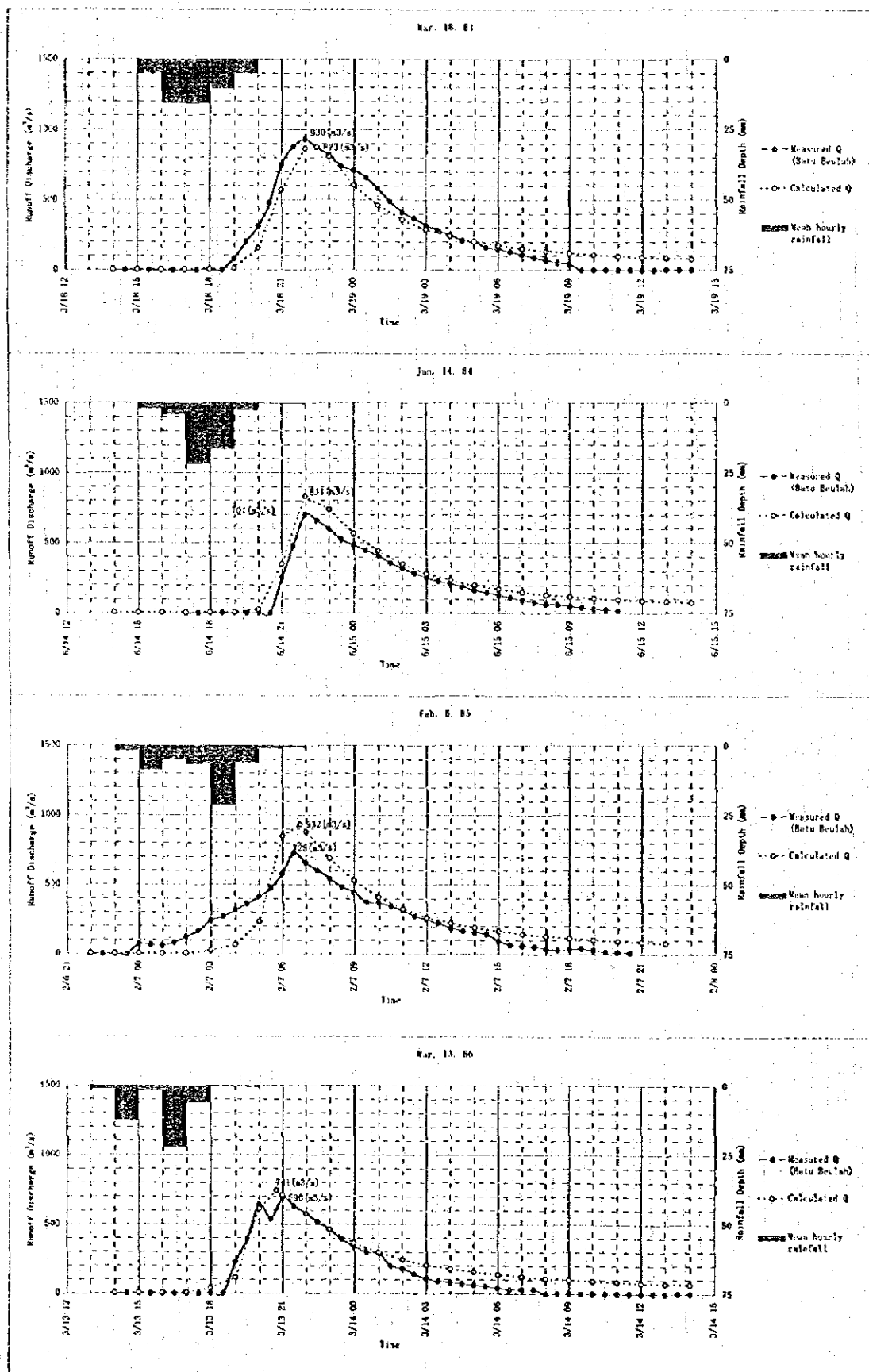


Figure 5.3 OBSERVED AND SIMULATED HYDROGRAPHS

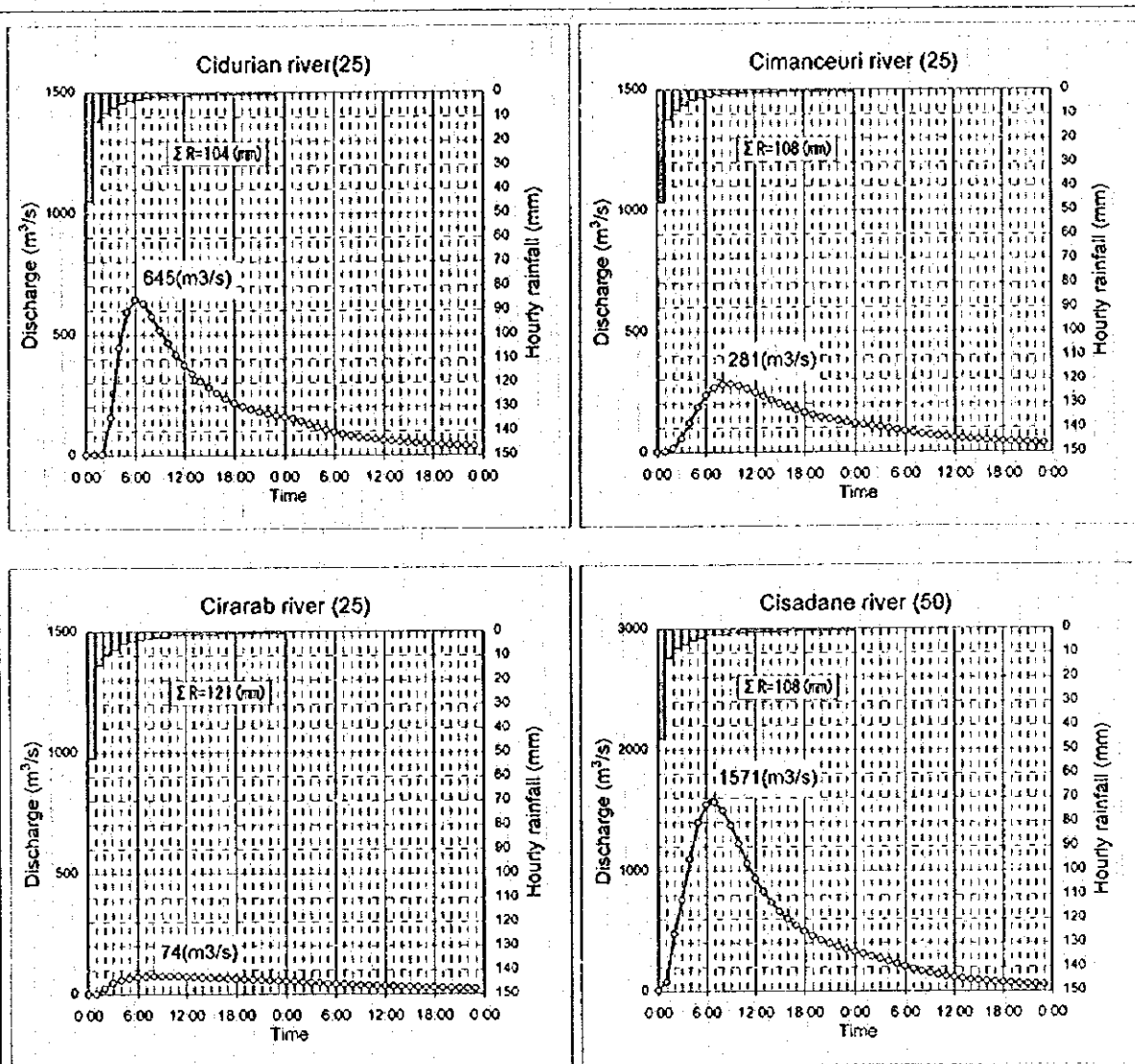


Figure 5.4 PROBABLE FLOOD RUNOFF (1/5)

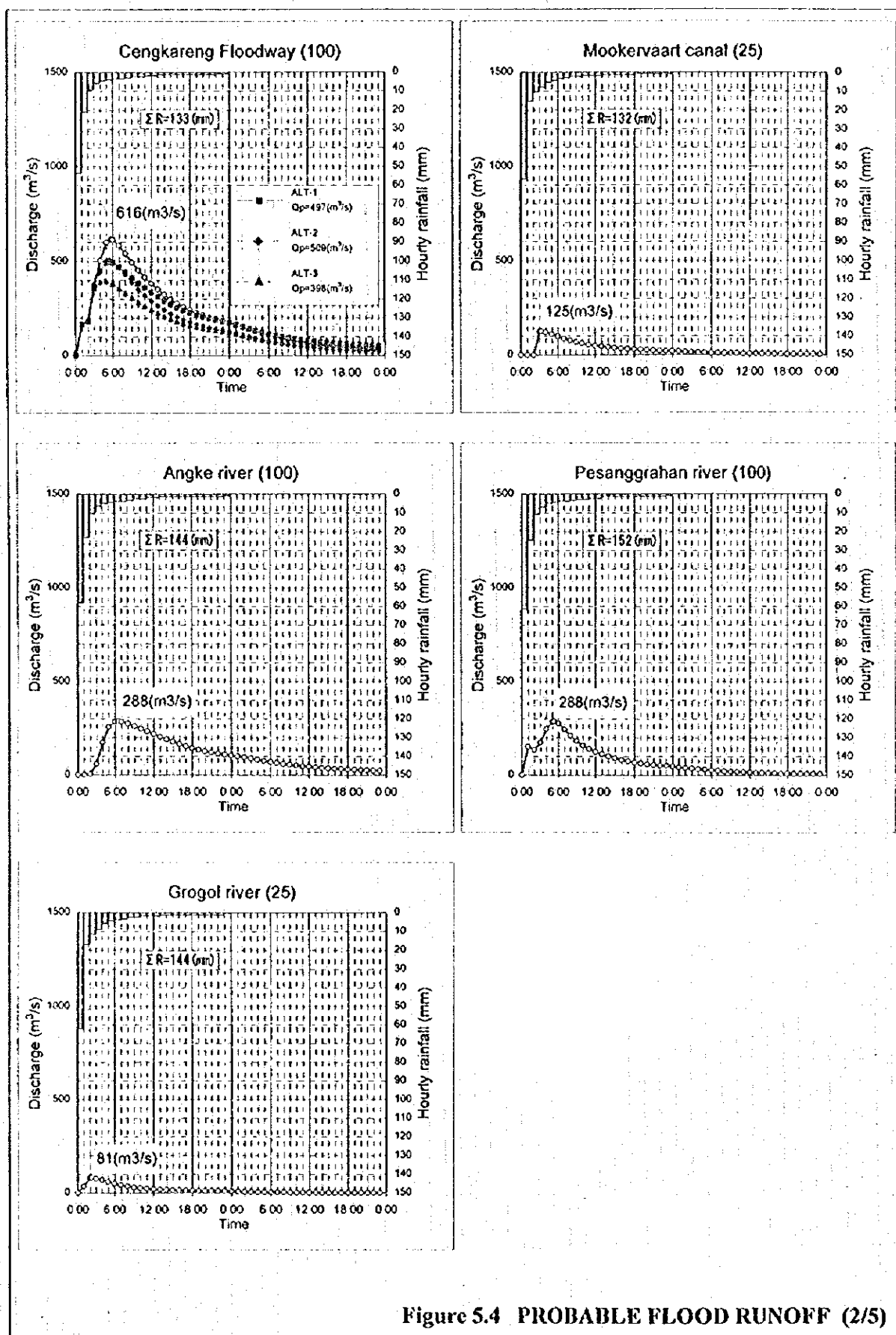


Figure 5.4 PROBABLE FLOOD RUNOFF (2/5)

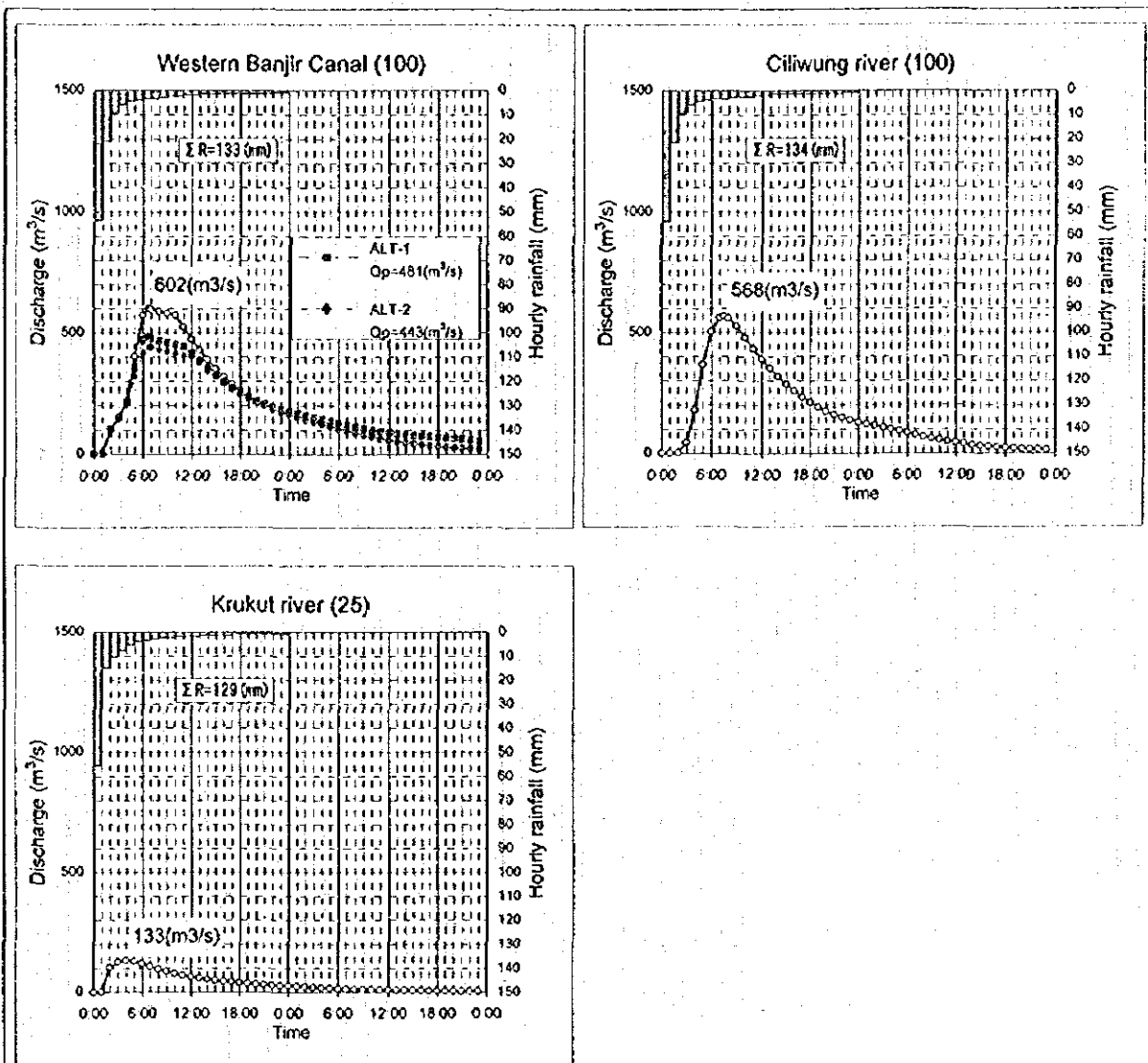


Figure 5.4 PROBABLE FLOOD RUNOFF (3/5)

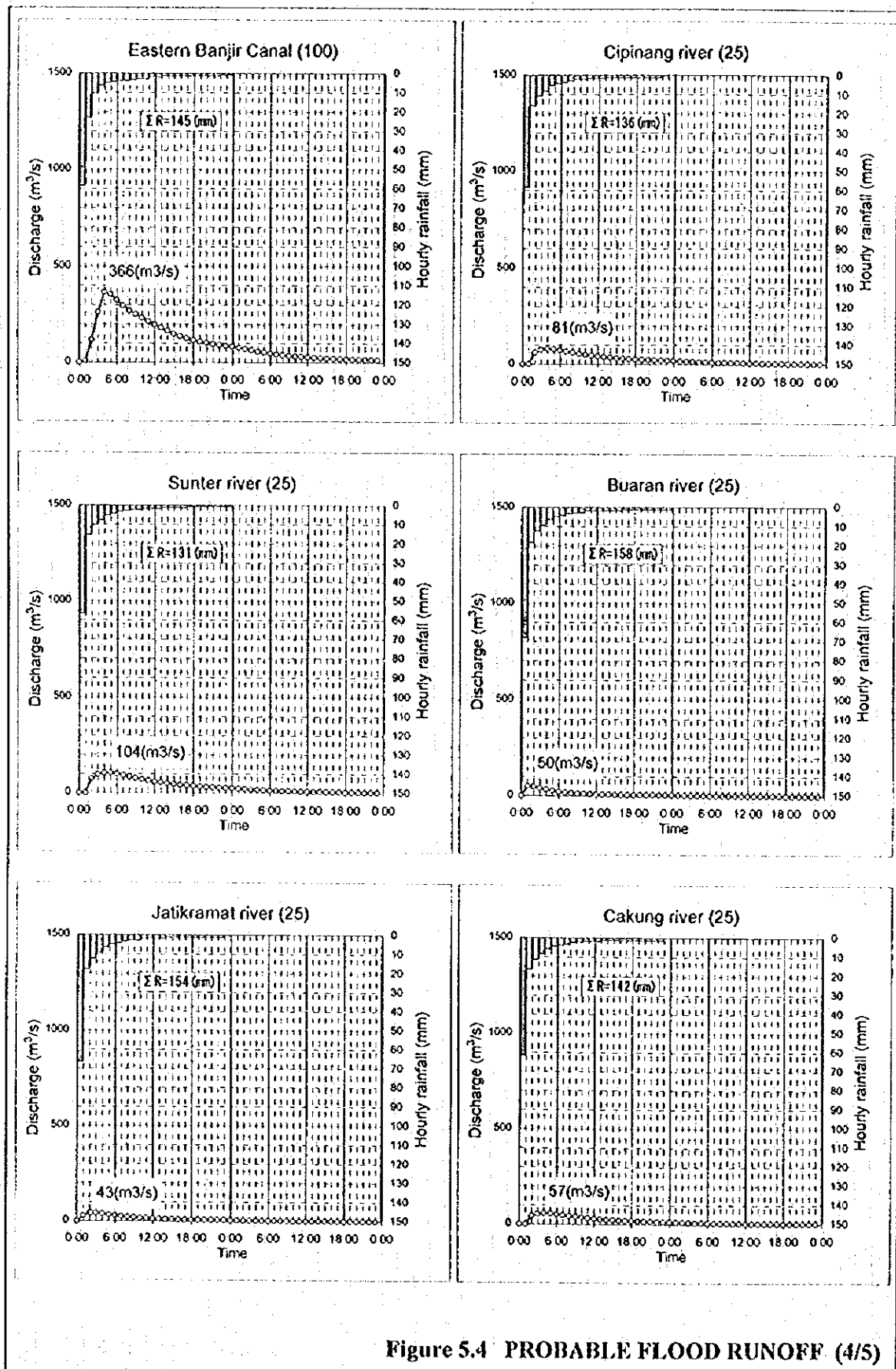


Figure 5.4 PROBABLE FLOOD RUNOFF (4/5)

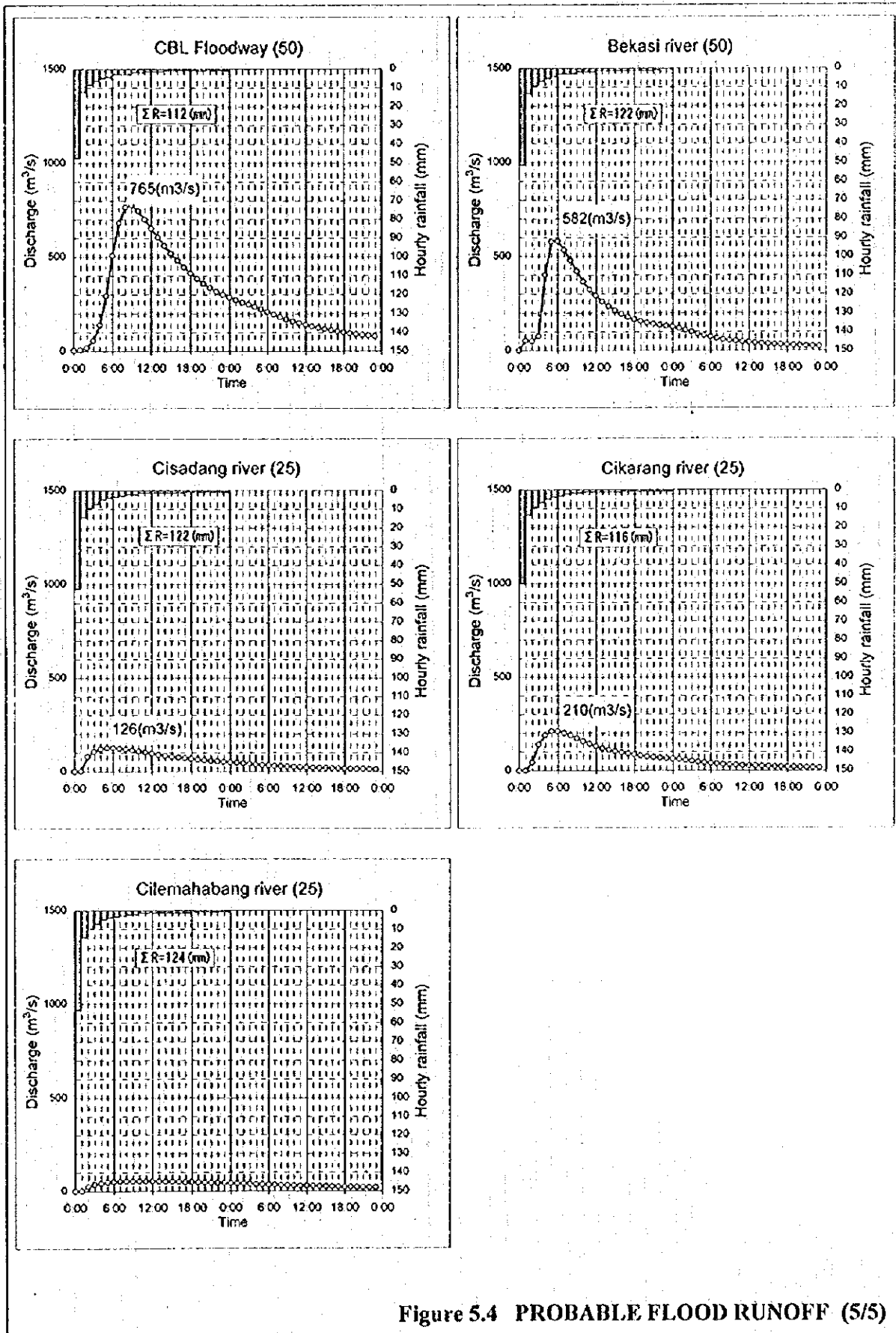


Figure 5.4 PROBABLE FLOOD RUNOFF (5/5)

Probable Flood Peak

River system	Design control point	Design scale (year)	Design 1-day rainfall (mm)	Catchment area (km ²)	Peak discharge (m ³ /s)	Specific discharge (m ³ /s/km ²)
Cidurian river	parigi	25	104	596	650	1.09
Cimanceuri river	Balaraja	25	108	415	290	0.70
Cirarab river	(Road bridge)	25	121	147	75	0.51
Cisadane river	Pasar Baru Weir	50	108	1,248	1,600	1.28
Cengkareng Floodway system	Cengkareng Weir	100	133	459	620	1.35
Mookervaart Canal	the confluence with Cengkareng Floodway	25	132	67	125	1.87
Angke river	the confluence with Cengkareng Floodway	100	144	224	290	1.29
Pesanggrahan river	the confluence with Cengkareng Floodway	100	152	137	290	2.12
Grogol river	Pondok Pinang Weir	25	144	30	85	2.83
Western Banjir Canal system	Karet Weir	100	134	421	670	1.59
Ciliwung river	Mangrai Weir	100	134	337	570	1.69
Krukut river	Before the confluence with W.B.C.	25	129	84	135	1.61
Eastern Banjir Canal System	After the confluence with Cikarang river	100	145	207	370	1.79
Cipinang river	Before the confluence with E.B.C.	25	136	50.5	85	1.68
Sunter river	Before the confluence with E.B.C.	25	131	73.1	105	1.44
Buaran river	Before the confluence with E.B.C.	25	158	13.0	50	3.85
Jatikramat river	Before the confluence with E.B.C.	25	154	16.5	45	2.73
Ckukung river	Before the confluence with E.B.C.	25	142	34.5	60	1.74
CBL Floodway system	After the confluence with Bekasi river	50	112	877	780	0.89
Bekasi river	Bekasi Weir	50	122	389	590	1.52
Cisadang river	Before the confluence with CBL Floodway	25	122	135	130	0.96
Cikarang river	Cikarang Weir	25	116	216	210	0.97
Cilemahabang river	(Road bridge)	25	124	121	55	0.45

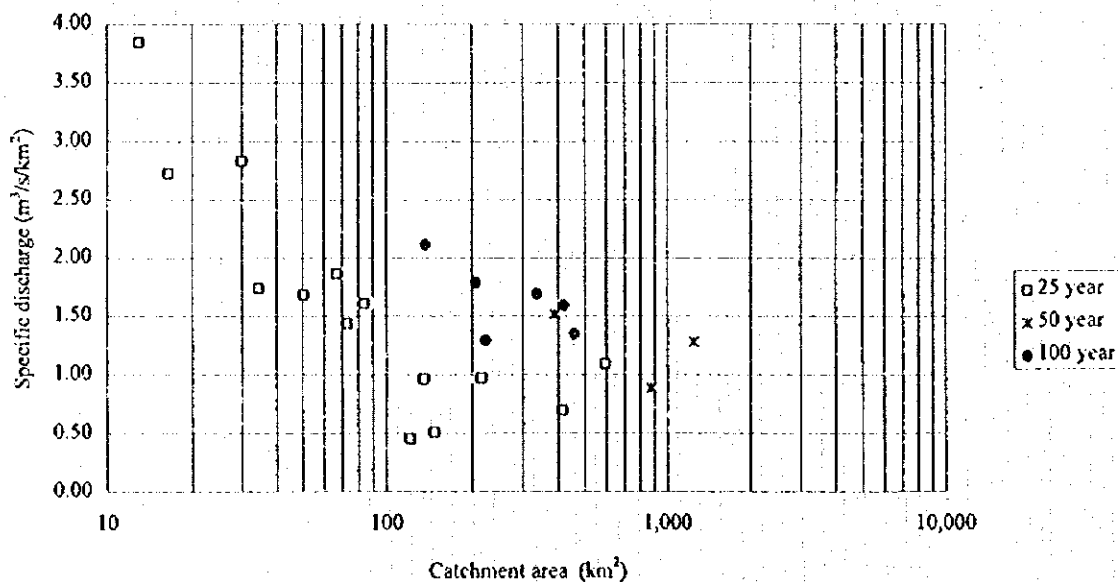
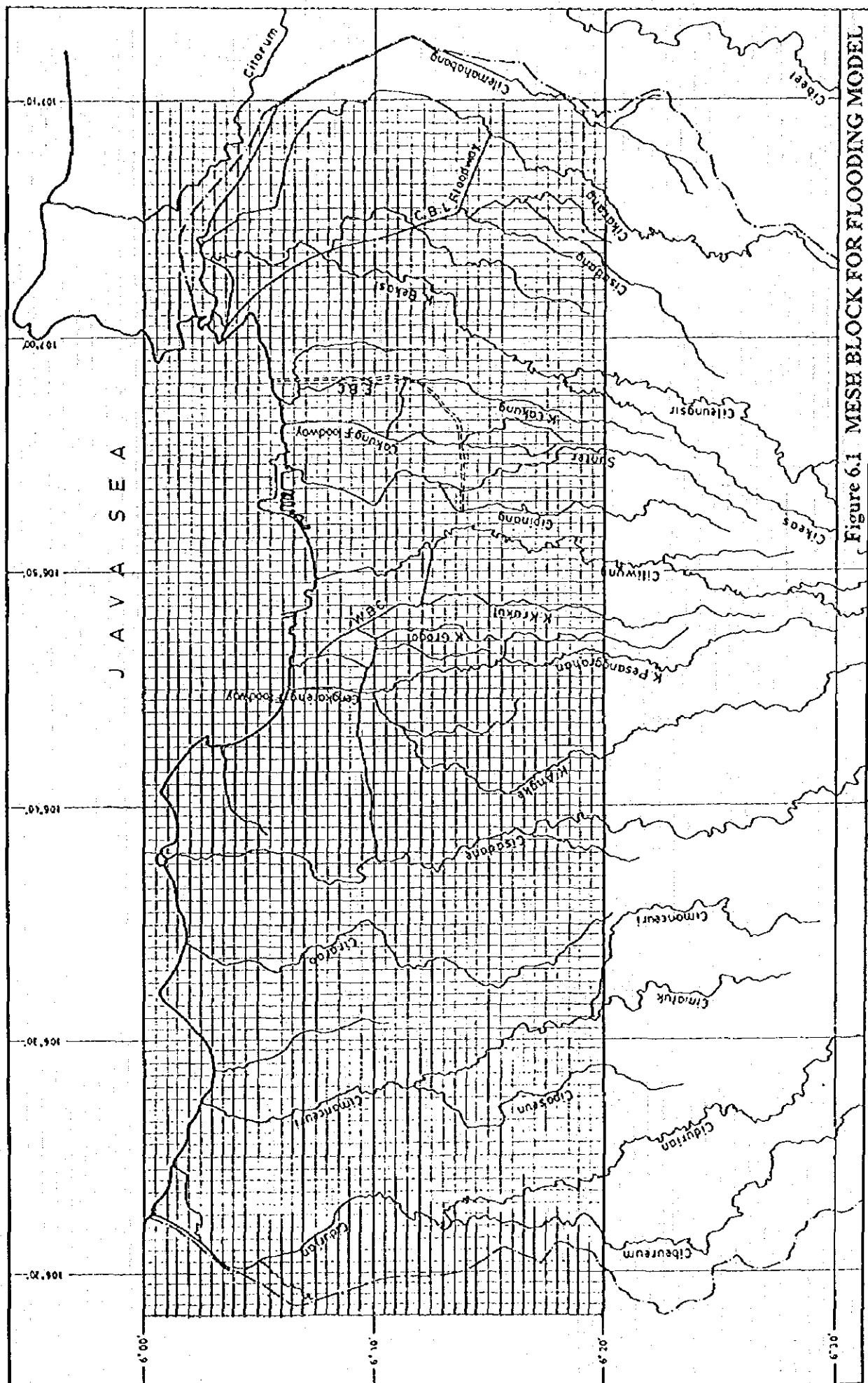


Figure 5.5 PROBABLE FLOOD PEAK



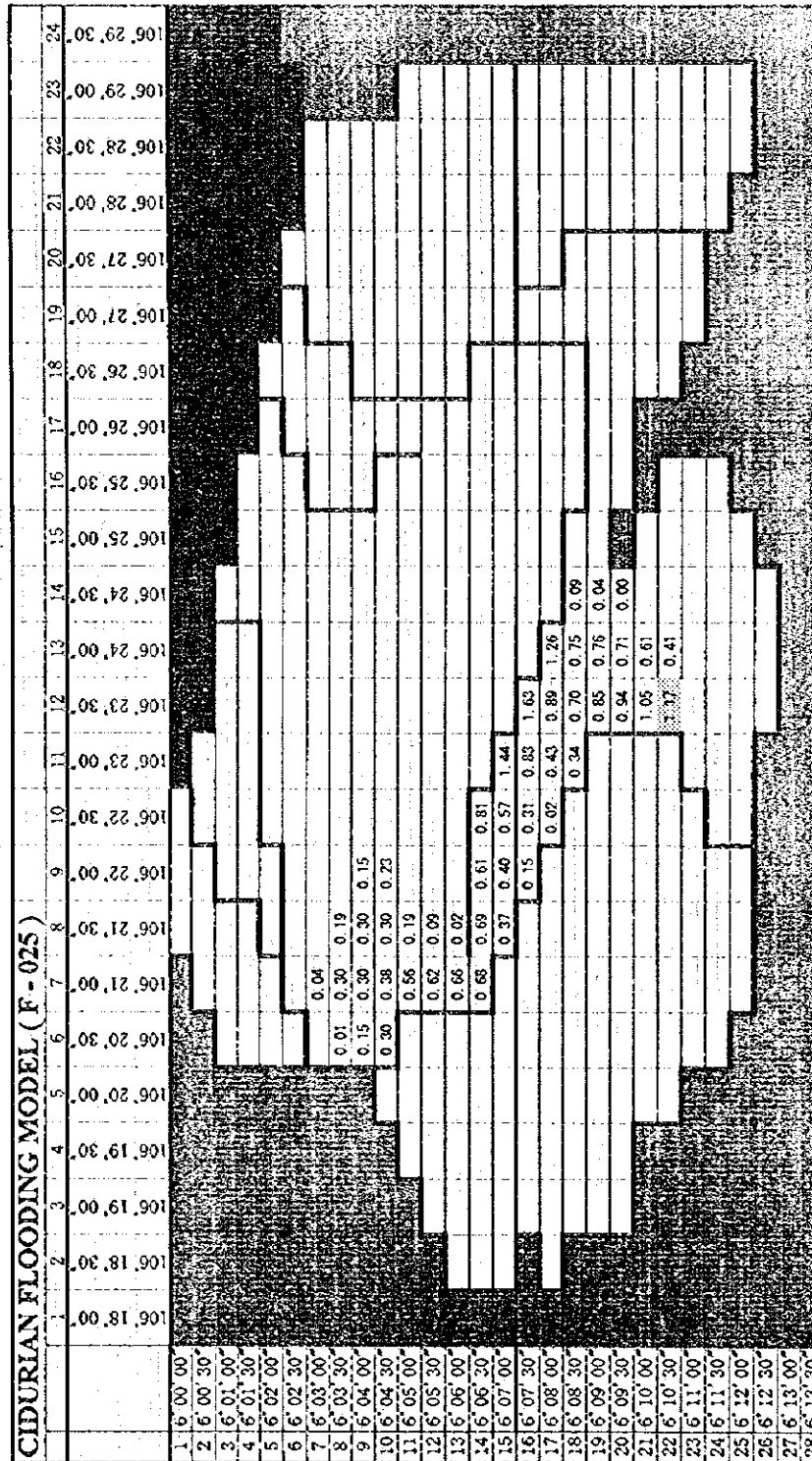


Figure 6.2 MAXIMUM INUNDATION DEPTH (CIDURIAN) - (1/5)

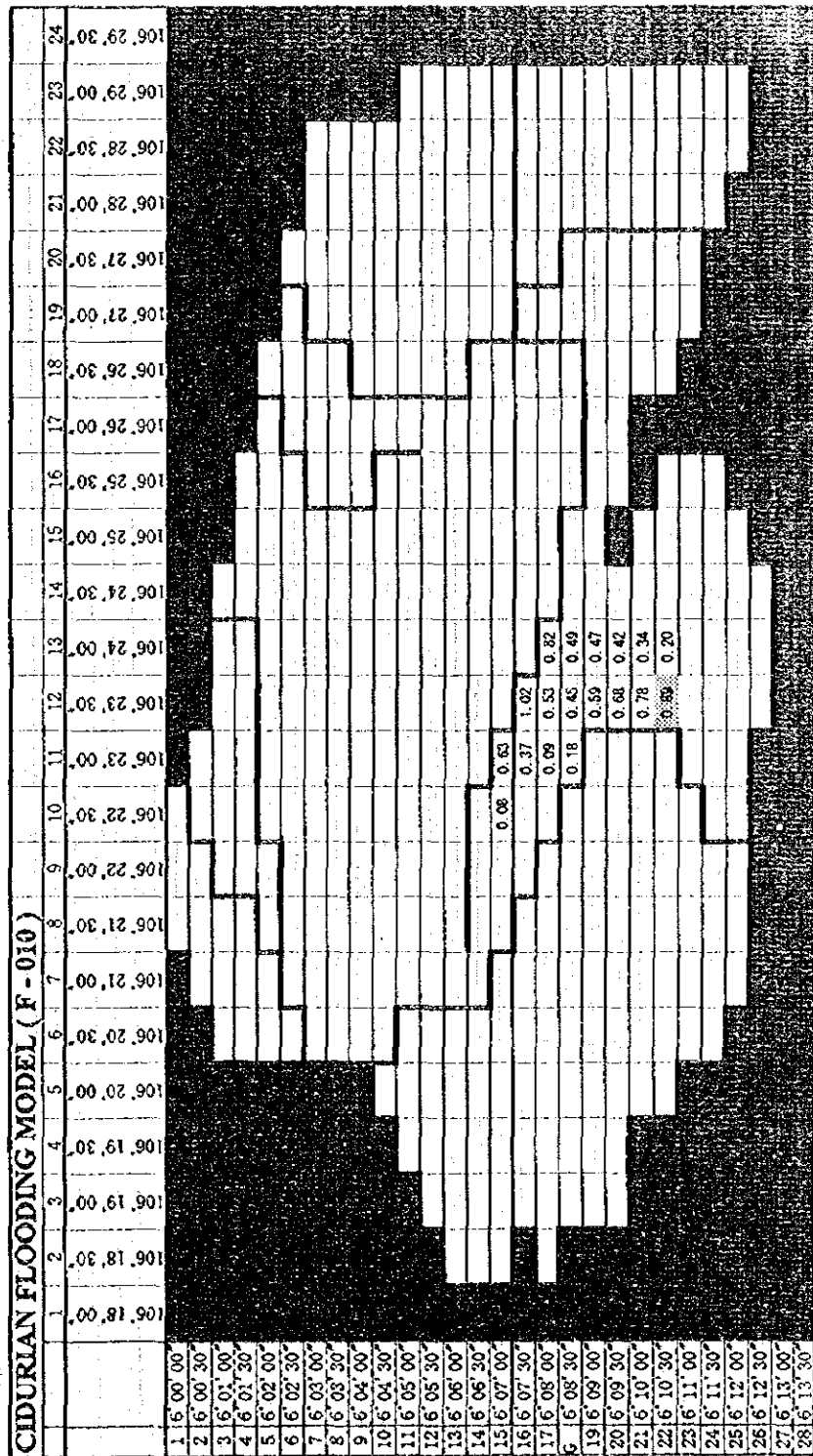


Figure 6.2 MAXIMUM INUNDATION DEPTH (CIDURIAN) - (2/5)

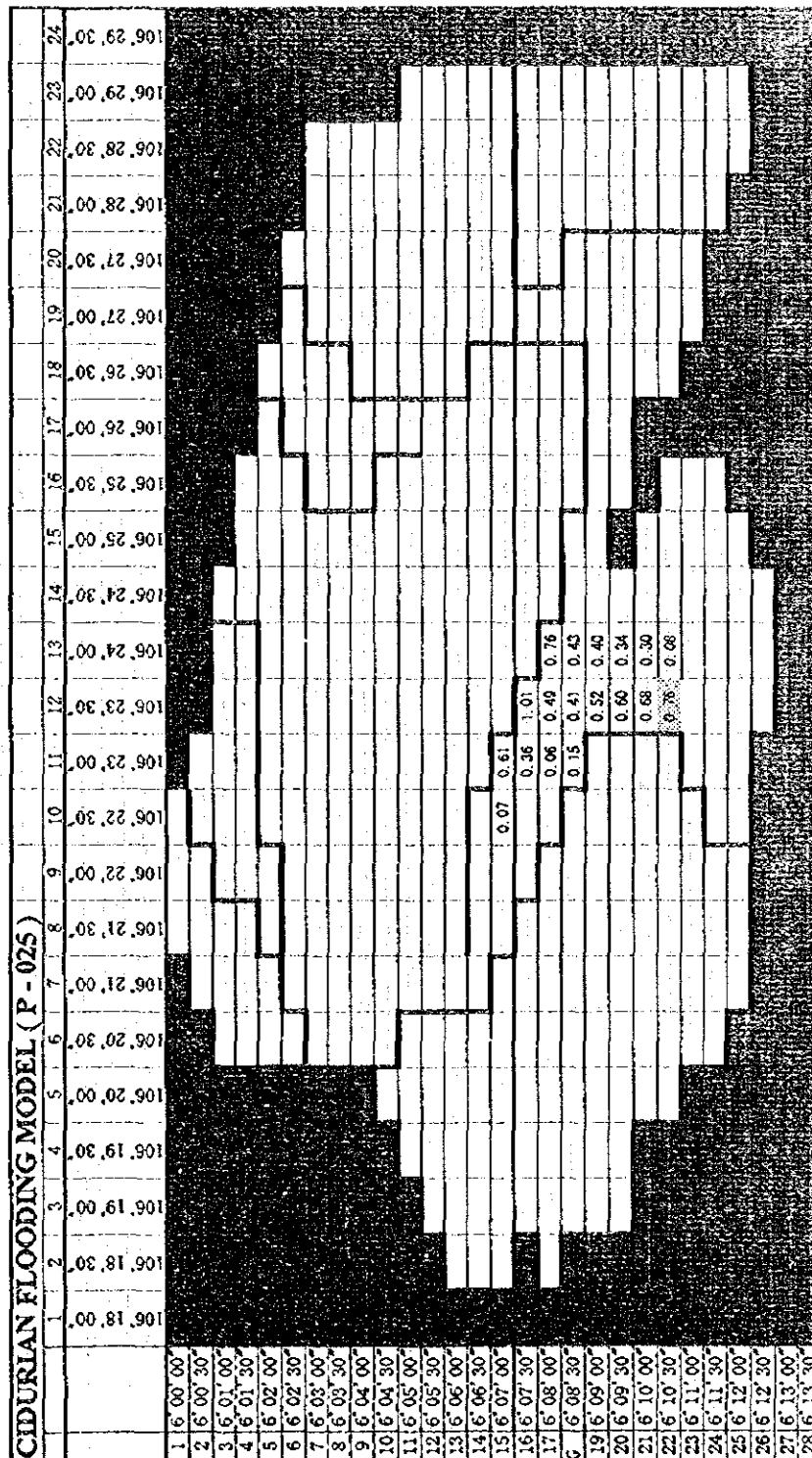


Figure 6.2 MAXIMUM INUNDATION DEPTH (CIDURIAN) - (4/5)

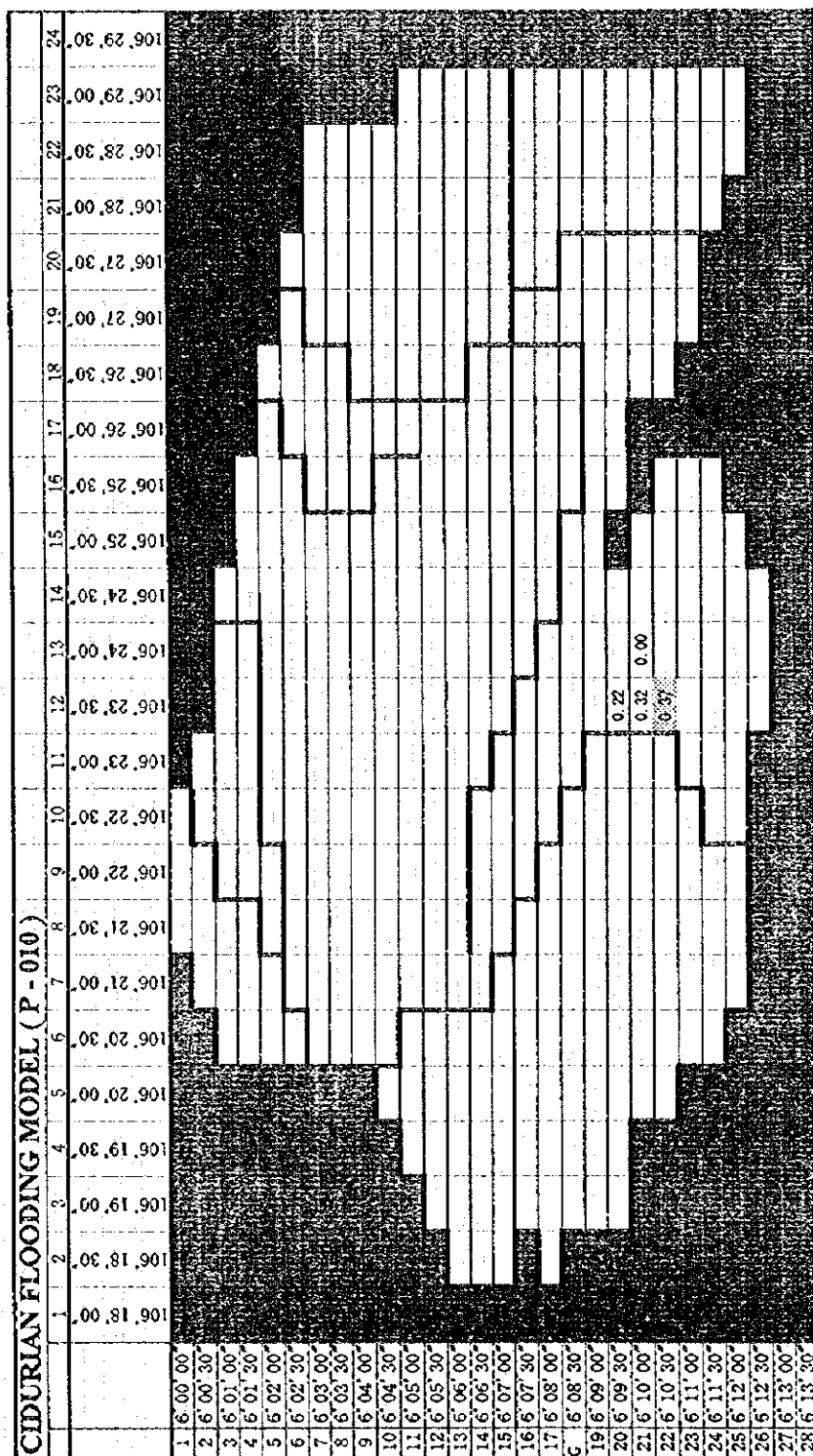


Figure 6.2 MAXIMUM INUNDATION DEPTH (CIDURIAN) - (5/5)

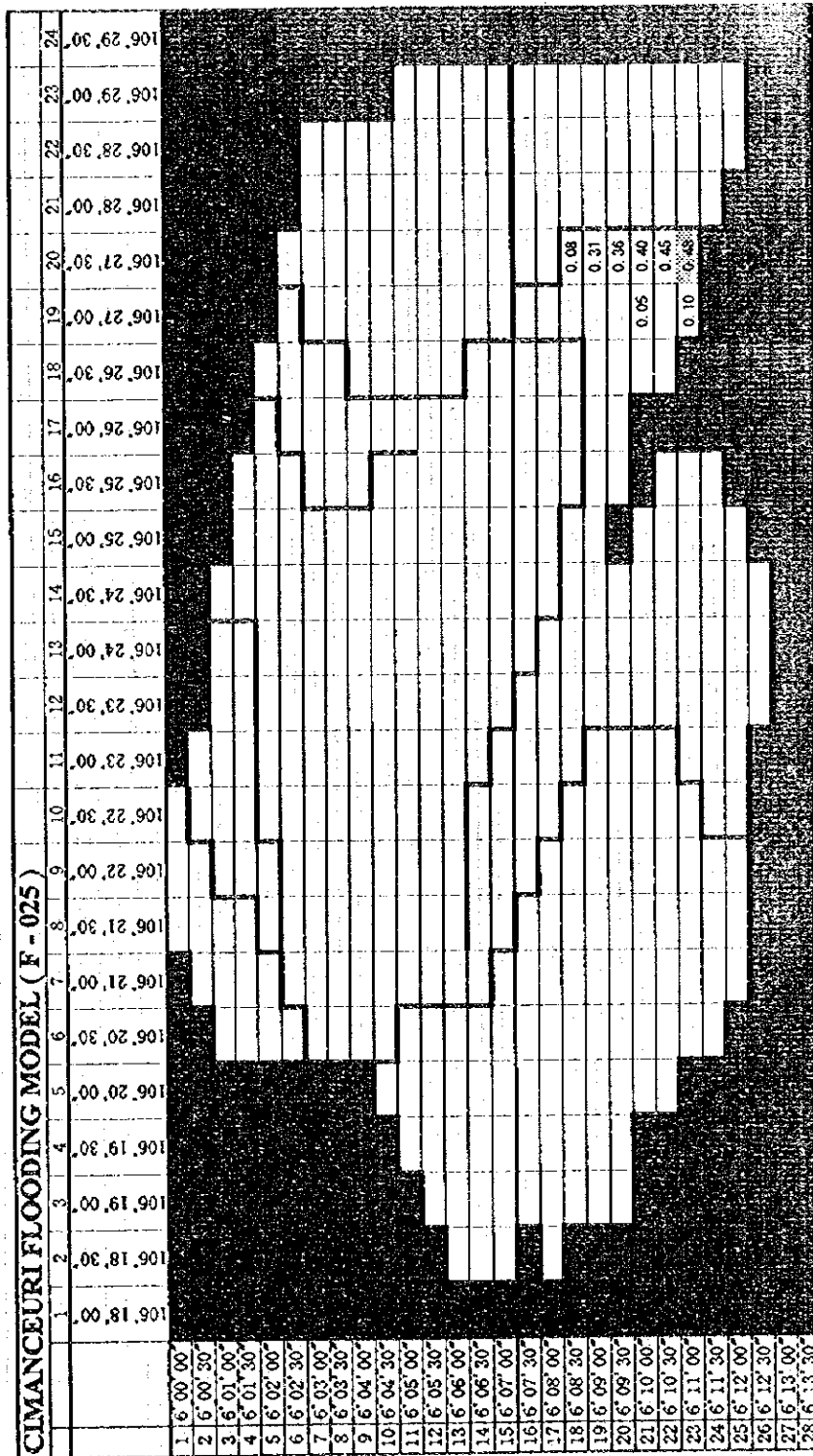


Figure 6.3 MAXIMUM INUNDATION DEPTH (CIMANCEURI) - (1/2)

