

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
MINISTRY OF AGRICULTURE AND LIVESTOCK
REPUBLIC OF EL SALVADOR

THE STUDY
ON
COMPREHENSIVE FLOOD CONTROL
FOR
THE RIO GRANDE DE SAN MIGUEL
IN
THE REPUBLIC OF EL SALVADOR

DATA BOOK

SEPTEMBER 1997

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**PACIFIC CONSULTANTS INTERNATIONAL, TOKYO
NIKKEN CONSULTANTS INC., TOKYO
PASCO INTERNATIONAL INC., TOKYO**



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DATA BOOK

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No Code	Station Name	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	
1 48-01-01	San Miguel at Moscoso	HDC	HDC	HDC	HDC	HDC	HDC	HDC	HDC	HDC	HDC	HDC	DC	C	DC	DC	HDC	HDC	HDC	HDC	HDC	HDC	HDC	HDC	D
2 48-01-02	San Miguel at Vado Marin	-	DC	C	DC	DC	C	DC	DC	C	DC	DC	C	C	DC	DC	DC	DC	DC	DC	DC	DC	DC	DC	HDC
3 48-01-03	San Miguel at La Canoa(El Delirio)	-	-	-	-	-	HDC	HDC	HDC	HDC	HDC	HDC	HDC	HDC	HDC	HDC	HDC	HDC	HDC	HDC	HDC	HDC	HDC	HDC	HDC
4 48-01-04	San Miguel at Las Conchas	-	-	-	-	-	-	HDC	HDC	HDC	HDC	HDC	HDC	HDC	HDC	HDC	HDC	HDC	HDC	HDC	HDC	HDC	HDC	HDC	HDC
5 48-01-05	San Miguel at Villerias	-	-	-	-	-	-	-	HDC	HDC	HDC	HDC	HDC	HDC	HDC	HDC	HDC	HDC	HDC	HDC	HDC	HDC	HDC	HDC	HDC
6 48-02-01	San Esteban at La Reforma	-	-	-	-	-	-	-	-	HDC	HDC	HDC	HDC	HDC	HDC	HDC	HDC	HDC	HDC	HDC	HDC	HDC	HDC	HDC	HDC
7 48-03-01	Lake Olomega at Puerto Viejo	-	-	-	-	-	-	-	-	C	C	C	C	C	HDC	HDC	HDC	HDC	HDC	HDC	HDC	HDC	HDC	HDC	HD
8 48-04-01	Taishuat at Hato Nuevo	-	-	-	-	-	-	-	-	-	-	-	-	-	HDC	HDC	HDC	HDC	HDC	HDC	HDC	HDC	HDC	HDC	HDC

No Code	Station Name	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	1996
1 48-01-01	San Miguel at Moscoso	D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2 48-01-02	San Miguel at Vado Marin	HDC	HDC	-	-	-	-	-	-	-	-	-	-	-	-	HDC	HDC	HDC
3 48-01-03	San Miguel at La Canoa(El Delirio)	HDC	HDC	HDC	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4 48-01-04	San Miguel at Las Conchas	HDC	HDC	HDC	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5 48-01-05	San Miguel at Villerias	HC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	HDC	HDC
6 48-02-01	San Esteban at La Reforma	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7 48-03-01	Lake Olomega at Puerto Viejo	HD	HD	HD	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8 48-04-01	Taishuat at Hato Nuevo	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

H:Hourly Data D:Daily Data C:Chart

Table 1. 4 EVAPORATION IN STUDY AREA

STATION:SESORI

(unit mm)

Year	Jan.	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1971	144	211	279	262	183	162	157	156	160	140	122	175	2149
1972	207	227	254	233	186	148	190	156	163	149	136	174	2224
1973	228	230	265	230	156	165	166	158	134	114	148	175	2168
1974	206	225	238	243	189	142	166	183	138	140	157	192	2220
1975	216	221	243	273	191	159	172	153	116	133	118	177	2172
1976	217	250	288	237	211	137	176	185	164	152	185	201	2402
1977	230	227	283	242	184	140	196	178	156	158	144	171	2310
1978	221	215	261	223	203	180	181	177	150	137	164	176	2288
1979	208	233	272	245	169	134	171	156	108	134	160	179	2168
1980	191	233	284	234	176	152	174	178	147	127	136	178	2210
1981	194	107	N	N	N	N	N	N	N	N	N	N	N
Avera	206	216	267	242	185	152	175	168	143	138	147	180	2219

STATION:SAN FRANCISCO GOTERA

(unit:mm)

Year	Jan.	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1968	N	N	N	N	N	N	N	N	N	68.3	130.3	148.5	N
1969	169	191	201	196	161	150	159	N	N	160	122	172	N
1970	164	207	196	240	223	215	176	143	139	149	116	143	2111
1971	163	141	200	174	161	160	128	164	279	156	118	150	1994
1972	134	127	192	219	187	192	217	180	148	161	155	157	2068
1973	137	151	184	264	201	149	225	232	136	122	128	151	2079
1974	172	178	227	226	212	155	175	188	131	161	182	199	2205
1975	221	209	241	211	190	129	170	149	132	142	129	186	2108
1976	218	217	252	231	221	128	192	203	188	157	193	226	2426
1977	253	238	285	258	201	165	206	191	184	193	156	189	2519
1978	225	213	247	227	186	174	189	173	183	167	184	191	2358
1979	229	232	283	251	192	181	170	187	150	159	153	178	2365
1980	187	226	237	238	204	178	188	177	133	131	149	209	2257
1981	172	228	251	248	165	129	170	164	157	164	149	164	2161
1982	199	188	215	73	96	164	195	222	118	132	177	173	1953
1983	162	174	204	200	231	174	185	198	146	147	147	168	2135
1984	169	N	188	171	175	178	176	157	158	N	166	186	N
1985	191	196	217	215	198	193	198	154	159	167	154	177	2220
Avera	186	195	225	214	188	166	183	180	159	149	150	176	2172

STATION:EL PAPALON

(unit:mm)

Year	Jan.	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1966	N	N	N	N	N	392	251	333	167	186	59	N	N
1974	N	N	N	N	N	N	N	N	137	127	149	189	N
1975	223	214	253	270	201	170	N	171	133	141	120	170	N
1976	204	236	286	236	211	134	200	199	166	150	132	192	2346
1977	223	227	291	261	198	148	205	190	172	178	172	195	2461
1978	244	242	267	232	214	191	205	197	152	169	154	175	2441
1979	215	239	262	246	189	168	187	191	124	156	131	171	2279
1980	199	235	265	243	199	199	179	167	157	148	136	194	2320
1981	202	217	N	N	N	N	N	N	N	N	N	N	N
Avera	216	230	271	248	202	200	204	207	151	157	132	184	2401

Table 1.5 MONTHLY DISCHARGE IN THE STUDY AREA (1/2)

MONTHLY DISCHARGE AT VILLERIAS

Unit:m3/s

YEAR	MONTH												Average
	1	2	3	4	5	6	7	8	9	10	11	12	
1970	NA	NA	NA	NA	12.4	36.0	28.7	36.3	65.9	55.7	10.0	5.1	31.3
1971	3.4	2.5	2.2	2.2	6.5	18.6	7.7	50.7	43.5	58.3	9.5	4.3	17.5
1972	3.0	2.1	1.6	2.7	9.7	17.3	6.2	7.1	17.6	30.1	6.5	2.9	8.9
1973	2.2	1.7	1.8	2.9	10.2	58.9	22.3	35.3	74.5	88.1	12.7	5.8	26.4
1974	3.7	2.2	1.9	2.2	4.3	11.5	7.8	7.4	46.1	27.9	4.0	2.2	10.1
1975	1.7	1.5	1.3	1.4	9.9	7.3	12.7	29.8	69.8	43.2	23.7	4.0	17.2
1976	4.4	2.6	1.9	4.8	5.1	NA	13.3	6.4	15.5	17.5	3.7	2.1	7.0
1977	1.5	1.3	1.2	1.1	5.4	22.2	2.5	9.4	12.6	7.0	5.0	2.4	6.0
1978	1.4	1.2	1.1	1.6	NA	NA	21.2	22.6	69.7	40.9	5.6	2.8	16.8
1979	2.1	1.7	1.7	1.7	NA	NA	NA	NA	NA	NA	NA	NA	1.8

MONTHLY DISCHARGE AT MOSCOSO

Unit:m3/s

YEAR	MONTH												Average
	1	2	3	4	5	6	7	8	9	10	11	12	
1964	NA	NA	NA	NA	7.8	31.5	79.1	NA	NA	NA	12.1	9.3	27.9
1965	8.7	6.1	5.6	6.1	12.6	23.2	17.3	22.8	71.8	31.6	11.9	8.0	18.8
1966	5.8	4.6	3.5	7.9	22.7	62.0	56.3	37.2	49.4	47.9	15.2	11.2	27.0
1967	9.3	7.8	8.6	9.8	8.0	24.4	14.0	13.5	38.5	44.2	10.1	7.6	16.3
1968	6.2	5.1	3.8	4.3	10.3	29.5	20.9	14.6	45.8	40.4	14.8	8.6	17.0
1969	6.8	4.9	4.2	4.8	12.4	35.1	30.3	66.4	181.0	81.2	22.1	7.0	38.0
1970	5.1	4.0	3.0	3.0	15.7	43.0	37.4	49.0	86.0	73.6	13.1	7.5	28.4
1971	4.5	3.5	3.0	2.7	8.8	23.7	10.5	60.7	58.3	71.1	10.7	5.0	21.9
1972	3.5	2.5	2.0	3.6	14.2	22.3	8.3	8.5	20.9	41.6	8.0	3.4	11.6
1973	2.8	2.1	2.0	2.9	15.3	63.4	28.7	42.9	87.8	110.0	19.0	6.2	31.9
1974	4.1	2.9	2.3	2.4	6.4	15.0	11.2	10.3	55.9	38.2	5.0	3.2	13.1
1975	2.4	1.7	1.3	1.3	11.2	6.9	13.8	33.7	88.1	55.4	28.2	4.2	20.7
1976	3.1	2.4	2.0	4.1	7.4	NA	16.6	8.4	20.1	20.5	4.0	2.9	8.3
1977	2.3	2.2	2.2	2.2	5.9	30.0	3.2	12.1	18.3	9.1	5.8	2.5	8.0
1978	2.1	1.9	1.7	2.2	6.0	8.1	25.4	25.5	69.0	44.3	7.8	3.5	16.5
1979	1.9	1.7	1.4	4.5	5.0	25.5	31.3	28.6	58.5	50.1	14.5	4.9	19.0
1980	3.4	2.7	2.6	2.4	18.1	58.1	18.3	40.8	56.4	63.3	11.9	5.7	23.6
1981	4.4	2.9	2.7	2.5	NA	NA	NA	NA	NA	NA	NA	NA	3.1

Table 1.5

MONTHLY DISCHARGE IN THE STUDY AREA (2/2)

MONTHLY DISCHARGE AT VADO MARIN

Unit:m3/s

YEAR	MONTH												Average
	1	2	3	4	5	6	7	8	9	10	11	12	
1959	NA	NA	NA	NA	11.2	13.3	13.4	17.9	30.5	44.7	12.9	4.7	18.6
1960	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1961	8.1	7.7	9.4	12.6	13.5	18.1	45.8	9.6	79.8	133.1	32.8	9.1	31.6
1962	7.3	8.5	14.5	14.9	15.1	36.5	36.7	16.2	73.1	103.6	30.4	8.7	30.5
1963	7.9	7.5	7.0	6.7	8.6	17.0	34.3	18.2	98.2	61.6	57.0	11.4	27.9
1964	8.4	7.8	7.1	6.9	8.2	14.5	57.0	50.8	93.7	52.0	12.2	9.2	27.3
1965	7.5	6.7	5.5	4.5	8.5	23.1	14.0	20.8	94.4	72.5	10.9	7.2	23.0
1966	6.6	6.6	4.4	5.5	16.6	90.2	111.9	54.1	74.6	74.8	18.0	8.9	39.3
1967	6.8	5.7	4.2	5.6	4.8	17.9	14.6	10.5	27.9	50.3	8.6	5.8	13.6
1968	4.3	3.6	3.3	3.2	7.4	37.9	21.7	11.5	63.3	73.5	19.5	8.7	21.5
1969	5.9	4.5	4.2	3.8	13.0	37.8	49.5	76.5	159.0	122.0	49.8	16.2	45.2
1970	9.7	7.5	5.7	5.2	12.0	43.9	36.5	66.5	80.7	132.0	30.0	13.9	37.0
1971	9.8	7.4	6.2	5.3	9.4	26.4	12.5	51.3	87.1	86.1	26.1	13.0	28.4
1972	8.6	6.4	4.8	6.2	19.0	28.7	13.2	13.5	24.8	56.7	19.5	10.7	17.7
1973	7.1	6.0	6.7	7.5	12.5	58.8	30.3	40.9	110.0	140.0	45.0	15.7	40.0
1974	9.4	7.0	5.7	4.4	9.1	21.6	18.4	14.1	87.7	63.8	16.0	8.4	22.1
1975	6.1	6.0	4.9	3.0	8.5	15.5	15.9	40.5	92.9	72.1	42.3	13.6	26.8
1976	7.9	4.9	3.8	4.5	11.4	96.3	33.2	16.5	27.8	36.7	12.1	6.1	21.8
1977	4.4	4.6	4.7	4.0	9.8	28.7	7.3	15.1	19.6	14.7	9.2	5.4	10.6
1978	3.8	3.4	3.2	3.9	7.5	12.4	29.9	27.6	84.5	58.0	14.1	6.8	21.2
1979	4.7	4.8	3.1	6.6	9.9	38.2	48.8	38.6	103.5	84.0	31.0	10.8	32.0
1980	6.3	5.8	7.2	9.6	22.3	100.7	41.5	71.0	77.9	119.2	25.5	10.0	41.4
1981	6.7	6.5	9.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.5

MONTHLY DISCHARGE AT LAS CONCHAS

Unit:m3/s

YEAR	MONTH												Average
	1	2	3	4	5	6	7	8	9	10	11	12	
1969	NA	NA	NA	NA	16.1	40.5	58.3	64.6	218.0	128.0	55.3	22.0	75.4
1970	15.2	8.7	6.6	6.1	16.3	53.0	46.8	82.3	91.9	135.0	35.5	18.4	43.0
1971	13.5	10.8	9.3	8.7	14.1	35.5	19.1	60.1	91.5	95.0	31.3	16.6	33.8
1972	12.0	9.5	8.1	9.6	23.0	34.2	16.7	17.4	28.9	62.5	21.8	13.1	21.4
1973	10.1	8.1	7.2	8.0	16.4	70.4	37.8	50.2	133.0	168.0	48.2	17.7	47.9
1974	12.0	9.5	8.1	8.9	13.7	24.6	23.6	15.5	106.0	76.6	23.0	12.8	27.9
1975	9.4	7.0	6.7	6.1	10.6	17.6	18.1	46.4	107.4	83.2	56.5	18.4	32.3
1976	11.1	8.7	7.1	8.8	14.6	99.1	36.0	18.7	34.4	44.3	16.9	10.5	25.8
1977	8.0	7.0	6.3	6.8	12.9	41.6	12.1	23.6	26.1	20.0	13.5	8.2	15.5
1978	6.3	5.7	5.7	6.4	9.7	17.0	34.9	34.6	116.0	68.4	20.2	12.4	28.1
1979	9.1	5.8	5.1	7.9	13.1	48.5	88.8	52.4	183.6	118.5	39.8	16.9	49.1
1980	11.7	8.4	6.8	6.4	21.0	200.0	53.2	92.1	114.9	235.7	288.9	NA	94.5
1981	NA	NA	9.7	9.2	NA	NA	NA	NA	NA	NA	NA	NA	9.4

Table 1. 6 MONTHLY WATERLEVEL AT PUERTO VIEJO (LAKE OLOMEGA)

Unit:MSL

YEAR	MONTH												Average
	1	2	3	4	5	6	7	8	9	10	11	12	
1970	NA	NA	NA	NA	64.55	64.71	64.96	65.50	65.75	66.18	65.72	65.37	65.3
1971	65.10	64.88	64.71	64.58	64.53	64.79	64.80	64.92	65.47	65.80	65.62	65.27	65.0
1972	64.96	64.74	64.55	64.44	64.60	64.97	64.84	64.77	64.81	65.45	65.45	65.12	64.9
1973	64.84	64.61	64.45	64.31	64.28	64.64	64.88	64.90	65.76	66.18	65.79	65.33	65.0
1974	65.02	64.80	64.62	64.47	64.31	64.44	64.73	64.59	65.33	65.90	65.41	65.07	64.9
1975	64.79	64.62	64.47	64.32	64.19	64.32	64.41	64.52	65.15	65.71	65.45	65.11	64.8
1976	64.84	64.65	64.47	64.31	64.29	65.30	65.54	65.18	65.08	65.12	64.94	64.74	64.9
1977	64.58	64.41	64.22	64.08	64.00	64.23	64.20	64.18	64.20	64.31	64.24	64.19	64.2
1978	64.05	63.90	63.73	63.50	63.39	63.62	63.72	63.92	64.90	65.34	65.13	64.87	64.2
1979	64.65	64.49	64.29	64.13	64.11	64.55	NA	NA	65.32	65.73	65.48	65.20	64.8
1980	64.95	64.75	64.55	NA	NA	NA	NA	65.92	65.89	66.02	65.61	65.44	65.4
1981	65.30	65.14	64.99	NA	65.06	NA	NA	65.79	NA	65.99	65.91	65.75	65.5
1982	65.62	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	65.6

Table 1.7 THIESSEN COEFFICIENT EACH SUBBASIN FOR RAINFALL STATION, 1975 FLOOD

Subbasin Area(Km ²)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Total	
	San Francisco Gataza	San Francisco Gataza	San Francisco Gataza	Jucuaran	Ocotlán	El Papalón	Beneficio El Sitio	San Miguel	Yucatán	Olumbos	San Alejandro	Corinto	Junquera	Hda. El Canal	Puerto Parada	Hda. San José	Canton de Lava	Susori	Chalmiti que	Lototique	Usulután	Puerto Parada	City	
1	113	0.00	0.00	0.95	0.02	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
2	154	0.00	0.00	0.38	0.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
3	128	0.00	0.00	0.79	0.01	0.15	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
4	58	0.00	0.00	0.00	0.75	0.00	0.00	0.74	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
5	121	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
6	227	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
7	24	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
8	85	0.00	0.00	0.00	0.00	0.00	0.00	0.71	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
9	54	0.00	0.00	0.00	0.00	0.00	0.00	0.94	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
10	97	0.00	0.00	0.00	0.00	0.12	0.00	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
11	137	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
12	202	0.00	0.00	0.00	0.00	0.00	0.00	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
13	207	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
14	219	0.00	0.00	0.00	0.00	0.00	0.00	0.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
15	283	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
16	138	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
17	200	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
18	9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
TOTAL	2247	0.23	0.56	0.19	1.80	1.01	0.43	1.13	3.90	1.65	0.99	0.81	0.37	0.00	0.21	0.78	0.96	0.55	0.90	1.34	0.06	1.34	0.72	18.00

Table 1.8 THIESSEN COEFFICIENT EACH SUBBASIN FOR RAINFALL STATION, 1980 FLOOD

Subbasin Area(Km ²)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	Total	
	San Francisco Gataza	Francisco Gataza	Yucuaquín	Papalón	El Sitio	Beneficio El Sitio	San Alejo	San Uluazapa	Susori	Ciudad Barrios	Lototique	Jucuaran	H. El Canal	C. La Lava	Usulután	Puerto Parada
1	113	0.97	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
2	154	0.72	0.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
3	128	0.73	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
4	58	0.00	0.01	0.00	0.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
5	121	0.23	0.00	0.00	0.28	0.00	0.00	0.00	0.00	0.43	0.05	0.00	0.00	0.00	0.00	1.00
6	227	0.00	0.00	0.00	0.11	0.00	0.00	0.00	0.00	0.22	0.51	0.00	0.00	0.00	0.00	1.00
7	24	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
8	85	0.00	0.00	0.00	0.72	0.00	0.00	0.00	0.00	0.00	0.25	0.00	0.00	0.00	0.00	1.00
9	54	0.00	0.00	0.00	0.98	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
10	97	0.00	0.34	0.00	0.09	0.00	0.00	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
11	137	0.00	0.00	0.25	0.73	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
12	137	0.00	0.00	0.65	0.22	0.00	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
13	207	0.00	0.00	0.23	0.00	0.00	0.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
14	219	0.00	0.00	0.50	0.00	0.00	0.06	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
15	263	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
16	138	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.15	0.06	0.29	0.17	0.55	1.00
17	200	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.18	0.00	0.00	0.00	0.00	1.00
18	9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
TOTAL	2247	2.65	0.62	1.63	4.74	0.82	0.82	1.39	0.15	0.82	1.15	0.34	0.79	1.02	1.34	18.00

Table 1.9 THIESSEN COEFFICIENT EACH SUBBASIN FOR RAINFALL STATION ,1982 FLOOD

Subbasin	Area(km ²)	San Francisco Gotera							
		1	2	3	4	5	6	7	8
		Jocoro	Papalon	El Canton La Lava	Puerto Parada	Santiago de Maria	Lolotique	Chapeltique	
1	113	0.99	0.01	0.00	0.00	0.00	0.00	0.00	1.00
2	154	0.40	0.60	0.00	0.00	0.00	0.00	0.00	1.00
3	128	0.86	0.06	0.00	0.00	0.00	0.00	0.00	1.00
4	58	0.04	0.49	0.34	0.00	0.00	0.00	0.00	1.00
5	121	0.04	0.00	0.00	0.00	0.00	0.00	0.00	1.00
6	227	0.00	0.00	0.00	0.00	0.00	0.00	0.25	1.00
7	24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
8	85	0.00	0.00	0.21	0.05	0.00	0.00	0.63	1.00
9	54	0.00	0.00	0.79	0.17	0.00	0.00	0.04	1.00
10	97	0.00	0.58	0.42	0.00	0.00	0.00	0.00	1.00
11	13	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00
12	137	0.00	0.00	0.92	0.08	0.00	0.00	0.00	1.00
13	207	0.00	0.00	0.99	0.01	0.00	0.00	0.00	1.00
14	219	0.00	0.00	0.74	0.26	0.00	0.00	0.00	1.00
15	263	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
16	138	0.00	0.00	0.00	0.66	0.16	0.01	0.16	1.00
17	200	0.00	0.00	0.00	0.05	0.28	0.62	0.05	1.00
18	9	0.00	0.00	0.00	0.00	1.00	0.00	0.00	1.00
Total	2247	2.32	1.75	5.41	2.29	1.45	0.63	1.13	18.00

Table 1.10 THIESSEN COEFFICIENT EACH SUBBASIN FOR RAINFALL STATION ,1988 FLOOD

Subbasin	Area(Km2)	San Francisco Gotera	Beneficio El Sitio	El Papalon	Santiago de Maria	Usulután	Puerto Parada	Total
1	113	1.00	0.00	0.00	0.00	0.00	0.00	1.00
2	154	1.00	0.00	0.00	0.00	0.00	0.00	1.00
3	128	1.00	0.00	0.00	0.00	0.00	0.00	1.00
4	58	0.39	0.00	0.61	0.00	0.00	0.00	1.00
5	121	0.99	0.00	0.01	0.00	0.00	0.00	1.00
6	227	0.56	0.00	0.13	0.32	0.00	0.00	1.00
7	24	0.10	0.00	0.90	0.00	0.00	0.00	1.00
8	85	0.00	0.00	0.84	0.16	0.00	0.00	1.00
9	54	0.00	0.00	1.00	0.00	0.00	0.00	1.00
10	97	0.19	0.00	0.81	0.00	0.00	0.00	1.00
11	13	0.00	0.00	1.00	0.00	0.00	0.00	1.00
12	137	0.00	0.00	1.00	0.00	0.00	0.00	1.00
13	207	0.00	0.00	1.00	0.00	0.00	0.00	1.00
14	219	0.00	0.00	1.00	0.00	0.00	0.00	1.00
15	263	0.00	0.00	0.75	0.03	0.00	0.22	1.00
16	138	0.00	0.00	0.03	0.35	0.00	0.62	1.00
17	200	0.00	0.00	0.00	0.69	0.00	0.31	1.00
18	9	0.00	0.00	0.00	0.00	0.00	1.00	1.00
TOTAL	2247	5.23	0.00	9.08	1.54	0.00	2.15	18.00

Table 1. 11 THIESSEN COEFFICIENT EACH SUBBASIN FOR RAINFALL STATION ,1992 FLOOD

Subbasin	Area(km ²)	San Francisco Gotera						Total
		Canton Barrios	El Papalon	Usulután	Santiago de María	Puerto Parada		
1	113	0.97	0.03	0.00	0.00	0.00	0.00	1.00
2	154	1.00	0.00	0.00	0.00	0.00	0.00	1.00
3	128	0.87	0.13	0.00	0.00	0.00	0.00	1.00
4	58	0.40	0.00	0.60	0.00	0.00	0.00	1.00
5	121	0.49	0.50	0.01	0.00	0.00	0.00	1.00
6	227	0.03	0.66	0.11	0.00	0.20	0.00	1.00
7	24	0.13	0.00	0.87	0.00	0.00	0.00	1.00
8	85	0.00	0.00	0.85	0.00	0.15	0.00	1.00
9	54	0.00	0.00	1.00	0.00	0.00	0.00	1.00
10	97	0.19	0.00	0.81	0.00	0.00	0.00	1.00
11	13	0.00	0.00	1.00	0.00	0.00	0.00	1.00
12	137	0.00	0.00	1.00	0.00	0.00	0.00	1.00
13	207	0.00	0.00	1.00	0.00	0.00	0.00	1.00
14	219	0.00	0.00	1.00	0.00	0.00	0.00	1.00
15	263	0.00	0.00	0.67	0.25	0.00	0.08	1.00
16	138	0.00	0.00	0.03	0.59	0.20	0.18	1.00
17	200	0.00	0.00	0.00	0.56	0.42	0.05	1.00
18	9	0.00	0.00	0.00	0.03	0.00	0.97	1.00
Total	2247	4.07	1.33	8.95	1.42	0.97	1.26	18.00

Table 1. 12 THIESSEN COEFFICIENT EACH SUBBASIN FOR RAINFALL STATION, 1995 FLOOD

Subbasin Area(Km ²)	San Francisco Comnto Gotera																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
	Francisco	Comnto	Oscala	Chapeltique	Sesori	Ciudad	El	Yucuaquin	Beneficio	San	Santiago	San	Lolotique	Puerto	Jucuaran	San	
	Gotera					Barnos	Papaton	El Sitio	Miguel	de Maria	Jorge		Parada		Alejo		
1	113	0.67	0.00	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
2	154	0.70	0.03	0.00	0.00	0.00	0.00	0.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
3	128	0.72	0.00	0.09	0.00	0.07	0.00	0.92	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
4	58	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
5	121	0.03	0.00	0.00	0.76	0.00	0.16	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
6	227	0.00	0.00	0.00	0.67	0.06	0.15	0.00	0.04	0.00	0.02	0.06	0.00	0.00	0.00	0.00	1.00
7	24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
8	85	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.67	0.00	0.10	0.23	0.00	0.00	0.00	0.00	1.00
9	54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.79	0.15	0.00	0.06	0.00	0.00	0.00	0.00	1.00
10	97	0.00	0.00	0.00	0.00	0.00	0.10	0.66	0.17	0.07	0.00	0.00	0.00	0.00	0.00	0.00	1.00
11	13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
12	137	0.00	0.00	0.00	0.00	0.00	0.56	0.00	0.00	0.43	0.00	0.01	0.00	0.00	0.00	0.00	1.00
13	207	0.00	0.00	0.00	0.00	0.00	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
14	219	0.00	0.00	0.00	0.00	0.00	0.76	0.02	0.02	0.09	0.00	0.01	0.00	0.00	0.00	0.00	1.00
15	263	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.33	0.03	0.00	0.56	0.00	0.04	0.00	0.00	1.00
16	138	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.72	0.00	0.28	0.00	0.00	1.00
17	200	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25	0.59	0.00	0.16	0.00	0.00	1.00
18	9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	1.00
TOTAL	2247	2.12	0.03	0.43	1.50	0.06	0.38	1.18	3.88	1.77	0.37	2.25	0.00	1.47	0.00	0.88	18.00

Table 1. 13 RECORDED DAILY RAINFALL DURING SEP.14-20, 1982

Month	Day	S1	S2	S3	S4	S5	S6	S7	S8	Basin averaged(S 1-5,6)	Basin
		S.Francisco .Gotera	Jocoro	El Papalon	Cto. La Lava	Pto. Parada	Santiago de Maria	Lolotique	Chapeltique	1-S8)	Basin
	9	6.6	9.7	13.8	3.4	0.3	14.8	58.2	0.0	10.6	11.8
	9	4.3	15.5	20.8	25.5	26.2	22.9	8.6	14.3	17.4	16.3
	9	20.2	16.0	31.0	58.9	18.9	12.8	18.7	25.5	25.9	24.3
	9	7.3	17.5	0.8	4.0	30.2	8.1	1.6	0.3	6.2	4.1
	9	11.3	34.0	37.0	13.2	20.1	22.2	78.0	26.2	29.3	26.5
	9	105.0	33.6	175.4	153.6	170.3	155.3	170.0	127.5	140.3	150.4
	9	49.8	58.5	29.9	20.0	66.1	113.6	20.0	70.1	46.0	51.9
Total	0	204.5	184.8	308.7	258.6	332.1	349.7	355.1	263.9	275.6	285.3

=Rm

Basin averaged 7 days rainfall for 10 years return period

Rd= 271.7
Rd/Rm= 0.95 (Multiplier)

Table 1. 14 DECREASED DAILY RAINFALL BY THE MULTIPLIER

Month	Day	S1	S2	S3	S4	S5	S6	S7	S8	Basin averaged(S 1-5,6)	Basin
		S.Francisco .Gotera	Jocoro	El Papalon	Cto. La Lava	Pto. Parada	Santiago de Maria	Lolotique	Chapeltique	1-S8)	Basin
	9	6.3	9.2	13.1	3.2	0.5	14.1	55.4	0.0	10.1	11.3
	9	4.1	14.8	19.8	24.3	25.0	21.8	8.2	13.6	16.6	15.5
	9	19.2	15.2	29.5	37.0	18.0	12.2	17.8	24.3	24.6	23.1
	9	7.0	16.7	0.8	3.8	28.8	7.7	1.5	0.3	6.0	3.9
	9	10.8	32.4	35.2	12.6	19.1	21.1	74.3	25.0	27.9	25.2
	9	100.0	32.0	167.1	146.3	162.2	147.9	161.9	121.4	133.6	143.3
	9	47.4	55.7	28.5	19.0	63.0	108.2	19.0	66.8	43.8	49.4
Total		194.8	176.0	294.0	246.3	316.3	333.1	338.2	251.3	262.5	271.7

Table 1. 15 RECORDED DAILY RAINFALL DURING SEP.24-30, 1992

Month	Day	S1		S2		S3		S4		S5		S6		Basin Averaged(S1 -S6) .3.5)	Basin Averaged
		Z2:San Francisco Gotera	M5:Ciudad Barrios	M6:El Papalon	U4:Usulutana	U6:Santiago de Maria	U14:Puerto Parada	Basin Averaged(S1 -S6)	Basin Averaged						
9	24	27.6	3.0	0.0	46.0	11.5	39.4	13.5	10.4						
9	25	39.9	60.0	54.8	0.0	37.3	49.1	46.1	47.0						
9	26	12.7	25.0	58.4	33.0	42.5	28.3	40.6	41.7						
9	27	65	76.0	51.0	9.0	37.7	26.2	50.2	52.7						
9	28	95.8	48.5	56.4	93.0	22.0	62.0	66.2	61.6						
9	29	0.8	9.5	114.4	15.5	104.1	0.0	64.6	78.4						
9	30	0	0.0	5.2	0.0	28.1	42.0	7.0	8.0						
Total		241.8	222.0	340.2	196.5	283.0	247.0	288.3	299.8						

=Rm

1.F.14

Basin averaged 7 days rainfall for 10 years return period

Rd= 271.7

Rd/Rm= 0.91 (Multiplier)

Table 1. 16 DECREASED DAILY RAINFALL BY THE MULTIPLIER

Month	Day	S1		S2		S3		S4		S5		S6		Basin Averaged	Basin Averaged
		Z2:San Francisco Gotera	M5:Ciudad Barrios	M6:El Papalon	U4:Usulutana	U6:Santiago de Maria	U14:Puerto Parada	Basin Averaged	Basin Averaged						
9	14	25.0	2.7	0.0	41.7	10.2	35.7	12.2	9.5						
9	15	36.2	54.4	49.7	0.0	33.8	44.5	41.8	42.6						
9	16	11.5	22.7	52.9	29.9	38.5	25.7	36.8	37.8						
9	17	58.9	68.9	46.2	8.2	34.2	23.7	45.5	47.7						
9	18	86.8	44.0	51.1	84.3	19.9	56.2	60.0	55.9						
9	19	0.7	8.6	103.7	14.0	94.4	0.0	58.5	71.0						
9	20	0.0	0.0	4.7	0.0	25.5	38.1	6.4	7.3						
Total		219.2	201.2	308.4	178.1	256.5	223.9	261.3	271.7						

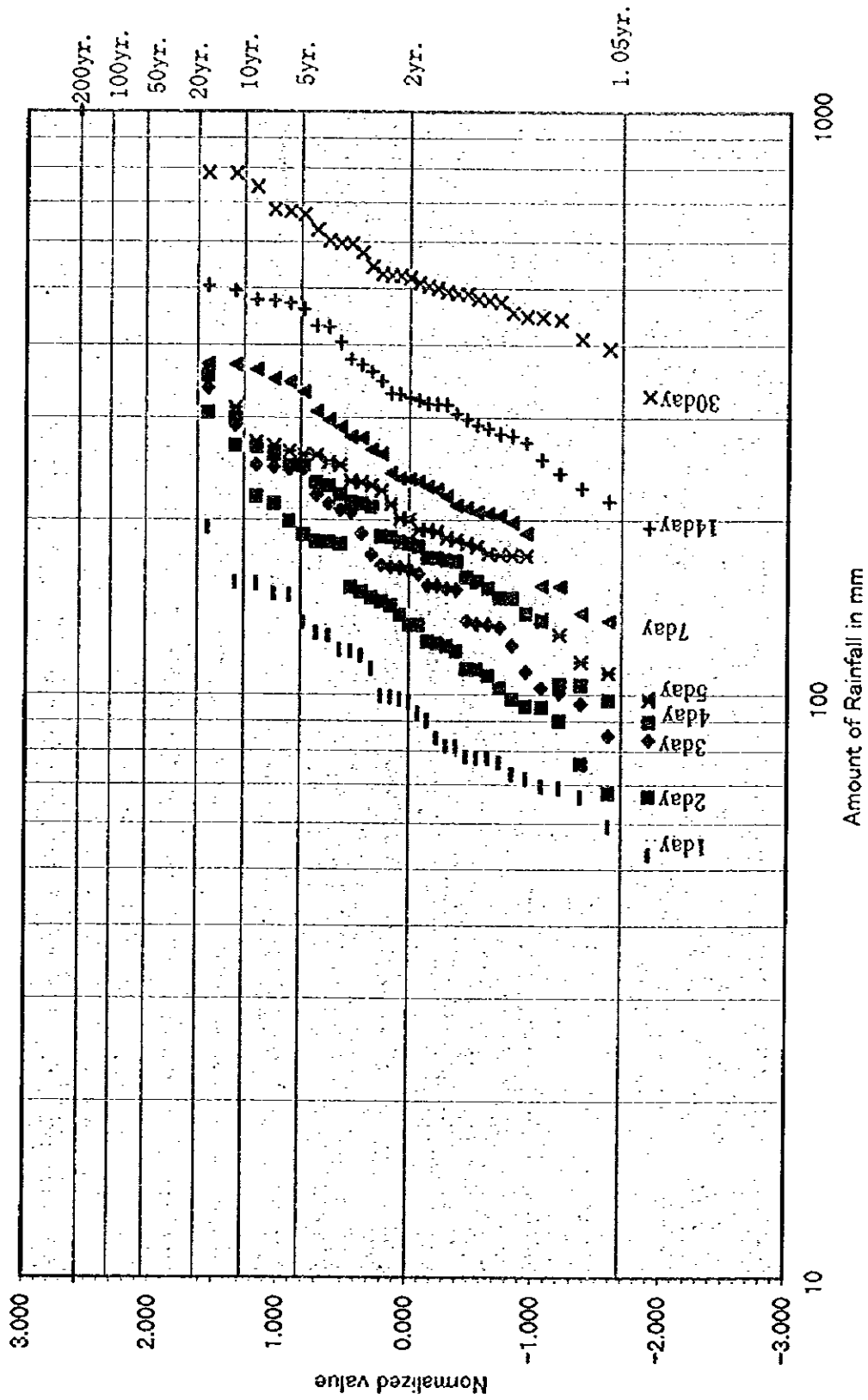


Figure 1.1 LOG-NORMAL PLOT OF RAINFALL AT SANTIAGO DE MARIA

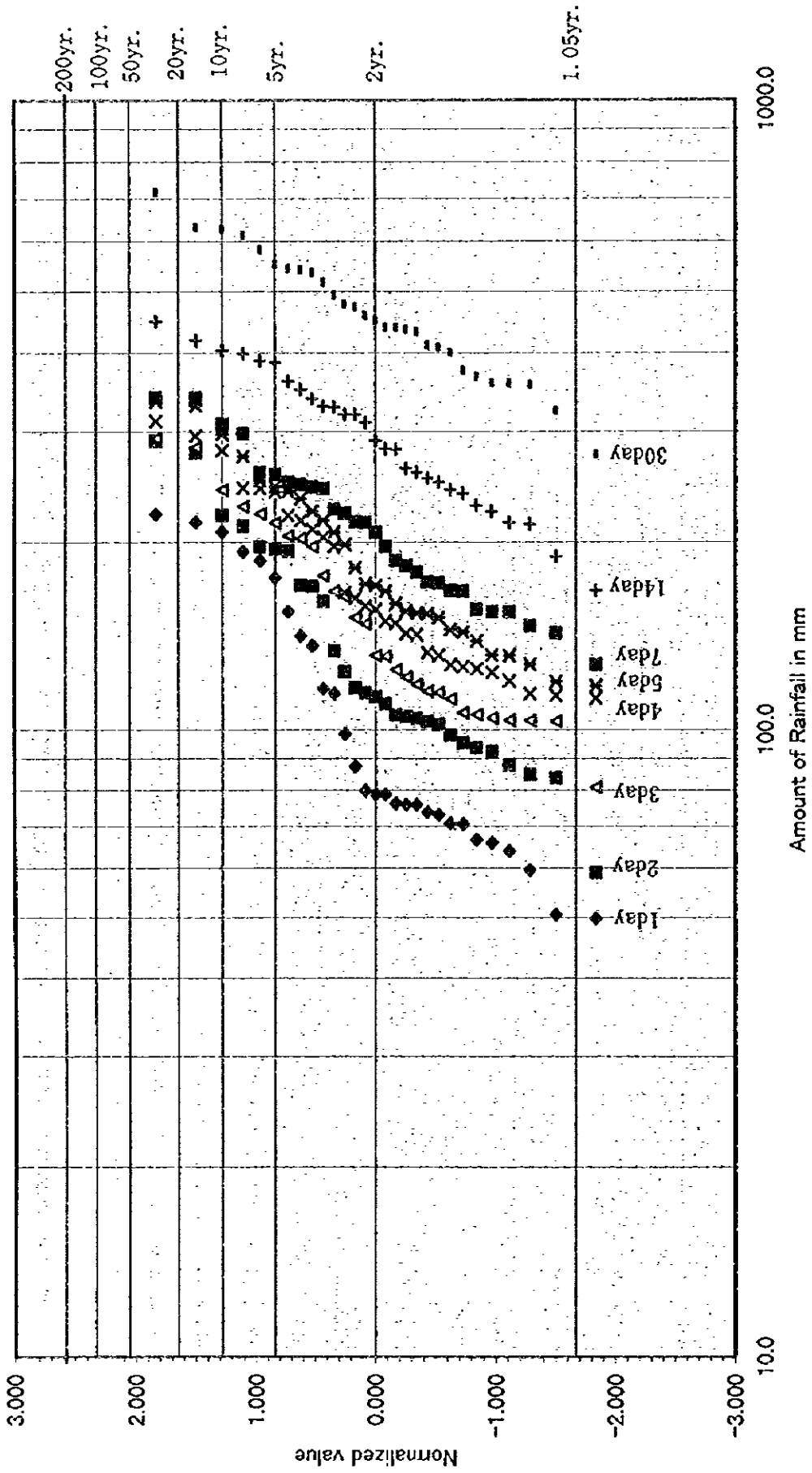


Figure 1.2 LOG-NORMAL PLOT OF RAINFALL AT EL PAPALON

1950

1950

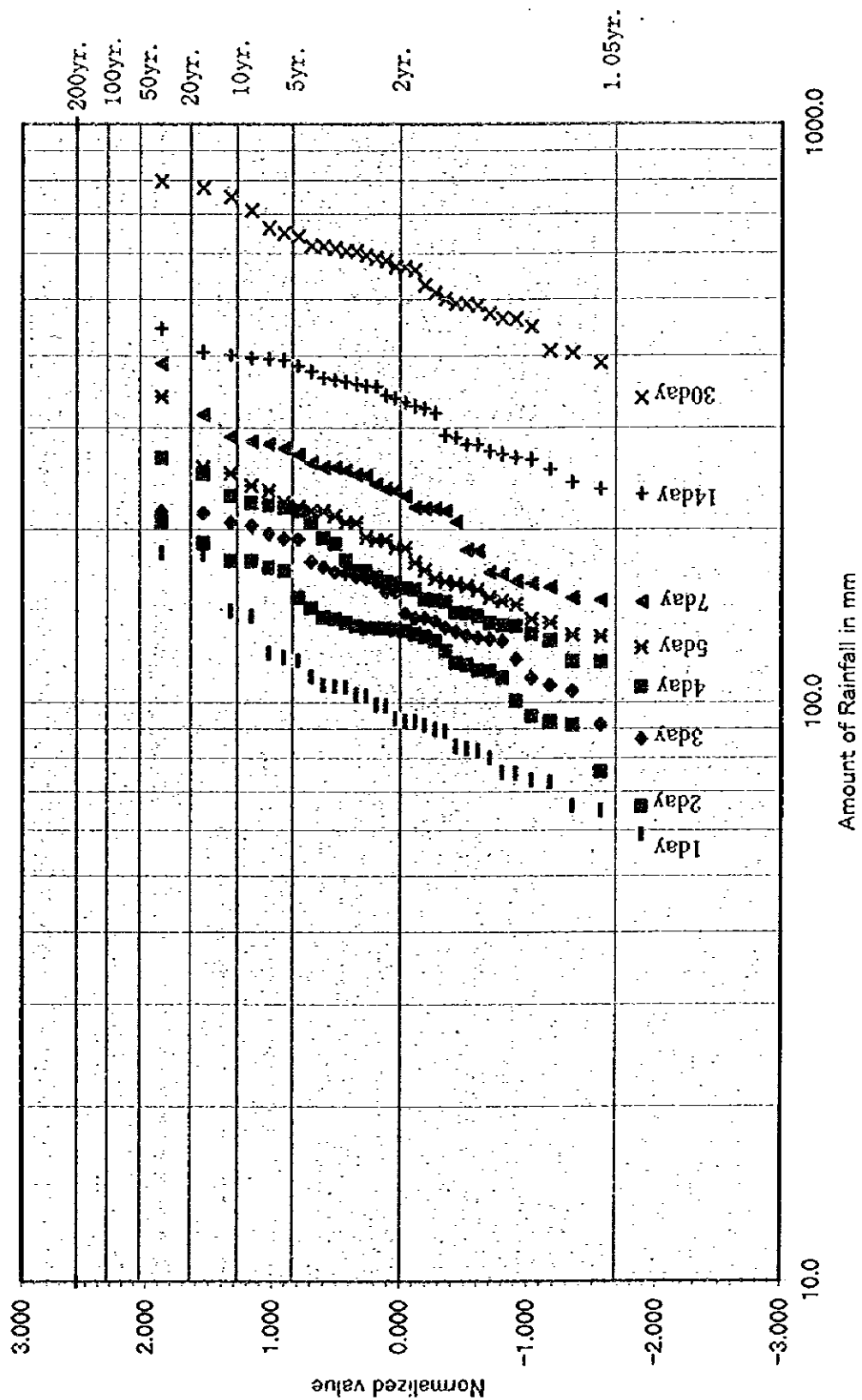


Figure 1.3 LOG-NORMAL PLOT OF RAINFALL AT SAN FRANCISCO GOTERA

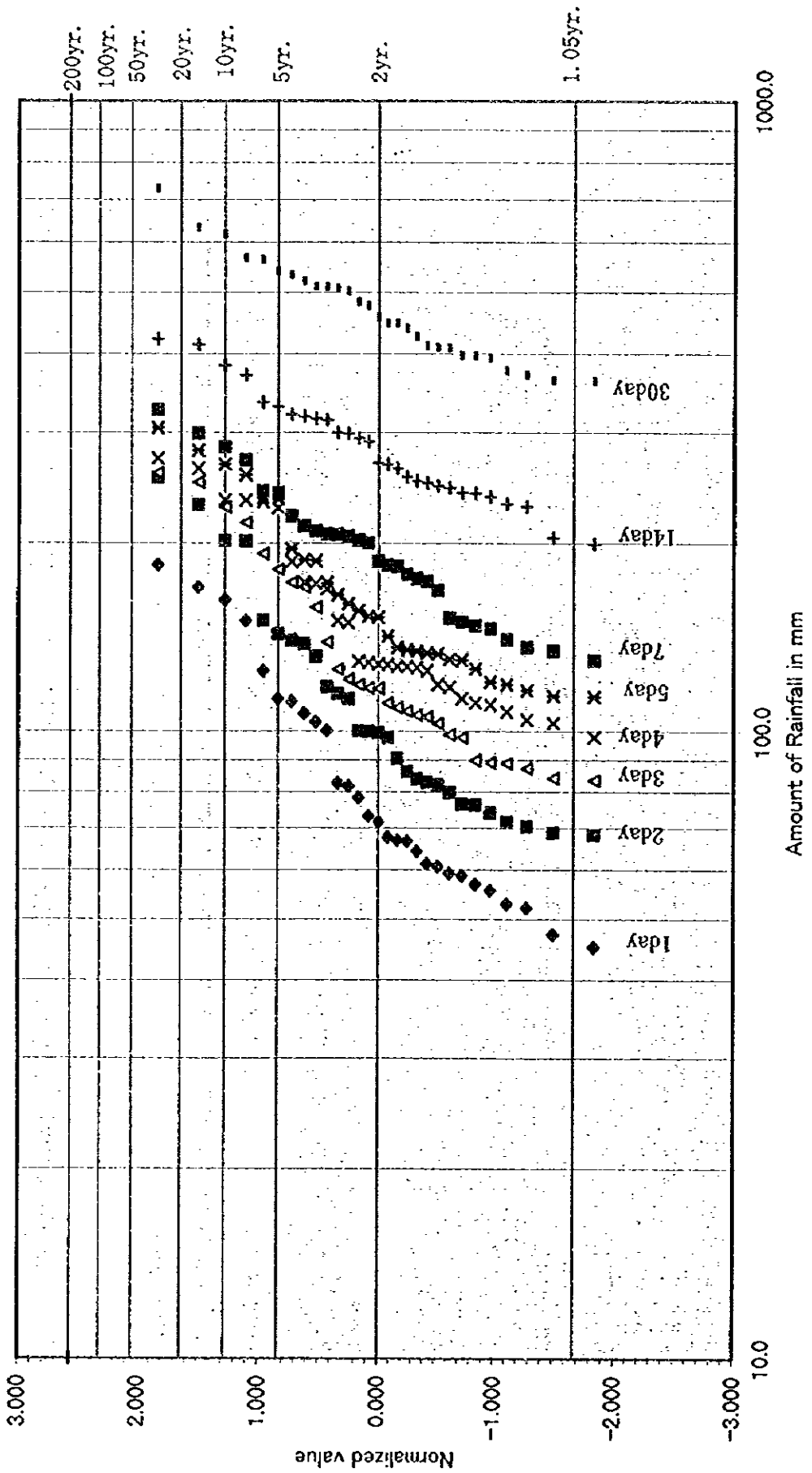


Figure 1.4 LOG-NORMAL PLOT OF BASIN AVERAGED RAINFALL

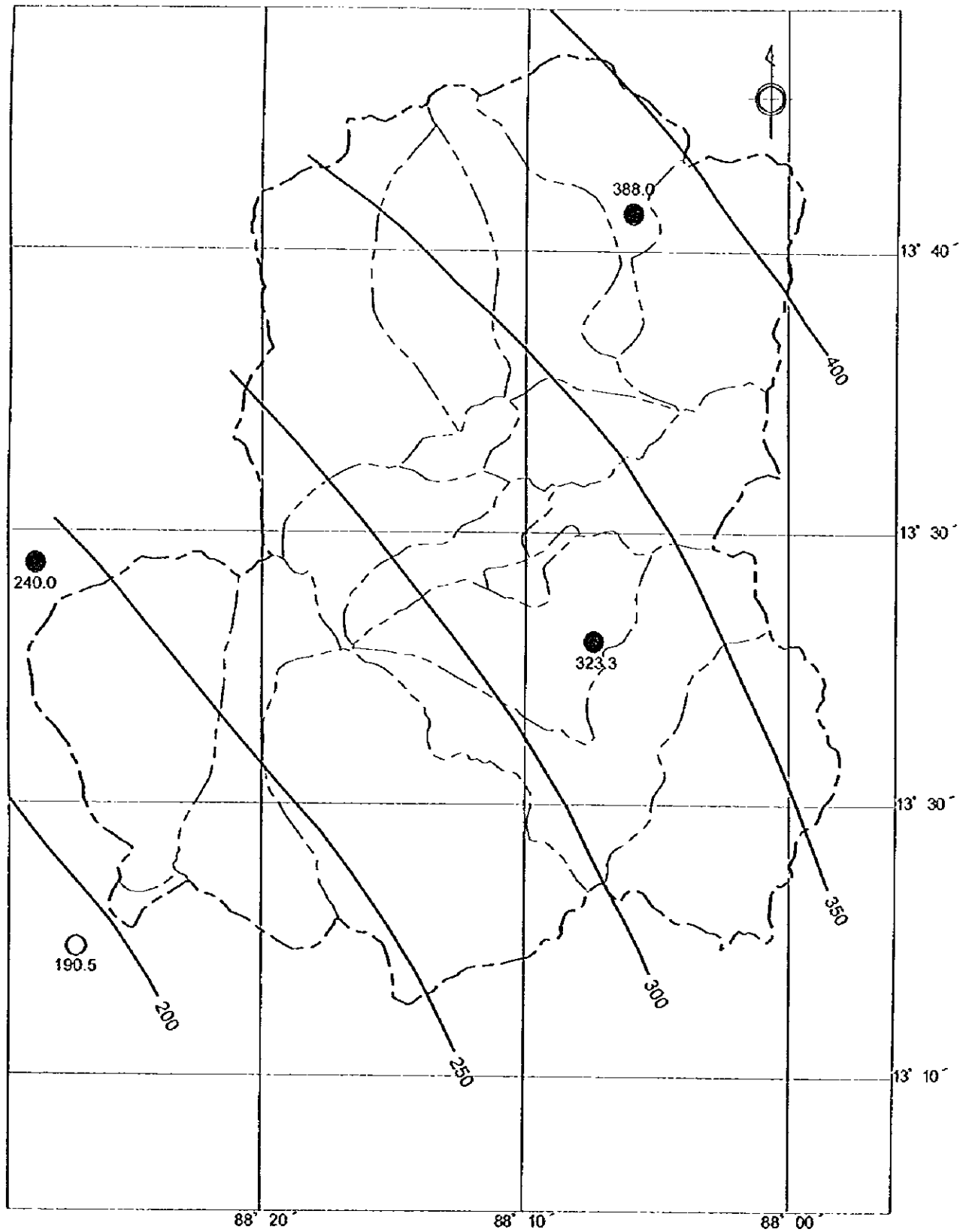


Figure 1.5 ISOHYET LINES OF RAINFALL AMOUNT DURING SEP.10-16,1988

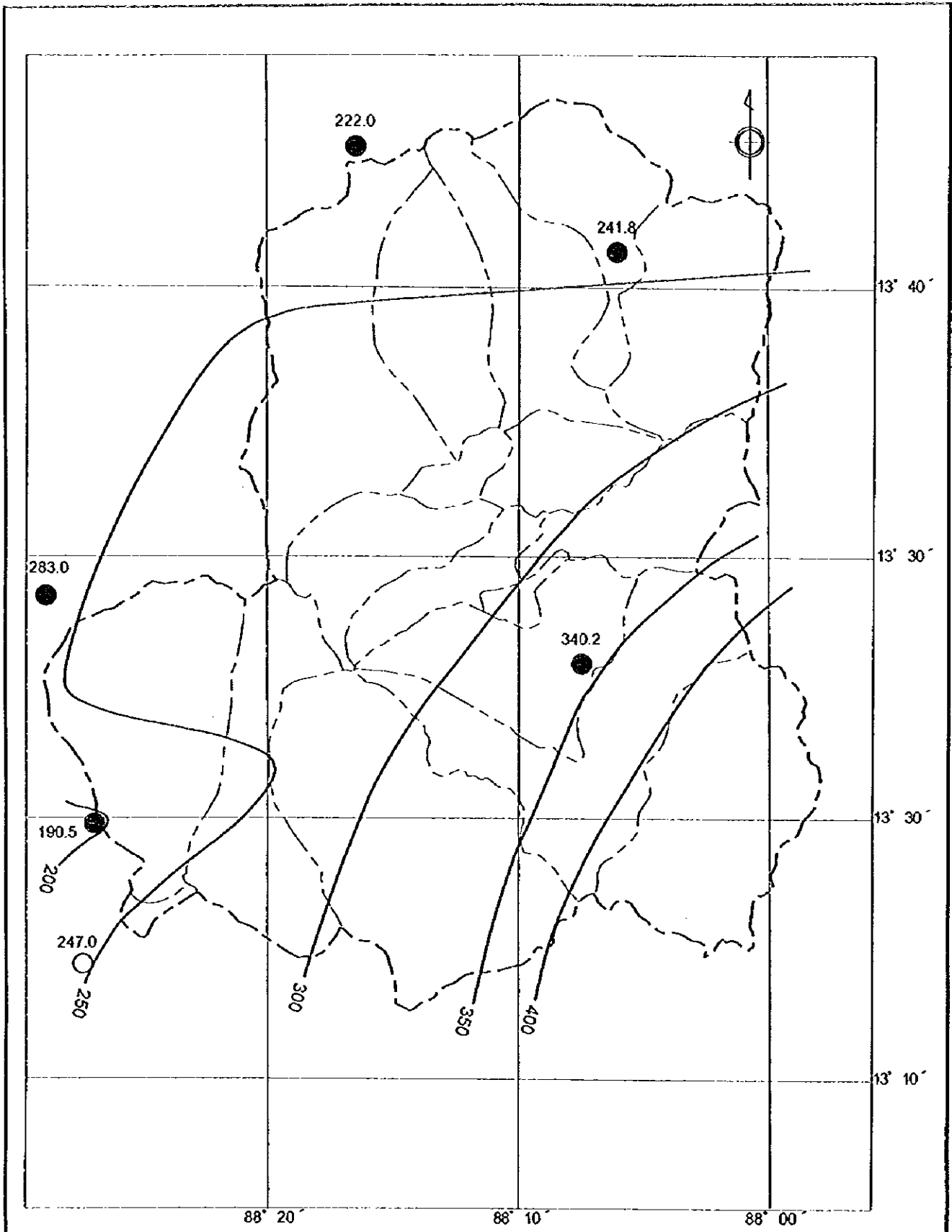


Figure 1. 6 ISOHYET LINES OF RAINFALL AMOUNT DURING SEP.24-30,1992

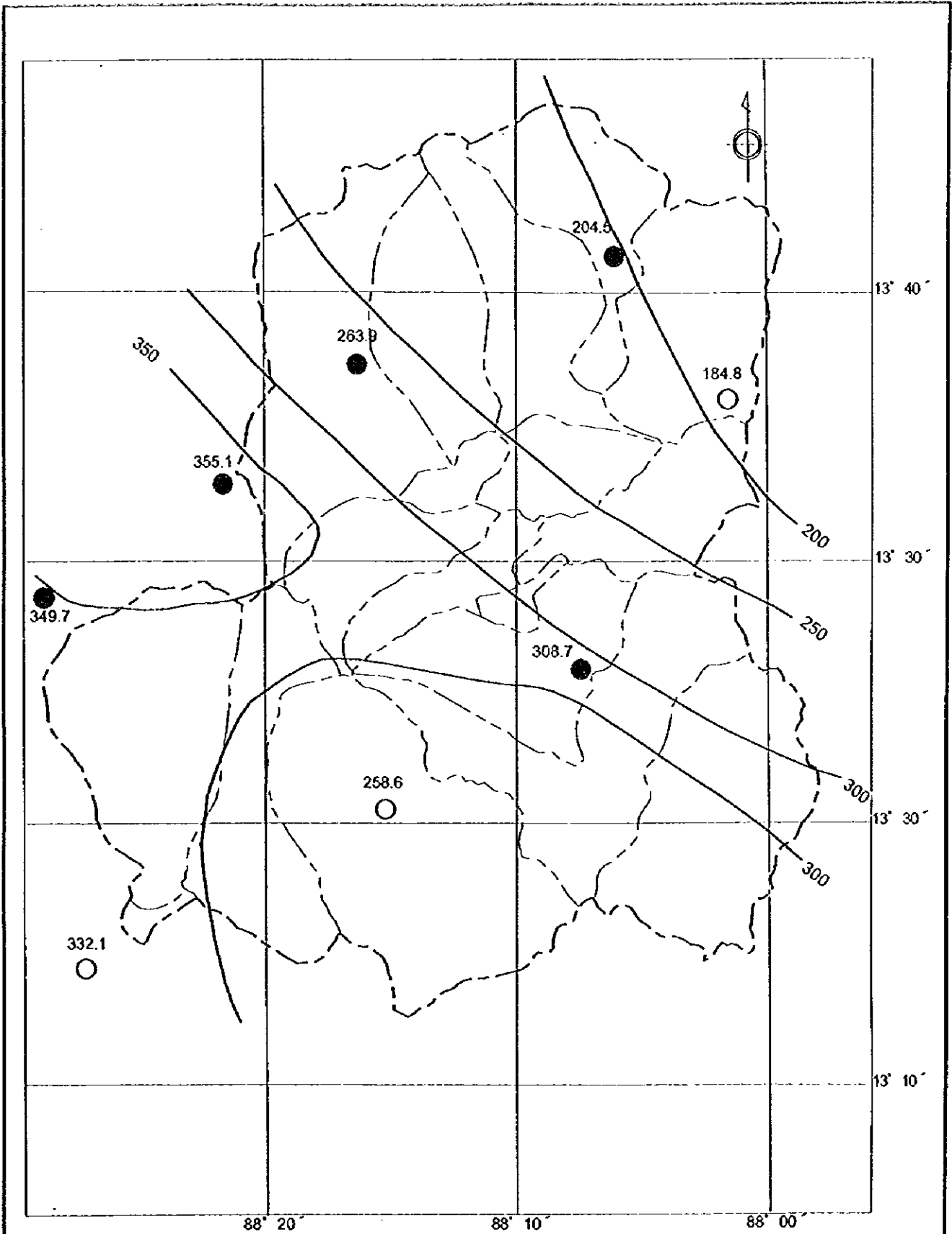


Figure 1. 7 ISOHYET LINES OF RAINFALL AMOUNT DURING SEP.14-20,1982

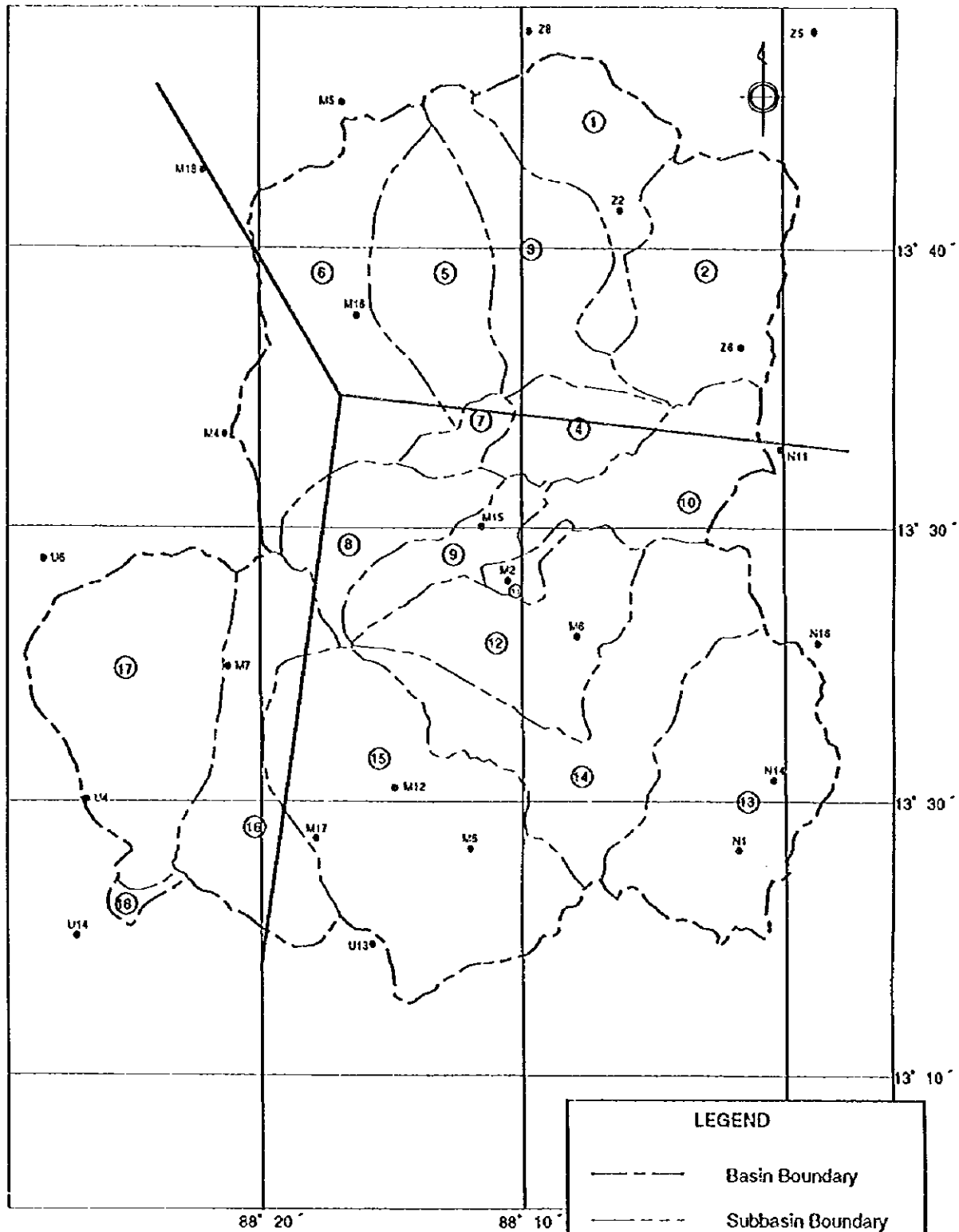
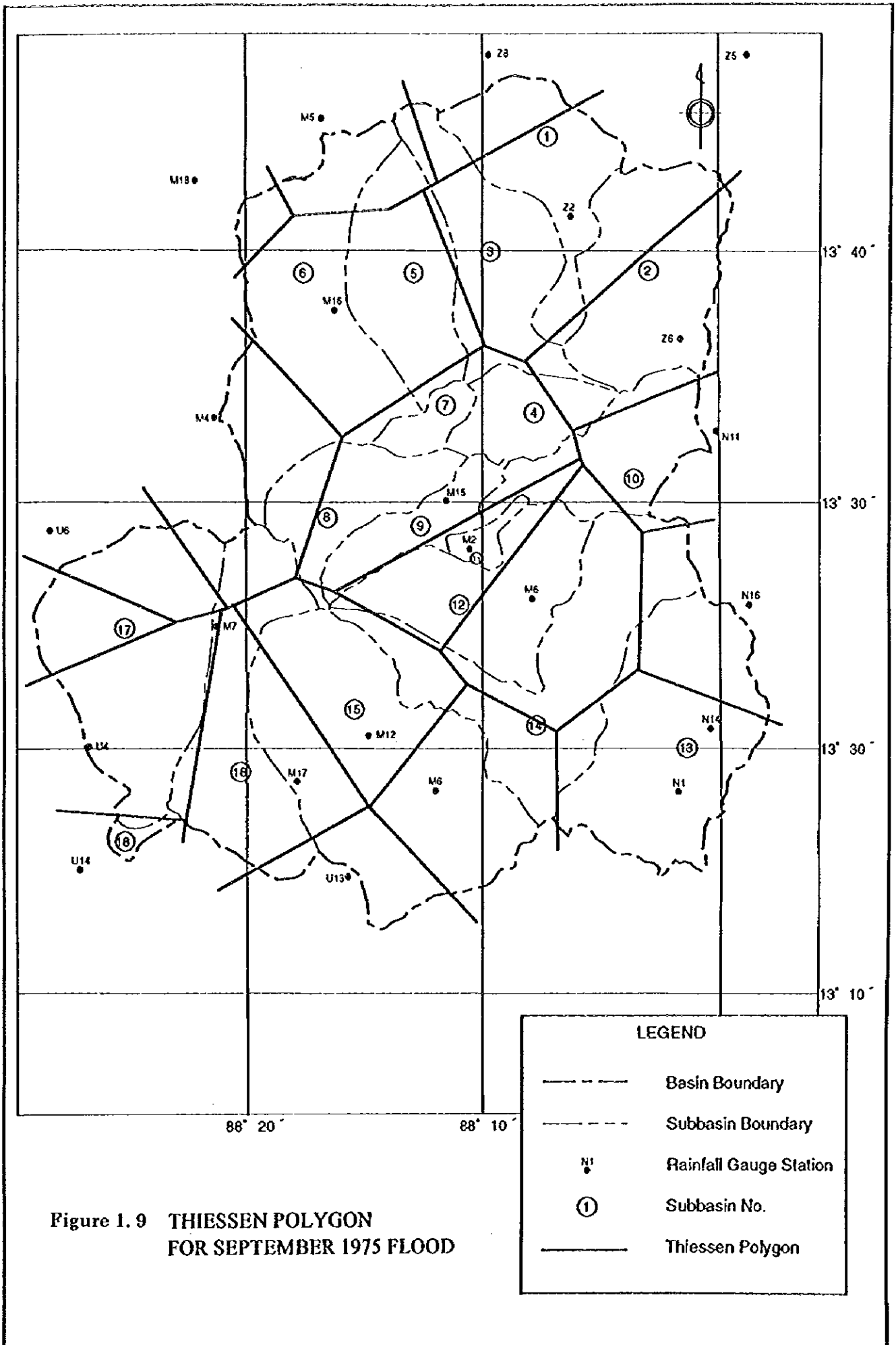


Figure 1.8 THIESSEN POLYGON FOR BASIN AVERAGED RAINFALL

LEGEND	
-----	Basin Boundary
.....	Subbasin Boundary
●	Rainfall Gauge Station
①	Subbasin No.
—————	Thiessen Polygon



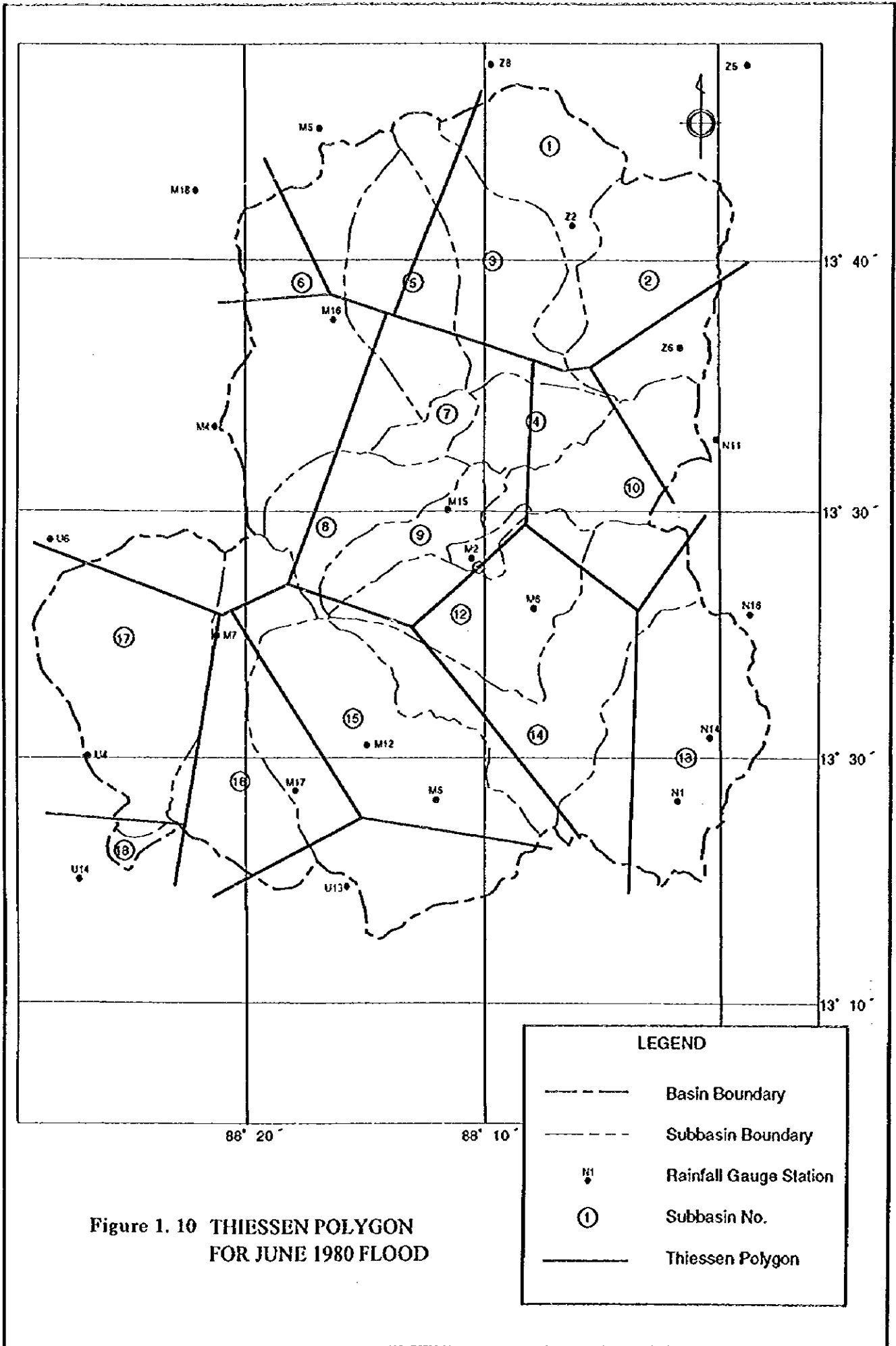


Figure 1. 10 THIESSEN POLYGON FOR JUNE 1980 FLOOD

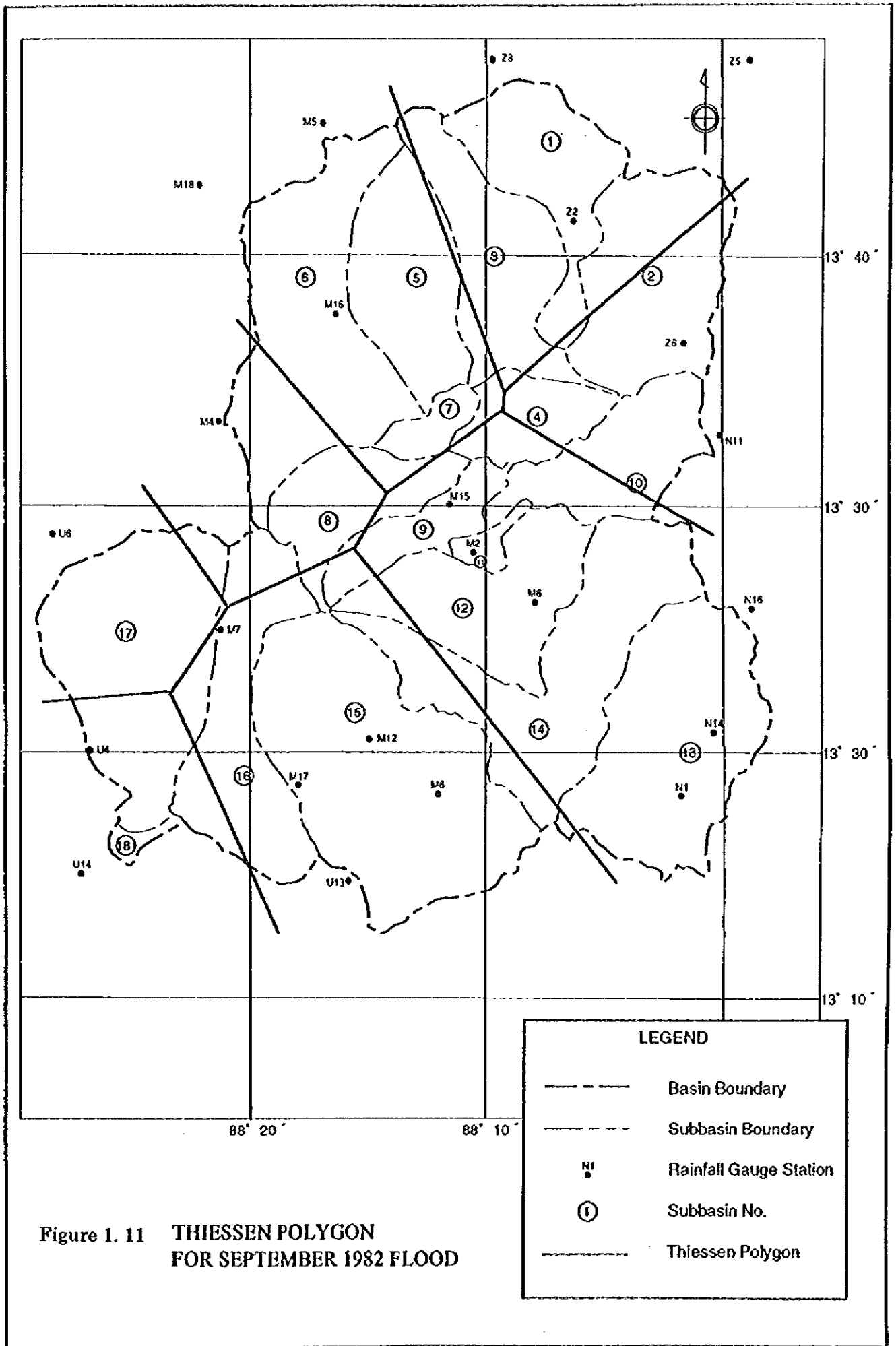


Figure 1. 11 THIESSEN POLYGON FOR SEPTEMBER 1982 FLOOD

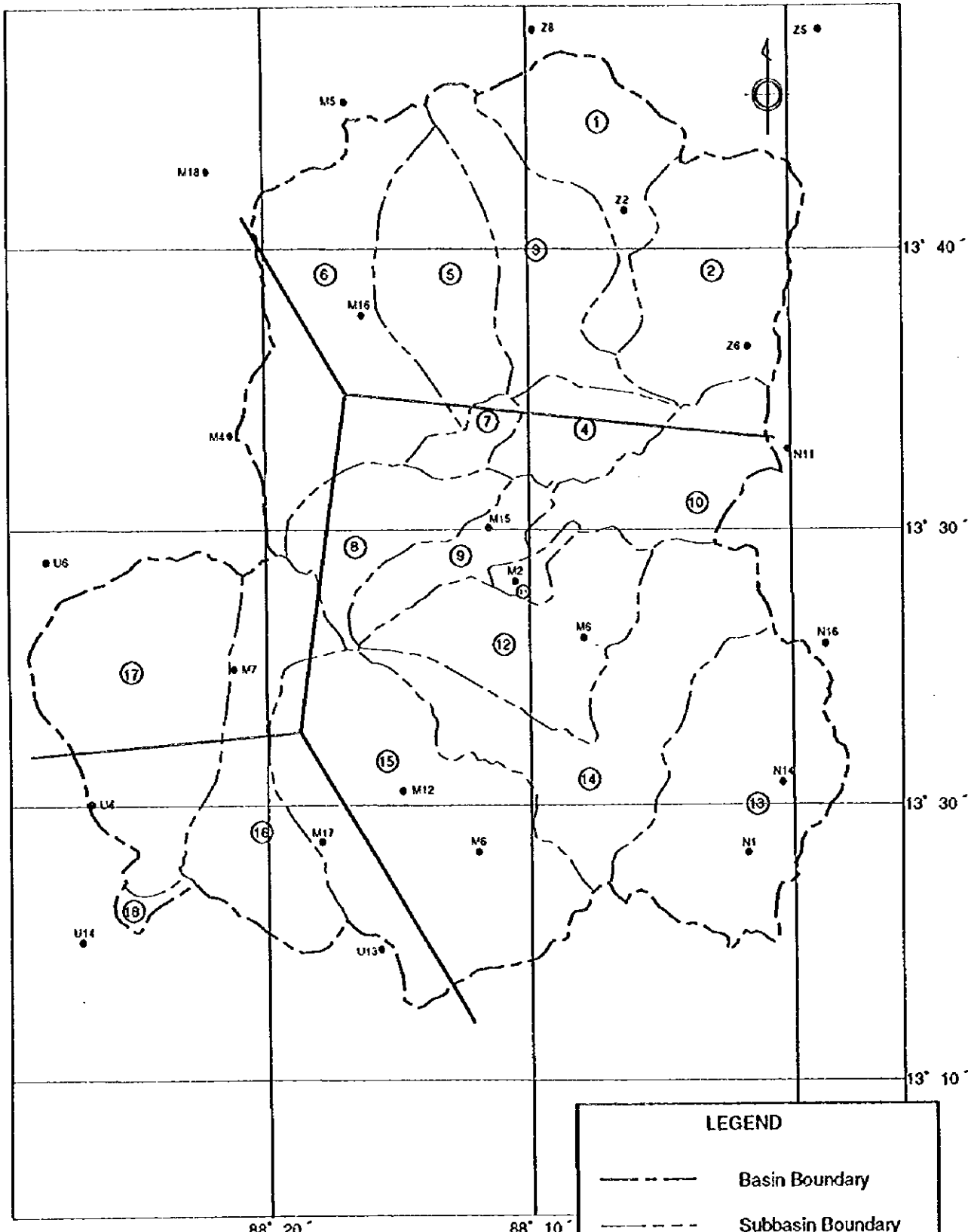
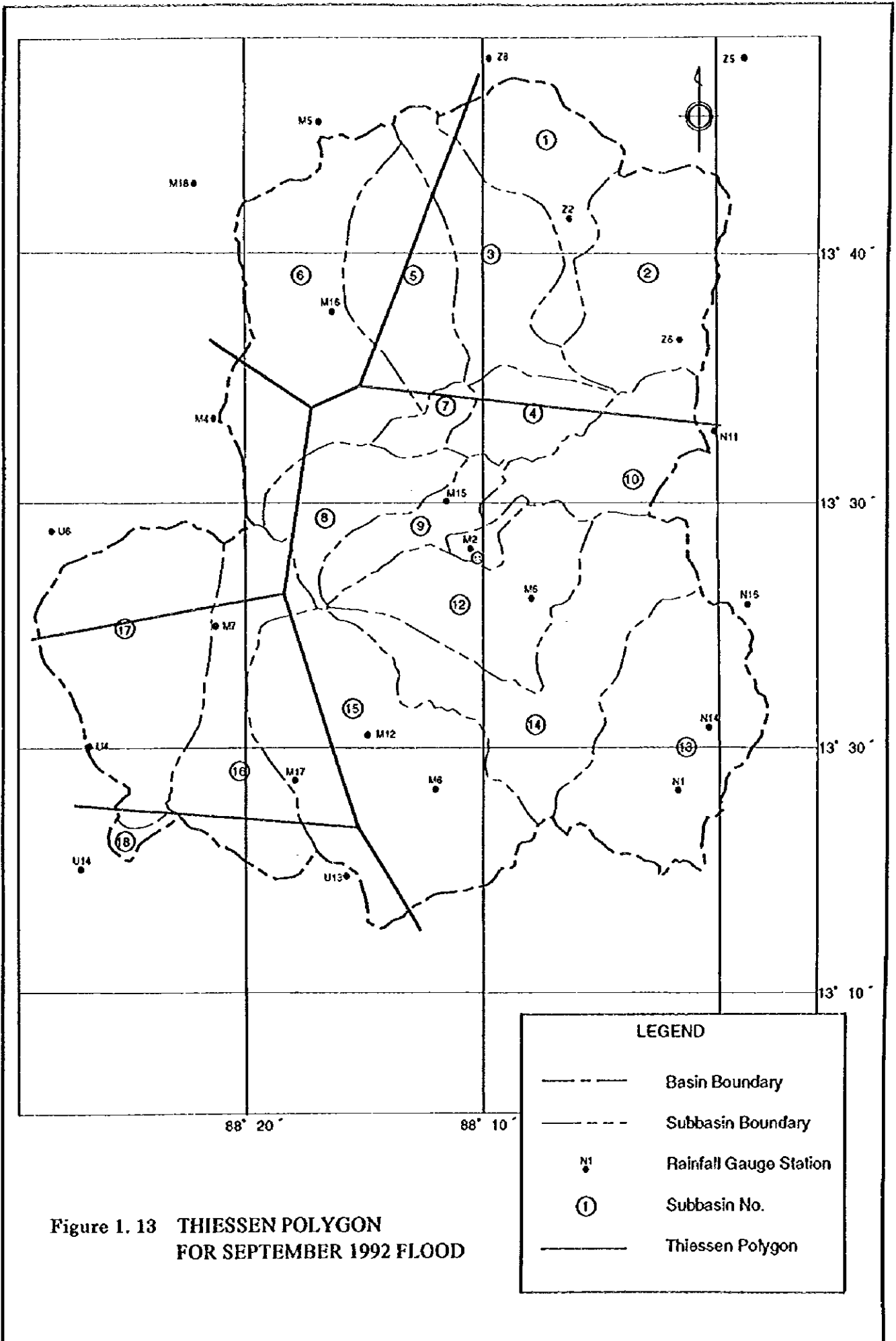


Figure 1. 12 THIESSEN POLYGON FOR SEPTEMBER 1988 FLOOD

LEGEND	
	Basin Boundary
	Subbasin Boundary
	Rainfall Gauge Station
	Subbasin No.
	Thiessen Polygon



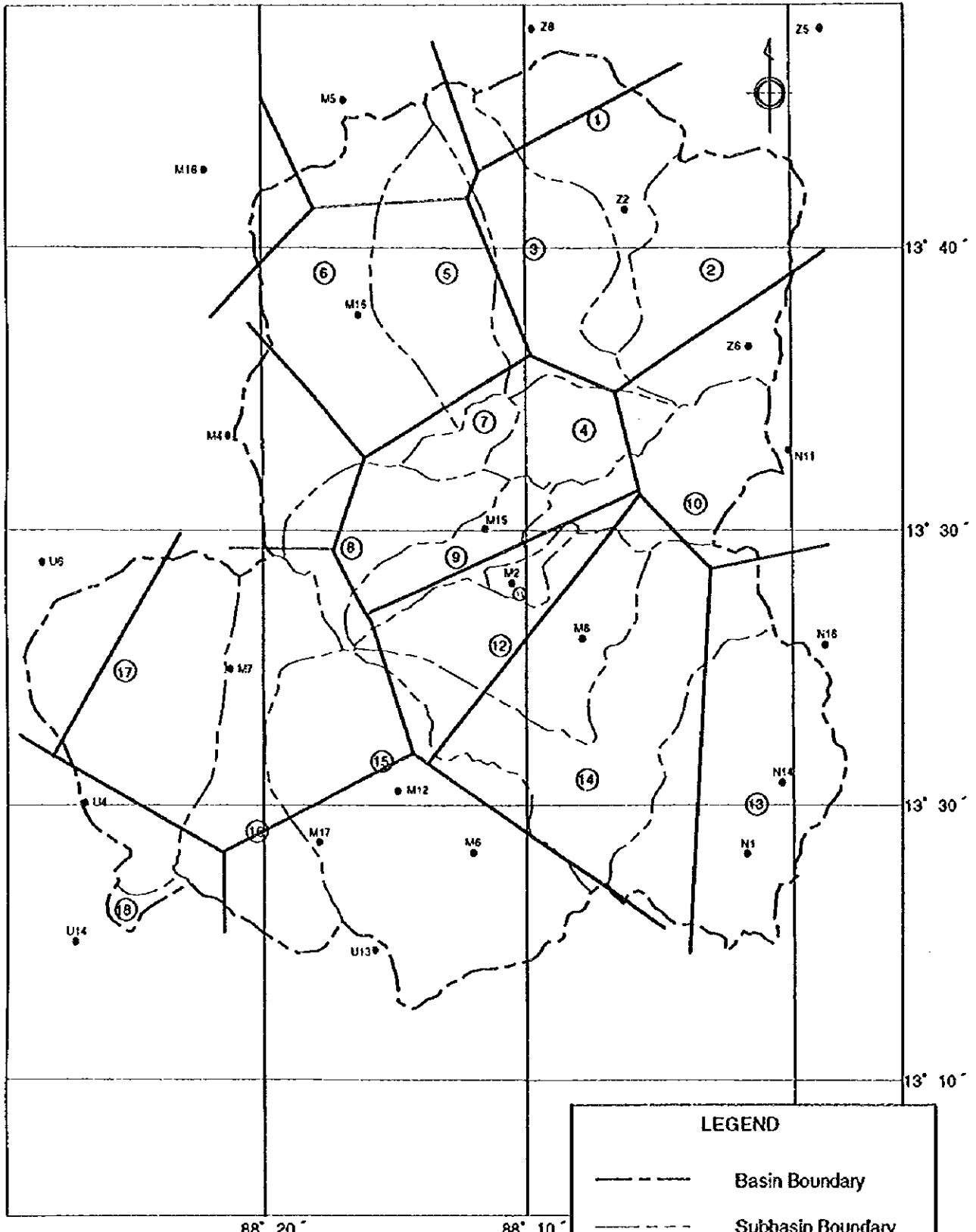
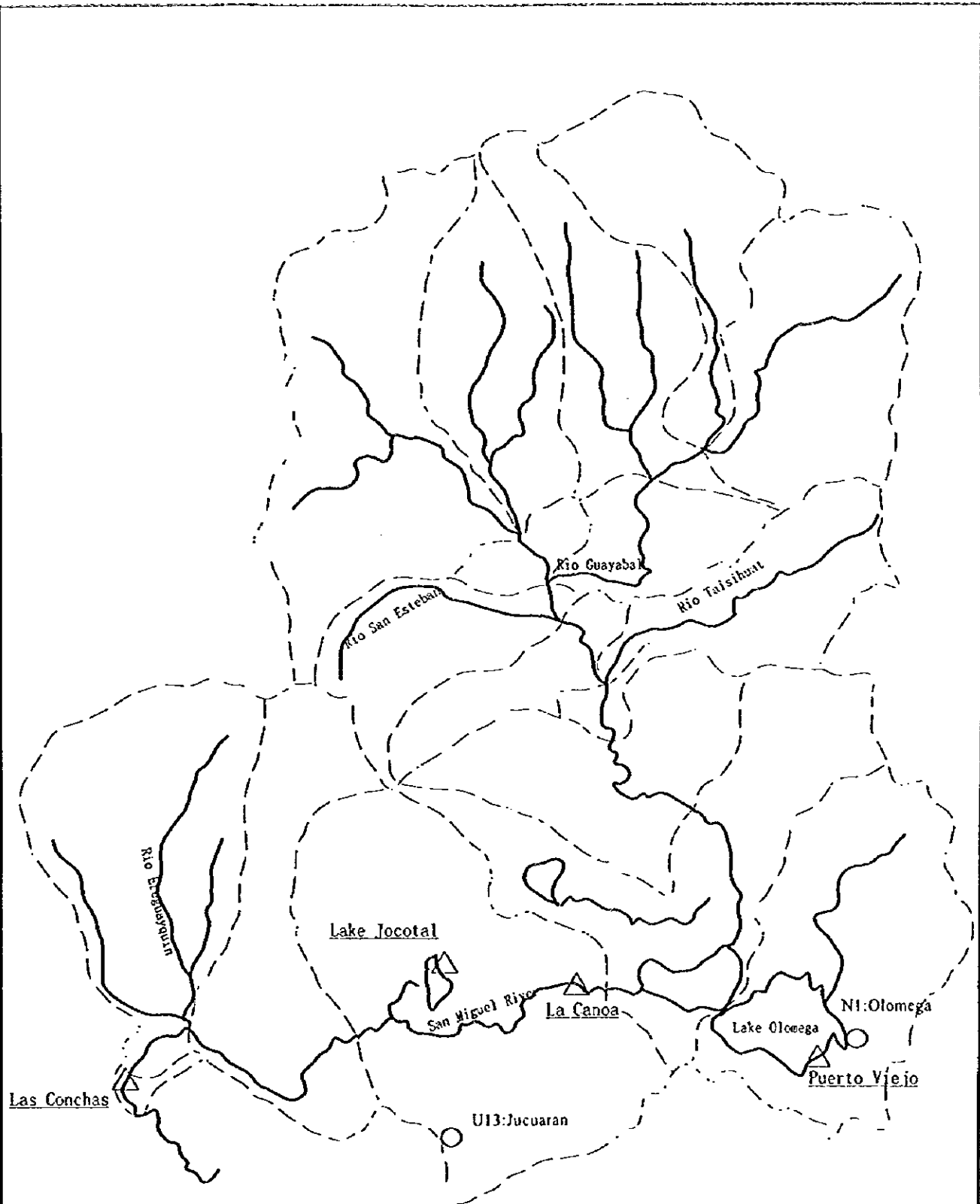


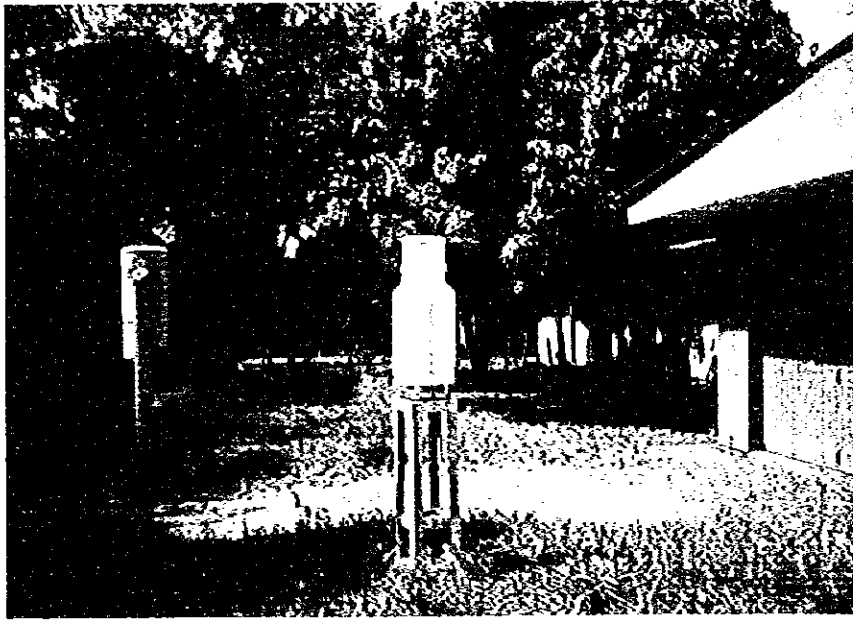
Figure 1. 14 THIESSEN POLYGON FOR 1995 FLOOD

LEGEND	
	Basin Boundary
	Subbasin Boundary
	Rainfall Gauge Station
	Subbasin No.
	Thiessen Polygon



LEGEND
 ○ Rainfall Gauge
 △ Staff Gauge

Figure 1. 15 LOCATION OF NEWLY INSTALLED RAINFALL GAUGE AND STAFF GAUGE



Rainfall Gauge at Jucuaran

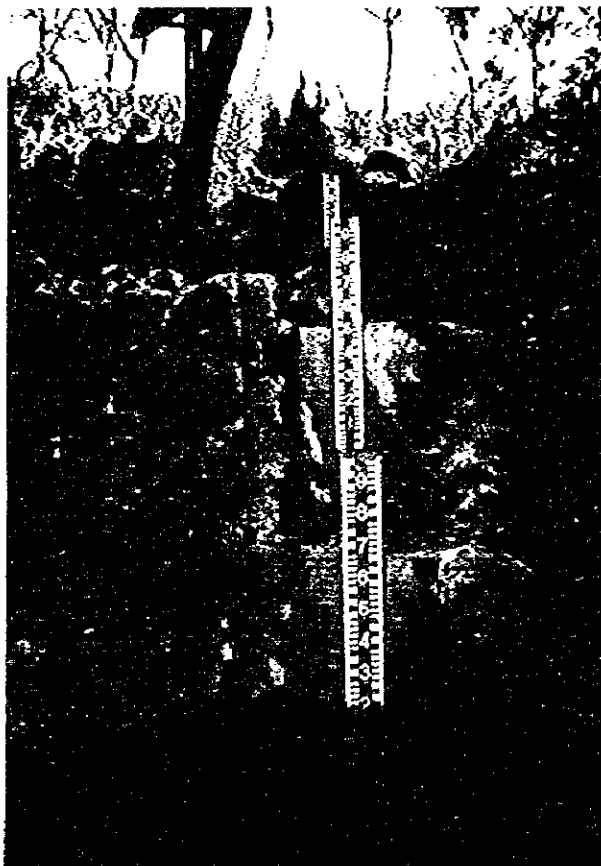


Rainfall Gauge at Olomega

Figure 1. 16 PICTURES OF INSTALLED RAINFALL GAUGES

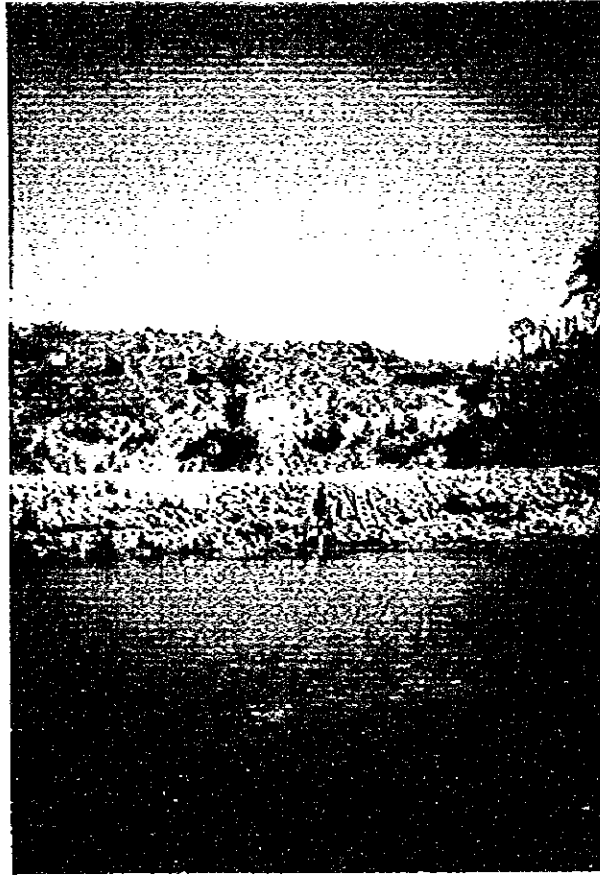


Staff Gauge at Puerto Viejo
(Lake Olomega)



Staff Gauge at La Canoa

Figure 1. 17 PICTURES OF INSTALLED STAFF GAUGES(1/2)



Staff Gauge at Lake Jocotal



Staff Gauge at Las Conchas

Figure 1. 18 PICTURES OF INSTALLED STAFF GAUGES(2/2)

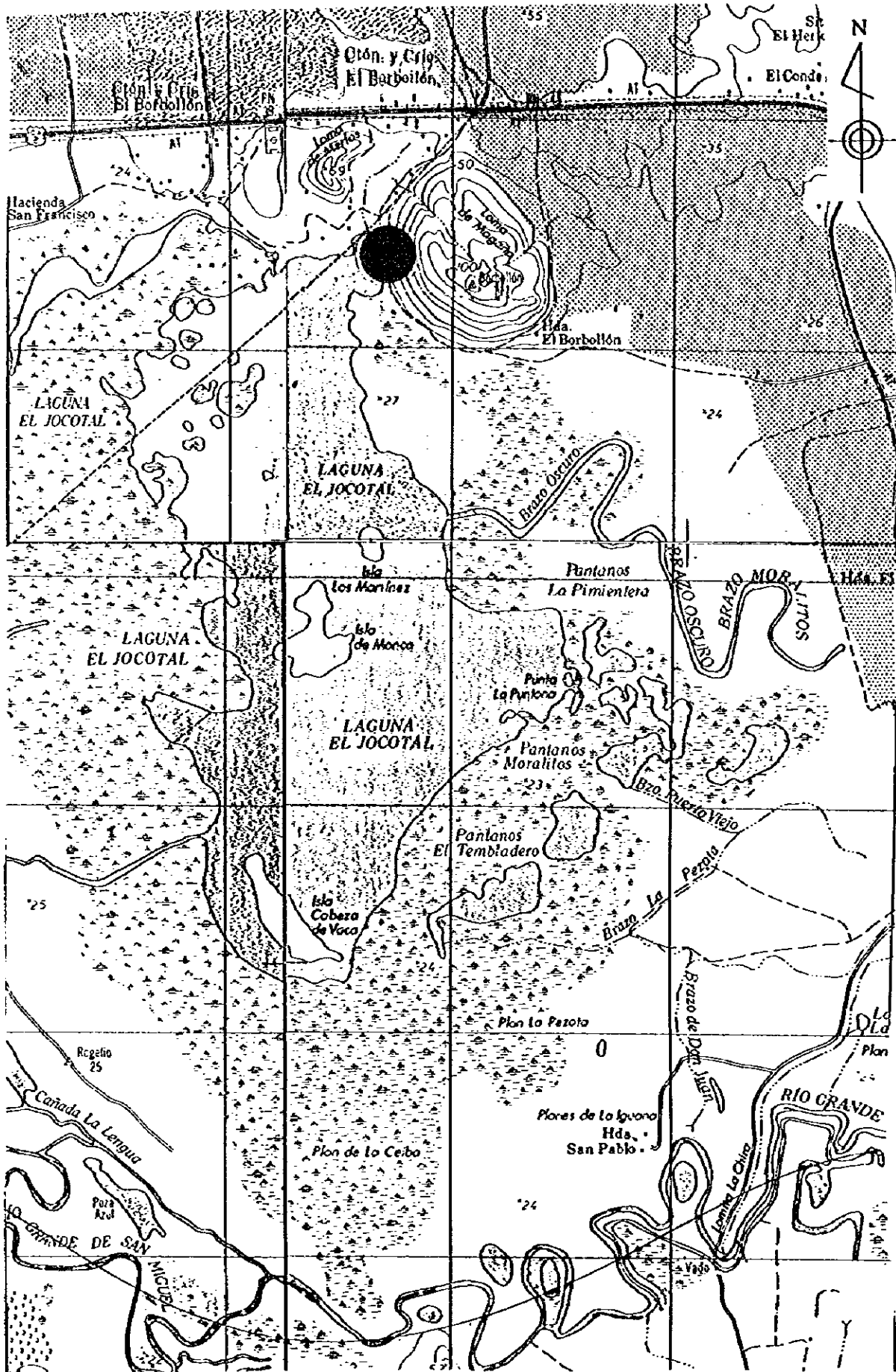


Figure 1. 20 LOCATION OF LAKE JOCOTAL STAFF GAUGE

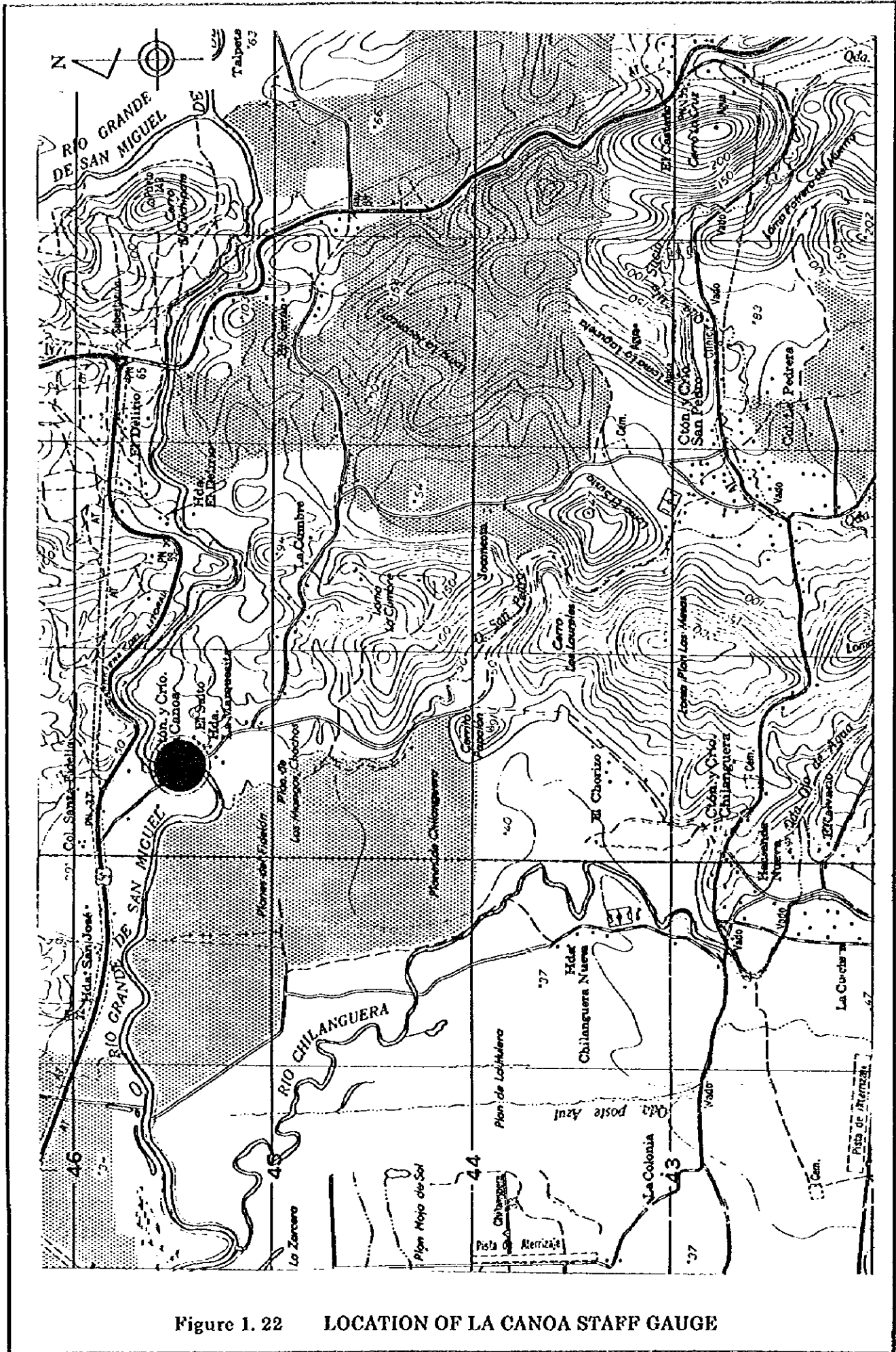


Figure 1. 22 LOCATION OF LA CANOA STAFF GAUGE

DATA BOOK

2: INUNDATION SURVEY

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Figure 2.5 Distribution of Interviewee's Living Period ----- 2.F.5

Table 2.1

QUESTIONNAIRE OF INUNDATION SURVEY

QUESTIONNAIRE

Area Name			
Date of Survey			
Location Number			
1. Latitude, Longitude			
2. Name of Interviewee			
3. The Year they began to live			
4. Name of Interviewer			
5. Depth and Duration time of Annual flood	above ground level m		above ground level m
	above floor level m		above floor level m
6. Number of times of flooding since they began to live			
7. Date, Depth and duration time of the largest flood in the past		above ground level m	above groundlevel
		above floor level m	day
			above floorlevel
			day
8. Date, Depth and duration time of the 1995 September flood		above ground level m	above ground level day
		above floor level m	above floor level day

RESULTS OF INUNDATION SURVEY (1/9)

Table 2.2

No.	Area No.	Name of Colony	Longitude	Latitude	Living Period	Annual Flood			Maximum Flood			1995 Flood					
						Depth1 (m)	Depth2 (m)	Duration1 (day)	Depth1 (m)	Depth2 (m)	Duration1 (day)	Depth1 (m)	Depth2 (m)	Duration1 (day)			
1	S	1 El Zamoran	88 9	51.9	13	29	34.3	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	S	2 El Zamoran	88 9	55.5	13	29	33.5	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	S	3 Col. Dolores	88 9	44.6	13	29	56.8	14	0.00	0.00	0.00	-99.00	-99.00	0.00	0.00	0.00	0.00
4	S	4 Col. Dolores	88 9	44.0	13	29	55.6	2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	S	5 Col. Dolores	88 9	43.8	13	29	58.4	11	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	S	6 Col. Dolores	88 9	44.8	13	30	0.4	16	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	S	7 Col. Dolores	88 9	41.5	13	29	33.3	15	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	S	8 Col. Dolores	88 9	45.6	13	29	45.3	23	2	1.10	0.00	2.00	0.00	0.00	0.00	0.00	0.00
9	S	9 Col. Dolores	88 9	49.8	13	29	43.2	30	1	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00
10	S	10 Col. Urbina	88 9	43.9	13	29	38.5	8	6	0.25	0.05	2.00	0.00	0.00	0.00	0.00	0.00
11	S	11 Col. Urbina	88 9	49.0	13	29	40.2	12	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	S	12 Col. Urbina	88 9	45.1	13	29	45.5	25	1	0.20	0.20	3.00	0.00	0.00	0.00	0.00	0.00
13	S	13 Col. Urbina	88 9	42.7	13	29	47.7	34	2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	S	14 Col. Urbina	88 9	48.0	13	29	45.6	33	3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	S	15 Col. Brasa del no #2	88 9	36.0	13	28	52.8	16	0	0.00	0.00	0.00	-1.00	0.00	2.00	0.00	0.00
16	S	16 Col. Brasa del no #2	88 9	30.0	13	28	50.5	12	2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	S	17 Col. Brasa del no #2	88 9	31.8	13	28	54.9	7	2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	S	18 Col. Brasa del no #2	88 9	30.0	13	28	48.6	6	3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	S	19 Col. Brasa del no #2	88 9	26.7	13	28	43.2	5	2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	S	20 Col. Brasa del no #2	88 9	33.8	13	28	43.3	5	2	0.00	0.00	0.00	-99.00	-99.00	0.00	0.00	0.00
21	S	21 Col. Brasa del no #2	88 9	32.2	13	28	45.9	6	3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	S	22 Col. Brasa del no #2	88 9	33.3	13	28	45.3	9	1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	S	23 Col. Brasa del no #2	88 9	34.5	13	28	45.0	13	2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24	S	24 Col. Brasa del no #2	88 9	29.2	13	28	47.1	8	2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	S	25 Col. El Molino Acant. "El Triangulo"	88 9	46.4	13	28	59.7	8	1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	S	26 Col. El Molino Acant. "El Triangulo"	88 9	50.4	13	28	58.3	10	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	S	27 Col. El Molino Acant. "El Triangulo"	88 9	32.0	13	29	48.0	2	0	-0.60	0.00	0.50	0.00	0.00	4.00	0.00	0.00
28	S	28 El Establo	88 9	32.0	13	29	48.0	2	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	S	29 Agua Fria (El establo)	88 9	36.0	13	29	42.0	7	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	S	30 Agua Fria III (El establo)	88 9	35.0	13	28	55.8	7	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31	S	31 Agua Fria III (El establo)	88 9	24.6	13	29	7.0	13	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	S	32 Agua Fria (El establo)	88 9	60.0	13	29	4.0	5	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
33	S	33 Agua Fria II (El establo)	88 9	7.0	13	29	5.0	3	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	S	34 Col. la Presita	88 9	53.0	13	27	53.0	11	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
35	S	35 Col. la Presita	88 9	36.1	13	27	60.0	15	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
36	S	36 Col. la Presita	88 9	33.1	13	27	39.9	2	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
37	S	37 Col. la Presita	88 9	32.8	13	27	36.4	10	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
38	S	38 Col. Carrillo I	88 8	49.0	13	26	43.5	16	2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
39	S	39 Col. Carrillo I	88 8	45.9	13	26	43.8	18	2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
40	S	40 Col. Carrillo I	88 8	47.0	13	26	43.9	26	2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
41	S	41 Col. Carrillo I	88 8	44.8	13	26	45.1	30	2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
42	S	42 Col. Carrillo I	88 8	45.6	13	26	47.6	23	2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
43	S	43 Col. Carrillo I	88 8	46.7	13	26	49.3	2	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
44	S	44 Col. Carrillo I	88 8	46.0	13	26	49.0	19	1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
45	S	45 Col. Carrillo II	88 8	49.5	13	26	48.6	2	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
46	S	46 Col. Carrillo II	88 8	52.0	13	26	48.9	11	2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
47	S	47 Col. Carrillo II	88 8	56.1	13	26	49.9	12	2	0.00	0.00	0.00	-99.00	-99.00	0.00	0.00	0.00
48	S	48 Col. Carrillo II	88 8	52.0	13	26	56.2	6	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
49	S	49 Col. Carrillo II	88 9	17.1	13	26	56.0	2	2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
50	S	50 Jardines del Rio	88 9	16.5	13	26	52.5	6	2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
51	S	51 Jardines del Rio	88 9	16.5	13	26	52.5	6	2	0.00	0.00	0.00	-99.00	-99.00	0.00	0.00	0.00

Table 2.2 RESULTS OF INUNDATION SURVEY (2/9)

No	Area No.	Name of Colony	Longitude		Latitude		Living Period		Annual Flood			Maximum Flood			1995 Flood										
			1	2	1	2	Years	Ind. times	Depth1 (m)	Depth2 (m)	Duration1 (day)	Duration2 (day)	Date	Depth1 (m)	Depth2 (m)	Duration1 (day)	Duration2 (day)	Date	Depth1 (m)	Depth2 (m)	Duration1 (day)	Duration2 (day)			
52	S	Jardines del Rio	88	9	16.2	13	28	53.7	1	1	0.00	0.00	0.00	0.00	95/9	0.10	0.00	1.50	0.00	y	0.10	0.00	1.50	0.00	
53	S	Jardines del Rio	88	9	19.5	13	26	54.0	4	0	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00	
54	S	Lotificacion Santa Maria	88	8	9.4	13	26	1.6	46	0	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00	
55	S	Lotificacion Santa Maria	88	8	7.8	13	26	31.8	10	0	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00	
56	S	Lotificacion Santa Maria	88	7	47.2	13	26	1.0	11	0	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00	
57	S	Lotificacion Santa Maria	88	8	4.5	13	26	1.6	55	0	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00	
58	S	Hacienda El Rincon	88	7	37.8	13	25	34.0	4	0	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00	
59	S	Hacienda El Rincon	88	7	41.8	13	25	28.0	8	0	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00	
60	S	Hacienda El Rincon	88	8	27.9	13	25	33.2	13	0	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00	
61	S	Hacienda La Joya	88	8	25.4	13	25	40.7	23	0	0.00	0.00	0.00	0.00	85/8	0.61	0.56	0.21	0.02	no	0.00	0.00	0.00	0.00	
62	S	Hacienda La Joya	88	8	21.0	13	25	56.5	1	0	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00	
63	S	Hacienda La Joya	88	7	1.9	13	25	38.1	40	6	0.00	0.00	0.00	0.00	no rem	0.05	0.00	-09.00	0.00	no	0.00	0.00	0.00	0.00	
64	S	El Rebalse	88	6	55.8	13	25	36.2	4	0	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00	
65	S	El Rebalse	88	7	8.1	13	25	46.5	50	0	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00	
66	S	El Rebalse	88	7	10.6	13	25	46.2	20	1	0.00	0.00	0.00	0.00	89/9	0.10	0.00	0.04	0.00	no	0.00	0.00	0.00	0.00	
67	S	El Rebalse	88	9	18.9	13	25	58.2	6	0	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00	
68	S	Col. Jardines de San Miguel	88	8	54.3	13	25	28.8	3	0	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00	
69	S	Hda. Vista Hermosa	88	10	28.5	13	30	33.0	-99	0	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00	
70	S	El Refugio	88	10	41.7	13	30	17.7	8	0	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00	
71	S	Col. La Confianza	88	10	16.2	13	30	5.1	-89	0	0.00	0.00	0.00	0.00	84/10/20	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00	
72	S	Sito El Rincon	88	9	52.5	13	29	28.6	38	3	0.00	0.00	0.00	0.00	95/9	0.75	0.00	3.00	3.00	11/20	2.40	1.40	1.00	1.00	
73	S	Col. Urbina	88	9	51.3	13	29	22.2	11	1	0.00	0.00	0.00	0.00	no	0.65	0.05	1.00	1.00	9	0.75	0.00	0.13	0.00	
74	S	Col. Urbina	88	9	52.3	13	29	22.8	10	1	0.00	0.00	0.00	0.00	no	0.65	0.05	1.00	1.00	no	0.00	0.00	0.00	0.00	
75	S	Col. Urbina	88	9	48.9	13	28	58.2	6	0	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00	
76	S	Col. La Fuenteza	88	9	42.6	13	28	55.3	9	0	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00	
77	S	Col. La Fuenteza	88	9	40.0	13	28	49.9	14	0	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00	
78	S	Col. 15 de Septiembre	88	9	40.0	13	29	40.0	5	2	0.00	0.00	0.00	0.00	95/9/15	1.80	1.50	3.00	3.00	no	0.70	0.50	4.00	3.00	
79	S	Col. Bienes del Rio #2	88	9	21.3	13	28	42.3	20	2	0.00	0.00	0.00	0.00	89/9/15	0.88	0.76	2.00	2.00	9	-1.50	0.00	11.00	0.00	
80	S	Col. Unidas	88	9	23.3	13	28	40.3	15	0	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00	
81	S	Col. Unidas	88	9	32.4	13	28	39.5	12	0	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00	
82	S	Col. Unidas	88	8	31.5	13	28	35.2	8	0	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00	
83	S	Col. Unidas	88	8	15.0	13	28	36.7	40	3	0.00	0.00	0.00	0.00	90	0.70	0.00	2.00	2.00	no	0.00	0.00	0.00	0.00	
84	S	Hacienda Las Delicias	88	9	16.9	13	28	3.6	15	0	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00	
85	S	Apecunque (Hda. el Milegro)	88	9	14.5	13	28	30.6	10	2	0.00	0.00	0.00	0.00	92	0.70	0.70	12.00	12.00	8	0.65	0.65	3.00	2.00	
86	S	El Apecunque (Las Delicias)	88	9	12.7	13	28	25.6	13	1	0.00	0.00	0.00	0.00	90	0.08	0.00	4.00	4.00	8	0.05	0.05	5.00	3.00	
87	S	El Apecunque (Las Delicias)	88	9	15.3	13	28	37.9	28	1	0.00	0.00	0.00	0.00	89	0.90	0.05	5.00	5.00	no	0.00	0.00	0.00	0.00	
88	S	El Apecunque (Las Delicias)	88	8	56.7	13	28	8.4	15	0	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00	
89	S	Hacienda Las Delicias	88	9	16.9	13	28	3.6	15	-99	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00	
90	S	Hacienda Las Delicias	88	9	14.5	13	28	30.6	10	2	0.00	0.00	0.00	0.00	90	0.08	0.00	4.00	4.00	8	0.05	0.05	5.00	3.00	
91	S	Hacienda Las Delicias	88	9	12.7	13	28	25.6	13	1	0.00	0.00	0.00	0.00	89	0.90	0.05	5.00	5.00	no	0.00	0.00	0.00	0.00	
92	S	Hacienda Las Delicias	88	9	36.0	13	28	22.7	15	0	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00	
93	S	Col. La Presa	88	9	19.2	13	28	43.2	15	0	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00	
94	S	Col. Las Americas	88	9	29.3	13	28	36.3	6	0	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00	
95	S	Col. Las Aguilas	88	9	33.0	13	28	26.7	10	1	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00	
96	S	Col. Concepcion (San Miguel)	88	9	26.7	13	28	40.1	20	0	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00	
97	S	Fincas Esmeralda	88	9	30.6	13	28	50.8	7	0	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00	
98	S	Col. Juuupa II	88	9	36.6	13	28	56.7	5	0	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00	
99	S	Col. Juuupa II	88	18	54.9	13	17	10.2	40	1	0.00	0.00	0.00	0.00	92/6	0.80	0.56	8.00	8.00	no	0.00	0.00	0.00	0.00	
100	U	1 Moropala (Usulután)	88	19	14.4	13	17	7.2	15	0	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00	
101	U	2 La Bomba, Canton Anchia	88	18	59.4	13	16	26.4	40	3	0.00	0.00	0.00	0.00	89	1.40	1.30	15.00	15.00	no rem	0.01	0.00	12.00	0.00	
102	U	3 La Bomba, Canton Anchia																							

Table 2.2

RESULTS OF INUNDATION SURVEY (3/9)

No.	Area No.	Name of Colony	Longitude	Latitude	Living Period	Annual Flood			Maximum Flood			1965 Flood								
						Depth1 (m)	Depth2 (m)	Duration1 (day)	Duration2 (day)	Date	Depth1 (m)	Depth2 (m)	Duration1 (day)	Duration2 (day)	Date	Depth1 (m)	Depth2 (m)	Duration1 (day)	Duration2 (day)	
103	U	4 La Bomba, Canton Anchilia	88 18	56.7 13 16	21.3	1	0.00	0.00	0.00	0.00	89	0.81	0.36	4.00	4.00	no	0.00	0.00	0.00	0.00
104	U	5 La Bomba, Canton Anchilia	88 11	55.5 13 20	22.2	6	1	0.00	0.00	0.00	89	0.62	0.35	3.00	2.00	no	0.00	0.00	0.00	0.00
105	U	6 La Bomba, Canton Anchilia	88 18	57.9 13 16	14.1	50	1	0.00	0.00	0.00	86	3.00	2.70	15.00	15.00	no	0.00	0.00	0.00	0.00
106	U	7 La Bomba, Canton Anchilia	88 19	50.6 13 17	13.8	32	3	0.00	0.00	0.00	94/8 or 9	0.16	0.00	3.00	0.00	no	0.00	0.00	0.00	0.00
107	U	8 La Bomba, Canton Anchilia	88 19	50.9 13 17	10.5	22	0	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00
108	U	9 San Felipe (Salvies)	88 20	28.2 13 16	20.2	42	-99	0.00	0.00	0.00	89	0.67	0.67	9.00	9.00	no rem	0.20	0.20	1.00	1.00
109	U	10 El Camalote (Usukivan)	88 25	33.9 13 16	29.7	-99	-99	0.00	0.00	0.00	-99	-99.00	-99.00	-99.00	-99.00	-99	-99.00	-99.00	-99.00	-99.00
110	U	11 Los Desmontes	88 24	33.6 13 16	49.5	-99	-99	0.00	0.00	0.00	-99	-99.00	-99.00	-99.00	-99.00	-99	-99.00	-99.00	-99.00	-99.00
111	U	12 Los Desmontes	88 24	42.9 13 16	36.0	46	12	0.00	0.00	0.00	89/9	0.12	0.00	15.00	0.00	no	0.00	0.00	0.00	0.00
112	U	13 Los Desmontes	88 24	30.0 13 16	32.7	-99	-99	0.00	0.00	0.00	-99	-99.00	-99.00	-99.00	-99.00	-99	-99.00	-99.00	-99.00	-99.00
113	U	14 Los Desmontes	88 24	33.0 13 16	37.3	-99	-99	0.00	0.00	0.00	-99	-99.00	-99.00	-99.00	-99.00	-99	-99.00	-99.00	-99.00	-99.00
114	U	15 Los Desmontes	88 24	35.5 13 16	24.0	-99	-99	0.00	0.00	0.00	-99	-99.00	-99.00	-99.00	-99.00	-99	-99.00	-99.00	-99.00	-99.00
115	U	16 Los Desmontes	88 24	36.4 13 16	21.3	-99	-99	0.00	0.00	0.00	-99	-99.00	-99.00	-99.00	-99.00	-99	-99.00	-99.00	-99.00	-99.00
116	U	17 Los Desmontes	88 24	54.7 13 16	23.1	23	3	0.00	0.00	0.00	88/9/14	0.72	0.57	23.00	15.00	no	0.00	0.00	0.00	0.00
117	U	18 Los Desmontes	88 24	58.5 13 16	10.0	-99	-99	0.00	0.00	0.00	-99	-99.00	-99.00	-99.00	-99.00	-99	-99.00	-99.00	-99.00	-99.00
118	U	19 Canton Los Lazos	88 25	15.3 13 15	6.6	30	6	0.00	0.00	0.00	93/9	0.11	0.00	60.00	0.00	no	0.00	0.00	0.00	0.00
119	U	20 Canton Los Lazos	88 25	19.2 13 15	6.9	37	10	0.00	0.00	0.00	91/9	0.65	0.51	60.00	0.00	no	0.00	0.00	0.00	0.00
120	U	21 Canton el Itabo	88 23	33.0 13 14	12.0	37	12	0.00	0.00	0.00	94/8 or 9	0.80	0.50	90.00	60.00	9	0.80	0.50	90.00	60.00
121	U	22 El Botoncillo	88 23	49.2 13 14	30.3	36	3	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00
122	U	23 Canton El Flor	88 24	58.2 13 14	39.4	46	4	0.00	0.00	0.00	89	0.22	0.00	20.00	0.00	no	0.00	0.00	0.00	0.00
123	U	24 Col. Panlaque	88 25	49.8 13 14	54.1	60	4	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00
124	U	25 Los Desmontes	88 24	21.0 13 16	56.5	15	1	0.00	0.00	0.00	92	0.25	0.00	2.00	0.00	no	0.00	0.00	0.00	0.00
125	U	26 Los Desmontes	88 24	41.8 13 17	0.9	43	1	0.00	0.00	0.00	93	0.30	0.00	2.00	0.00	no	0.00	0.00	0.00	0.00
126	U	27 Los Desmontes	88 24	48.0 13 16	57.0	50	4	0.00	0.00	0.00	91/8/30	0.40	0.00	8.00	0.00	no	0.00	0.00	0.00	0.00
127	U	28 Cacerio Los Lazos	88 25	20.0 13 15	43.6	25	2	0.00	0.00	0.00	92	0.25	0.05	22.00	15.00	no	0.00	0.00	0.00	0.00
128	U	29 Cacerio Los Lazos	88 25	20.7 13 15	32.7	20	10	0.00	0.00	0.00	92	0.48	0.30	4.00	4.00	no	0.00	0.00	0.00	0.00
129	U	30 Cacerio Los Lazos	88 25	19.5 13 15	28.5	9	0	0.00	0.00	0.00	no rem	0.22	0.00	30.00	0.00	no	0.00	0.00	0.00	0.00
130	U	31 Cacerio Los Lazos	88 25	11.5 13 15	26.8	45	3	0.00	0.00	0.00	no rem	0.22	0.00	30.00	0.00	8	0.22	0.00	30.00	0.00
131	U	32 Cacerio Los Lazos	88 24	37.8 13 15	27.9	-99	-99	0.00	0.00	0.00	93	1.47	1.07	90.00	90.00	no	0.00	0.00	0.00	0.00
132	U	33 Cacerio Los Lazos	88 24	37.8 13 15	27.7	20	2	0.00	0.00	0.00	93	1.58	1.38	90.00	90.00	no	0.00	0.00	0.00	0.00
133	U	34 El Limon	88 23	42.3 13 15	33.1	15	1	0.00	0.00	0.00	89	0.86	0.72	8.00	1.00	no	0.00	0.00	0.00	0.00
134	U	35 Hacienda la Zorria	88 23	15.6 13 15	13.2	10	2	0.00	0.00	0.00	94	0.50	0.50	3.00	3.00	no	0.50	0.50	3.00	3.00
135	U	36 Hacienda la Zorria	88 23	15.6 13 15	1.5	3	2	0.00	0.00	0.00	94	0.50	0.50	3.00	3.00	no	0.50	0.50	3.00	3.00
136	U	37 Hacienda la Zorria	88 23	19.2 13 14	59.5	8	4	0.00	0.00	0.00	94/9	0.27	0.27	15.00	15.00	no rem	0.45	0.45	8.00	8.00
137	U	38 Hacienda la Zorria	88 23	24.9 13 15	7.0	4	2	0.00	0.00	0.00	no rem	0.63	0.40	30.00	4.00	9	0.63	0.40	30.00	30.00
138	U	39 Cerro El Encantado	88 22	51.0 13 14	55.2	12	12	0.00	0.00	0.00	no rem	0.60	0.60	180.00	180.00	no rem	0.60	0.60	180.00	180.00
139	U	40 El Encantado	88 22	52.9 13 14	52.5	-99	-99	0.00	0.00	0.00	no rem	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00
140	U	41 Plan El Encantado	88 24	12.3 13 14	34.9	30	8	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00	-99	-99.00	-99.00	-99.00	-99.00
141	U	42 El Botoncillo	88 24	12.3 13 14	34.9	30	8	0.00	0.00	0.00	89/9	1.15	1.15	99.00	99.00	no	0.00	0.00	0.00	0.00
142	U	43 El Botoncillo	88 24	13.6 13 14	33.6	28	10	0.00	0.00	0.00	89/9/27	0.30	0.30	60.00	60.00	9	0.30	0.30	60.00	60.00
143	U	44 El Botoncillo	88 24	31.2 13 14	21.9	25	10	0.00	0.00	0.00	93	1.50	1.40	30.00	30.00	no rem	0.70	0.60	5.00	2.00
144	U	45 El Botoncillo	88 24	29.1 13 14	18.9	10	2	0.00	0.00	0.00	93	0.60	0.40	30.00	30.00	no	0.00	0.00	0.00	0.00
145	U	46 El Flor	88 24	46.0 13 14	17.4	44	6	0.00	0.00	0.00	94/9	0.58	0.40	11.00	6.00	no	0.00	0.00	0.00	0.00
146	U	47 El Flor	88 24	52.5 13 14	15.6	12	0	0.00	0.00	0.00	94/8	0.33	0.26	24.00	15.00	no	0.00	0.00	0.00	0.00
147	U	48 Col. Panlaque	88 25	53.7 13 14	51.0	10	0	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00
148	U	49 Col. Panlaque	88 25	52.2 13 14	45.3	35	4	0.00	0.00	0.00	83	0.92	0.85	20.00	15.00	no	0.00	0.00	0.00	0.00
149	U	50 Col. Panlaque	88 25	58.4 13 14	44.4	20	3	0.00	0.00	0.00	53	0.43	0.36	-99.00	-99.00	no	0.00	0.00	0.00	0.00
150	U	51 Col. Panlaque	88 25	56.7 13 14	44.7	45	6	0.00	0.00	0.00	no rem	1.10	1.00	30.00	30.00	no	0.00	0.00	0.00	0.00
151	U	52 Col. Panlaque	88 25	54.3 13 14	42.5	30	5	0.00	0.00	0.00	77	0.90	0.77	60.00	60.00	no	0.00	0.00	0.00	0.00
152	U	53 Cacerio La Anchilia	88 20	20.1 13 17	27.0	10	0	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00
153	U	54 Cacerio La Anchilia	88 20	11.1 13 17	14.4	35	1	0.00	0.00	0.00	89	0.40	0.40	8.00	8.00	no	0.00	0.00	0.00	0.00

Table 2.2 RESULTS OF INUNDATION SURVEY (4/9)

No	Area	Name of Colony	Longitude	Latitude	Living Period		Annual Flood		Maximum Flood		1995 Flood					
					Years	Ind. times	Depth1 (m)	Depth2 (m)	Duration1 (day)	Duration2 (day)	Date	Depth1 (m)	Depth2 (m)	Duration1 (day)	Duration2 (day)	
154	U	55 Caceno La Anchilla	88 20	3.6 13 17	12.6	4	0	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00
155	U	56 La Bomba, Canton Anchilla	88 19	14.7 13 16	44.7	4	4	0.00	0.00	0.00	0.00	88	6.00	5.89	45.00	50.00
156	U	57 La Bomba, Canton Anchilla	88 19	47.4 13 16	33.0	40	1	0.00	0.00	0.00	0.00	88	1.32	1.04	8.00	15.00
157	U	58 La Bomba, Canton Anchilla	88 19	45.9 13 16	26.4	8	3	0.00	0.00	0.00	0.00	89	4.00	3.90	15.00	30.00
158	U	59 La Bomba, Canton Anchilla	88 19	48.4 13 16	18.3	35	-99	0.00	0.00	0.00	0.00	89	2.05	1.86	30.00	15.00
159	U	60 La Bomba, Canton Anchilla	88 19	46.8 13 16	18.7	15	2	0.00	0.00	0.00	0.00	88/8 or 9	1.65	1.46	30.00	15.00
160	U	61 La Bomba, Canton Anchilla	88 19	47.1 13 16	17.4	10	1	0.00	0.00	0.00	0.00	88	4.50	4.50	15.00	15.00
161	U	62 La Bomba, Canton Anchilla	88 19	45.6 13 16	16.5	15	1	0.00	0.00	0.00	0.00	no item	4.00	4.00	30.00	30.00
162	U	63 La Bomba, Canton Anchilla	88 19	48.0 13 16	16.5	15	1	0.00	0.00	0.00	0.00	87	1.80	1.50	20.00	15.00
163	U	64 La Bomba, Canton Anchilla	88 19	47.7 13 16	10.5	14	1	0.00	0.00	0.00	0.00	87	1.30	1.20	3.00	4.00
164	U	65 La Bomba, Canton Anchilla	88 19	37.2 13 16	25.8	12	3	0.00	0.00	0.00	0.00	93/6	2.30	2.24	30.00	8.00
165	U	66 Canton el Chorro	88 20	43.5 13 16	31.0	35	1	0.00	0.00	0.00	0.00	no item	-0.60	0.00	6.00	0.00
166	U	67 Canton el Chorro	88 20	42.9 13 16	28.5	40	3	0.00	0.00	0.00	0.00	no item	-1.50	0.00	15.00	0.00
167	U	68 Canton el Chorro	88 20	40.8 13 16	28.8	10	1	0.00	0.00	0.00	0.00	89/8	3.00	3.00	60.00	8.00
168	U	69 Canton el Chorro	88 20	40.3 13 16	27.0	13	4	0.00	0.00	0.00	0.00	88	2.00	2.00	15.00	0.00
169	U	70 Canton el Chorro	88 20	32.4 13 16	20.1	5	3	0.00	0.00	0.00	0.00	89	2.00	2.00	15.00	15.00
170	U	71 Canton el Chorro	88 20	31.2 13 16	22.8	4	2	0.00	0.00	0.00	0.00	91	1.90	1.90	12.00	12.00
171	U	72 Canton el Chorro	88 20	22.2 13 16	18.0	6	3	0.00	0.00	0.00	0.00	88	-1.00	0.00	15.00	0.00
172	U	73 Cacera Bado Niern	88 18	27.1 13 17	35.1	8	1	0.00	0.00	0.00	0.00	92/3	-1.50	0.00	15.00	0.00
173	U	74 Campamento El Llano (Tapasco)	88 18	14.1 13 17	39.1	10	0	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00
174	U	75 Campamento El Llano (Tapasco)	88 18	27.9 13 17	51.3	15	0	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00
175	U	76 Campamento El Llano (Tapasco)	88 18	13.2 13 18	5.7	4	1	0.00	0.00	0.00	0.00	91	-2.00	0.00	3.00	0.00
176	U	77 Campamento El Llano (Tapasco)	88 18	10.5 13 17	58.0	6	0	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00
177	U	78 Campamento El Llano (Tapasco)	88 18	21.6 13 17	44.1	10	0	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00
178	J	1 Laguna El Jocal	88 14	42.1 13 20	50.7	11	10	0.00	0.00	0.00	0.00	90	0.05	0.00	5.00	0.00
179	J	2 Laguna El Jocal	88 14	39.9 13 20	53.4	35	-99	0.00	0.00	0.00	0.00	90	3.50	2.90	8.00	8.00
180	J	3 Laguna El Jocal	88 14	45.7 13 20	50.2	25	-99	0.00	0.00	0.00	0.00	90	4.00	3.70	22.00	20.00
181	J	4 Laguna El Jocal	88 14	45.7 13 20	48.9	43	20	0.00	0.00	0.00	0.00	88/9	3.87	3.77	60.00	60.00
182	J	5 Laguna El Jocal	88 14	44.8 13 20	48.6	35	4	0.00	0.00	0.00	0.00	88	3.15	2.10	7.00	0.50
183	J	6 Laguna El Jocal	88 14	46.2 13 20	46.5	5	2	0.00	0.00	0.00	0.00	90	6.00	5.00	10.00	6.00
184	J	7 Laguna El Jocal	88 14	46.2 13 20	46.5	5	2	0.00	0.00	0.00	0.00	92/9	2.05	0.66	6.00	15.00
185	J	8 Laguna El Jocal	88 14	44.4 13 20	45.0	17	5	0.00	0.00	0.00	0.00	no item	5.00	4.00	-99.00	-99.00
186	J	9 Laguna El Jocal	88 14	44.4 13 20	45.0	30	-99	2.56	0.91	150.00	30.00	87	5.35	4.50	150.00	150.00
187	J	10 Laguna El Jocal	88 14	42.9 13 20	41.7	40	-99	5.00	3.36	180.00	180.00	91/7	5.00	3.30	180.00	180.00
188	J	11 Laguna El Jocal	88 14	44.7 13 20	44.1	30	-99	2.35	0.00	15.00	0.00	85/10	4.00	2.40	90.00	45.00
189	J	12 El Estanque Monte Fresco	88 18	47.7 13 19	6.9	-99	0	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00
190	J	13 Hacienda El Canal (Zaldívar)	88 17	55.8 13 19	3.0	30	0	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00
191	J	14 Hacienda El Canal (Zaldívar)	88 17	48.4 13 19	11.1	10	0	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00
192	J	15 Hacienda El Canal (Zelada)	88 17	42.0 13 19	6.9	-99	0	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00
193	J	16 Hacienda El Canal (Zelada)	88 17	42.0 13 19	5.0	8	0	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00
194	J	17 Hacienda El Canal (Zelada)	88 17	38.4 13 18	51.7	15	0	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00
195	J	18 Hacienda El Canal (Zelada)	88 17	36.6 13 18	42.6	20	0	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00
196	J	19 Hacienda El Canal (Zelada)	88 17	32.5 13 18	42.3	53	7	0.00	0.00	0.00	0.00	60	0.75	0.70	4.00	4.00
197	J	20 Hacienda Vado Marr	88 17	20.2 13 18	6.3	-99	0	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00
198	J	21 Hacienda El Canal (Arroyales)	88 17	11.7 13 19	6.0	10	0	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00
199	J	22 Hacienda Los Ferreras	88 16	10.5 13 20	50.7	4	0	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00
200	J	23 Hacienda El Jocal	88 16	18.3 13 20	43.5	7	0	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00
201	J	24 Hacienda El Jocal	88 16	13.0 13 20	30.7	30	0	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00
202	J	25 Hacienda El Miagro	88 16	15.0 13 19	36.4	-99	0	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00
203	J	26 Caceno el Borbolion	88 15	12.3 13 20	47.7	20	1	0.00	0.00	0.00	0.00	no item	1.00	1.00	15.00	15.00
204	J	27 Caceno el Borbolion	88 15	15.9 13 20	47.4	5	1	0.00	0.00	0.00	0.00	89	-1.00	1.60	4.00	4.00

Table 2.2

RESULTS OF INUNDATION SURVEY (5/9)

No.	Area No.	Name of Colony	Longitude		Latitude		Living Period		Annual Flood		Maximum Flood		1565 Flood	
			Years	Incl	Times	Depth1 (m)	Depth2 (m)	Duration1 (day)	Duration2 (day)	Date	Depth1 (m)	Depth2 (m)	Duration1 (day)	Duration2 (day)
205	J	20 Caserio el Borbolon	88 15	13.3	13 20	49.0	40	1	0.00	0.00	0.00	0.00	0.00	0.00
206	J	29 Caserio el Borbolon	88 15	10.6	13 20	45.3	20	1	0.00	0.00	0.00	0.00	0.00	0.00
207	J	30 El Carrote o Las Flores	88 13	0.0	13 20	2.1	-99	0	0.00	0.00	0.00	0.00	0.00	0.00
208	J	31 El Carrote o Las Flores	88 12	52.3	13 19	57.0	8	0	0.00	0.00	0.00	0.00	0.00	0.00
209	J	32 Canton Brazo	88 13	18.0	13 20	22.2	3	0	0.00	0.00	0.00	0.00	0.00	0.00
210	J	33 Canton Brazo	88 13	6.7	13 20	24.4	6	0	0.00	0.00	0.00	0.00	0.00	0.00
211	J	34 Punta de Piedra (El Brazo)	88 12	39.1	13 20	25.1	8	0	0.00	0.00	0.00	0.00	0.00	0.00
212	J	35 Gualuca (El Brazo)	88 12	56.7	13 19	37.8	32	0	0.00	0.00	0.00	0.00	0.00	0.00
213	J	36 Casa Moja	88 12	50.1	13 19	36.3	7	-99	0.05	0.00	0.00	0.00	0.00	0.00
214	J	37 Casa Moja	88 12	28.7	13 19	23.4	12	3	0.00	0.00	0.00	0.00	0.00	0.00
215	J	38 Casa Moja	88 12	33.9	13 19	21.2	30	3	0.00	0.00	0.00	0.00	0.00	0.00
216	J	39 Casa Moja	88 12	31.3	13 19	20.1	5	5	0.00	0.00	0.00	0.00	0.00	0.00
217	J	40 El Corrallo	88 12	28.1	13 19	22.0	31	-99	0.05	0.00	1.00	0.00	0.00	0.00
218	J	41 Casa Moja (El Brazo)	88 12	44.4	13 19	28.4	14	-99	0.20	0.10	6.00	6.00	0.00	6.00
219	J	42 Casa Moja (El Brazo)	88 12	46.9	13 19	55.3	8	0	0.00	0.00	0.00	0.00	0.00	0.00
220	J	43 Casa Moja (El Brazo)	88 12	44.2	13 19	53.5	10	0	0.00	0.00	0.00	0.00	0.00	0.00
221	J	44 Canton El Brazo	88 13	15.8	13 20	0.8	60	3	0.00	0.00	0.00	0.00	0.00	0.00
222	J	45 Canton El Brazo	88 13	17.1	13 20	4.2	34	0	0.00	0.00	0.00	0.00	0.00	0.00
223	J	46 Canton El Brazo	88 13	19.4	13 19	53.9	30	-99	0.80	0.80	8.00	8.00	0.00	3.00
224	J	47 Canton El Brazo	88 13	22.3	13 19	52.3	40	2	0.00	0.00	0.00	0.00	0.00	0.00
225	J	48 Canton El Brazo	88 13	19.9	13 19	49.4	78	1	0.00	0.00	0.00	0.00	0.00	0.00
226	J	49 Canton La Canoa	88 9	47.8	13 19	30.5	60	0	0.00	0.00	0.00	0.00	0.00	0.00
227	J	50 Canton La Canoa	88 9	45.4	13 19	32.5	40	1	0.00	0.00	0.00	0.00	0.00	0.00
228	J	51 Canton La Canoa	88 9	49.7	13 19	33.6	20	1	0.00	0.00	0.00	0.00	0.00	0.00
229	J	52 Canton La Canoa	88 9	52.0	13 19	35.4	77	2	0.00	0.00	0.00	0.00	0.00	0.00
230	J	53 Canton La Canoa	88 9	52.0	13 19	35.4	50	1	0.00	0.00	0.00	0.00	0.00	0.00
231	J	54 Hacienda Los Naranjos	88 11	16.6	13 18	42.6	3	3	0.00	0.00	0.00	0.00	0.00	0.00
232	J	55 Hacienda Los Naranjos	88 11	38.7	13 18	41.1	6	6	0.00	0.00	0.00	0.00	0.00	0.00
233	J	56 Hacienda Los Naranjos	88 11	40.5	13 18	38.4	10	10	0.00	0.00	0.00	0.00	0.00	15.00
234	J	57 Hacienda Los Naranjos	88 11	33.3	13 18	40.1	18	18	0.00	0.00	0.00	0.00	0.00	0.00
235	J	58 Hacienda Los Naranjos	88 11	36.2	13 18	42.9	-99	-99	0.00	0.00	0.00	0.00	0.00	0.00
236	J	59 Hacienda Los Naranjos	88 11	38.7	13 18	44.1	13	13	0.50	0.00	20.00	0.00	0.00	0.00
237	J	60 La colonia (Cerca de Hda. S. Jose)	88 10	58.2	13 18	20.8	-99	0	0.00	0.00	0.00	0.00	0.00	0.00
238	J	61 Hacienda San Jose	88 11	15.3	13 18	24.7	3	0	0.00	0.00	0.00	0.00	0.00	0.00
239	J	62 Hacienda San Pablo	88 14	4.5	13 16	36.0	10	10	0.00	0.00	0.00	0.00	0.00	0.00
240	J	63 Laguna, La Montania	88 13	25.2	13 19	8.1	-99	-99	0.00	0.00	0.00	0.00	0.00	0.00
241	J	64 Cion, y Caserio El Borbolon	88 14	48.7	13 21	1.8	15	0	0.00	0.00	0.00	0.00	0.00	0.00
242	J	65 Cion, y Caserio El Borbolon	88 14	48.6	13 20	59.4	20	0	0.00	0.00	0.00	0.00	0.00	0.00
243	J	66 Caserio El Conde	88 14	13.2	13 21	1.2	16	0	0.00	0.00	0.00	0.00	0.00	0.00
244	J	67 Caserio El Conde	88 13	50.7	13 21	2.3	20	0	0.00	0.00	0.00	0.00	0.00	0.00
245	J	68 Gualuca Arriba	88 12	57.0	13 20	45.0	12	0	0.00	0.00	0.00	0.00	0.00	0.00
246	J	69 Valle Alegre	88 12	10.8	13 20	28.0	14	0	0.00	0.00	0.00	0.00	0.00	0.00
247	J	70 Valle Alegre	88 12	2.4	13 20	28.5	10	0	0.00	0.00	0.00	0.00	0.00	0.00
248	J	71 Valle Alegre	88 11	59.2	13 20	25.2	16	0	0.00	0.00	0.00	0.00	0.00	0.00
249	J	72 Los Lientos	88 11	25.2	13 20	10.8	9	0	0.00	0.00	0.00	0.00	0.00	0.00
250	J	73 Col. Santa Felesia	88 10	3.3	13 19	34.3	11	0	0.00	0.00	0.00	0.00	0.00	0.00
251	J	74 Col. Santa Felesia	88 10	5.5	13 19	31.9	48	6	0.00	0.00	0.00	0.00	0.00	0.00
252	J	75 Col. Santa Felesia	88 10	6.3	13 19	28.6	7	7	0.00	0.00	0.00	0.00	0.50	0.00
253	O	76 Hacienda San Jose	88 6	20.7	13 19	26.2	3	0	0.00	0.00	0.00	0.00	0.00	0.00
254	O	1 Arenera 1 (Miraflores)	88 6	50.5	13 25	46.2	10	0	0.00	0.00	0.00	0.00	0.00	0.00
255	O	2 Arenera 1 (Miraflores)	88 7	17.4	13 25	9.1	13	1	0.00	0.00	-99.00	-99.00	0.00	0.00

RESULTS OF INUNDATION SURVEY (6/9)

Table 2.2

No.	Area No.	Name of Colony	Longitude	Latitude	Living Period Years Ind. times	Annual Flood			Maximum Flood			1895 Flood						
						Depth1 (m)	Depth2 (m)	Duration1 (day)	Date	Depth1 (m)	Depth2 (m)	Duration1 (day)	Date	Depth1 (m)	Depth2 (m)	Duration1 (day)		
256	0	3 Sino Casas Blancas	88 5	9.6 13 24	49.8	3	0	0.00	0.00	0.00	no	0.00	0.00	0.00	no	0.00	0.00	0.00
257	0	4 Alto El Mora	88 5	0.0 13 24	3.6	27	0	0.00	0.00	0.00	no	0.00	0.00	0.00	no	0.00	0.00	0.00
258	0	5 Alto El Mora	88 5	3.6 13 24	20.5	25	0	0.00	0.00	0.00	no	0.00	0.00	0.00	no	0.00	0.00	0.00
259	0	6 Sino La Caranga	88 4	48.8 13 23	46.3	22	10	0.00	0.00	0.00	92	1.20	1.00	15.00	9	0.40	0.20	15.00
260	0	7 Los Ranchos	88 4	48.8 13 23	4.3	41	2	0.00	0.00	0.00	88	1.10	1.00	7.00	no	0.00	0.00	0.00
261	0	8 Los Ranchos	88 4	44.8 13 23	1.0	30	1	0.00	0.00	0.00	88	0.30	0.20	1.25	no	0.00	0.00	0.00
262	0	9 Los Ranchos	88 4	45.0 13 23	0.6	23	1	0.00	0.00	0.00	88	0.10	0.00	0.25	no	0.00	0.00	0.00
263	0	10 Los Ranchos	88 4	41.1 13 23	1.6	96	10	0.00	0.00	0.00	92/9	0.05	0.00	3.00	no	0.00	0.00	0.00
264	0	11 Los Ranchos	88 4	40.0 13 23	1.5	13	3	0.00	0.00	0.00	90/9	1.10	1.00	1.50	no	0.00	0.00	0.00
265	0	12 Los Ranchos	88 4	43.8 13 23	2.2	20	2	0.00	0.00	0.00	no rem	0.10	0.00	0.50	no	0.00	0.00	0.00
266	0	13 Los Ranchos	88 4	50.1 13 23	0.3	30	6	0.00	0.00	0.00	92/9	1.10	1.00	10.00	no	0.00	0.00	0.00
267	0	14 Los Ranchos	88 5	0.1 13 22	31.8	10	2	0.00	0.00	0.00	no rem	0.50	0.40	3.00	no	0.00	0.00	0.00
268	0	15 Los Ranchos	88 4	55.3 13 22	26.7	12	1	0.00	0.00	0.00	90	1.00	1.10	4.00	9	0.10	0.00	0.13
269	0	16 Los Ranchos	88 4	41.5 13 21	59.1	17	4	0.00	0.00	0.00	no rem	0.05	0.00	1.00	no	0.00	0.00	0.00
270	0	17 Los Ranchos	88 4	43.2 13 21	57.6	4	0	0.00	0.00	0.00	no	0.00	0.00	0.00	no	0.00	0.00	0.00
271	0	18 Los Ranchos	88 0	51.6 13 21	40.2	53	0	0.00	0.00	0.00	no	0.00	0.00	0.00	no rem	0.00	0.00	0.00
272	0	19 El Consuelo	88 4	20.1 13 21	43.2	4	2	0.00	0.00	0.00	no rem	0.50	0.40	0.54	6	0.15	0.00	0.17
273	0	20 El Cedral	88 4	24.9 13 21	46.5	15	3	0.00	0.00	0.00	no rem	0.35	0.20	1.00	no rem	0.10	0.00	0.33
274	0	21 El Cedral	88 4	25.0 13 21	42.9	50	3	0.00	0.00	0.00	94	0.55	0.40	30.00	no rem	0.00	0.00	0.00
275	0	22 El Cedral	88 4	20.7 13 21	40.8	8	3	0.00	0.00	0.00	87/6	0.55	0.40	30.00	no	0.00	0.00	0.00
276	0	23 El Cedral	88 4	14.5 13 21	23.1	46	0	0.00	0.00	0.00	no	0.00	0.00	0.00	no	0.00	0.00	0.00
277	0	24 El Cedral	88 4	13.8 13 21	27.0	50	0	0.00	0.00	0.00	no	0.00	0.00	0.00	no	0.00	0.00	0.00
278	0	25 El Cedral	88 4	18.0 13 21	28.6	50	0	0.00	0.00	0.00	no rem	0.20	0.00	3.00	6	0.20	0.00	3.00
279	0	26 El Cedral	88 4	22.8 13 21	28.2	7	-99	0.00	0.00	0.00	96/9	0.40	0.00	1.00	9	0.40	0.00	1.00
280	0	27 El Cedral	88 4	29.1 13 21	28.2	7	-99	0.70	0.65	3.00	no rem	0.75	0.70	3.00	9	0.65	0.70	3.00
281	0	28 El Cedral	88 4	20.7 13 21	24.9	14	0	0.00	0.00	0.00	no	0.00	0.00	0.00	no	0.00	0.00	0.00
282	0	29 El Cedral	88 4	26.1 13 21	39.0	16	1	0.00	0.00	0.00	no	0.00	0.00	0.00	no	0.00	0.00	0.00
283	0	30 El Cedral	88 5	19.2 13 20	38.6	46	2	0.00	0.00	0.00	88/8	1.10	1.00	60.00	9	0.10	0.00	10.00
284	0	31 Hacienda San Joaquin	88 3	25.5 13 20	36.1	9	2	0.00	0.00	0.00	88/8	0.80	0.60	70.00	no rem	0.00	0.00	0.00
285	0	32 San Joaquin, El Carrizal	88 4	27.6 13 20	14.4	6	2	0.00	0.00	0.00	92/8	0.50	0.85	2.00	no rem	0.30	0.00	0.00
286	0	33 La Balsa	88 4	19.5 13 20	24.0	10	1	0.00	0.00	0.00	88	0.60	0.50	8.00	8	0.05	0.00	2.00
287	0	34 La Balsa	88 4	56.4 13 20	28.5	38	-99	0.00	0.00	0.00	no rem	0.40	0.30	5.00	9	0.30	0.00	4.00
288	0	35 Potrero Verde (Tablas)	88 4	53.7 13 20	15.3	30	-99	0.05	0.00	13.00	no rem	0.00	0.00	2.00	9	0.00	0.00	0.00
289	0	36 Las Tablas (Potrero Verde)	88 4	56.1 13 20	8.7	5	-1	0.00	0.00	0.00	92/9	0.30	0.00	2.00	no	0.00	0.00	0.00
290	0	37 Potrero Verde	88 4	59.1 13 19	54.6	50	10	0.00	0.00	0.00	90	0.30	0.25	3.00	no	0.00	0.00	0.00
291	0	38 Las Tablas	88 5	12.0 13 19	38.7	18	0	0.00	0.00	0.00	no	0.00	0.00	0.00	no	0.00	0.00	0.00
292	0	39 Las Tablas	88 5	12.7 13 19	42.7	31	0	0.00	0.00	0.00	no	0.00	0.00	0.00	no	0.00	0.00	0.00
293	0	40 Las Tablas	88 5	18.9 13 19	39.0	4	0	0.00	0.00	0.00	no rem	0.15	0.00	15.00	no rem	0.15	0.00	15.00
294	0	41 Las Tablas II	88 5	57.3 13 19	49.8	50	56	0.15	0.00	15.00	88	0.60	0.50	8.00	no	0.00	0.00	0.00
295	0	42 Las Tablas	88 5	54.0 13 19	43.5	7	-99	0.50	0.40	3.00	89	1.50	1.60	6.00	9	0.50	0.40	3.00
296	0	43 El Espino	88 5	52.2 13 19	51.3	24	0	0.00	0.00	0.00	no	0.00	0.00	0.00	no	0.00	0.00	0.00
297	0	44 El Espino	88 5	51.3 13 19	41.2	20	0	0.00	0.00	0.00	no	0.00	0.00	0.00	no	0.00	0.00	0.00
298	0	45 El Espino	88 5	50.4 13 19	41.1	14	1	0.00	0.00	0.00	no rem	0.72	0.60	3.00	no	0.00	0.00	0.00
299	0	46 El Espino	88 5	49.8 13 19	36.4	31	1	0.00	0.00	0.00	no rem	1.40	1.30	10.00	no	0.00	0.00	0.00
300	0	47 El Espino	88 5	31.3 13 19	52.3	4	1	0.00	0.00	0.00	no rem	0.65	0.50	8.00	9	0.40	0.00	2.00
301	0	48 El Espino	88 5	11.0 13 19	26.1	45	2	0.00	0.00	0.00	90/10	0.80	0.60	32.00	no	0.00	0.00	0.00
302	0	49 La Pelota	88 5	9.7 13 19	18.3	14	2	0.00	0.00	0.00	no rem	1.00	0.90	45.00	8,9	0.40	0.30	30.00
303	0	50 La Pelota	88 5	17.1 13 19	13.2	20	-99	1.00	0.90	45.00	no rem	1.40	1.30	30.00	no	0.00	0.00	0.00
304	0	51 La Pelota	88 5	24.6 13 19	11.7	26	-99	0.30	0.00	3.00	88	1.20	1.00	25.00	9	0.40	0.20	1.00
305	0	52 La Pelota	88 5	30.5 13 19	0.6	17	-99	0.40	0.20	1.00	92/8	1.20	1.00	25.00	no	0.00	0.00	0.00
306	0	53 La Pelota	88 5	30.5 13 19	0.6	17	-99	0.40	0.20	1.00	92/8	1.20	1.00	25.00	no	0.00	0.00	0.00

Table 2.2

RESULTS OF INUNDATION SURVEY (7/9)

No.	Area No.	Name of Colony	Longitude		Latitude		Living Period		Annual Flood		Maximum Flood		1995 Flood		Duration1		Duration2				
			°	'	°	'	Years	Ind	Depth1 (m)	Depth2 (m)	Duration1 (day)	Duration2 (day)	Date	Depth1 (m)	Depth2 (m)	Duration1 (day)	Duration2 (day)				
307	0	54 La Pelota	88	5	37.2	13	18	57.0	4	0.00	0.00	no rem	0.75	0.50	15.00	15.00	0.00	13.00	0.00	0.00	
308	0	55 La Pelota	88	5	41.8	13	18	54.6	4	0.00	0.00	no rem	1.30	1.00	60.00	60.00	0.00	60.00	0.00	0.00	
309	0	56 La Pelota	88	5	30.3	13	19	0.0	56	-99	0.35	0.25	25.00	1.10	1.10	75.00	75.00	0.00	30.00	0.00	0.00
310	0	57 La Pelota	88	5	35.7	13	18	56.4	16	2	0.00	0.00	0.00	1.60	1.40	40.00	30.00	0.00	0.00	0.00	0.00
311	0	58 La Pelota	88	5	14.1	13	19	34.6	10	-99	0.10	0.00	8.00	0.60	0.50	80.00	80.00	0.00	8.00	0.00	0.00
312	0	59 Hacienda San Juan	88	10	58.0	13	23	3.6	31	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
313	0	60 Hacienda San Juan	88	10	32.1	13	22	57.9	4	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
314	0	61 Hacienda San Juan	88	10	31.5	13	22	50.4	36	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
315	0	62 Ciénaga San Vicente	88	10	20.5	13	23	11.3	7	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
316	0	63 Granja San Vicente	88	10	1.2	13	22	51.6	30	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
317	0	64 Cantora	88	8	27.6	13	22	10.5	46	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
318	0	65 Cantora	88	8	30.0	13	22	8.4	46	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
319	0	66 Cantora	88	8	31.9	13	22	6.0	2	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
320	0	67 Los Chorrros	88	11	57.9	13	22	56.4	8	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
321	0	68 Los Chorrros	88	11	50.7	13	23	10.9	24	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
322	0	69 Cooperativa Cantora	88	8	40.8	13	22	36.3	12	-99	0.10	0.00	90.00	0.10	0.00	90.00	0.00	0.00	90.00	0.00	0.00
323	0	70 Cooperativa Cantora	88	8	46.3	13	22	32.1	6	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
324	0	71 Cooperativa Cantora	88	8	52.8	13	22	34.5	7	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
325	0	72 Cooperativa Cantora	88	8	55.0	13	22	30.3	3	2	0.00	0.00	0.00	0.05	0.00	-99.00	0.00	0.00	0.00	0.00	
326	0	73 Cooperativa Cantora	88	8	59.0	13	21	57.6	20	3	0.00	0.00	0.00	0.05	0.00	90.00	0.00	0.00	0.00	0.00	
327	0	74 Cooperativa Cantora	88	8	59.6	13	22	4.8	11	4	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	
328	0	75 Cooperativa Mercedes Silva	88	10	36.3	13	21	38.1	4	2	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	
329	0	76 Cooperativa Mercedes Silva	88	10	55.5	13	21	46.9	3	-99	0.05	0.00	120.00	0.05	0.00	80.00	0.00	0.00	80.00	0.00	0.00
330	0	77 Hacienda San Juan Bosco	88	9	6.3	13	21	46.9	16	-99	0.00	0.00	0.00	0.60	0.50	120.00	0.00	0.00	120.00	0.00	0.00
331	0	78 Hacienda San Juan Bosco	88	9	51.7	13	21	34.8	8	-99	0.05	0.00	60.00	1.50	1.40	40.00	0.00	0.00	0.00	0.00	0.00
332	0	79 Hacienda San Juan Bosco	88	9	53.5	13	21	34.5	9	-99	0.05	0.00	100.00	1.10	1.00	30.00	40.00	0.00	0.00	0.00	0.00
333	0	80 Hacienda San Juan Bosco	88	10	4.3	13	21	31.5	12	2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
334	0	81 La Fuerza	88	7	34.0	13	21	39.9	36	-99	0.05	0.00	no rem	0.50	0.40	16.00	0.00	0.00	16.00	0.00	0.00
335	0	82 La Fuerza	88	7	35.8	13	21	30.3	10	-99	0.05	0.00	no rem	1.40	1.00	3.00	2.00	0.00	-99.00	0.00	0.00
336	0	83 La Fuerza	88	7	34.8	13	21	31.8	14	-99	0.05	0.00	30.00	1.30	1.20	8.00	8.00	0.00	-99.00	0.00	0.00
337	0	84 La Fuerza	88	7	57.7	13	21	46.1	1	-99	0.05	0.00	0.00	1.15	1.00	30.00	30.00	0.00	30.00	0.00	0.00
338	0	85 La Fuerza	88	7	40.2	13	21	35.6	23	-99	0.05	0.00	90.00	1.60	1.50	4.00	4.00	0.00	0.00	0.00	0.00
339	0	86 La Fuerza	88	7	35.2	13	21	26.1	30	-99	0.05	0.00	60.00	1.20	1.00	3.00	3.00	0.00	0.00	0.00	0.00
340	0	87 La Fuerza	88	7	30.4	13	21	22.8	20	-99	0.05	0.00	0.00	1.65	1.50	2.00	2.00	0.00	60.00	0.00	0.00
341	0	88 La Fuerza	88	7	43.2	13	21	23.7	15	2	0.00	0.00	0.00	2.00	1.70	17.00	15.00	0.00	15.00	0.00	0.00
342	0	89 El Establo	88	7	56.9	13	21	24.0	15	-99	0.05	0.00	0.00	1.10	1.00	15.00	15.00	0.00	0.00	0.00	0.00
343	0	90 El Establo	88	7	54.6	13	21	28.0	13	1	0.00	0.00	0.00	1.00	0.50	4.00	2.00	0.00	0.00	0.00	0.00
344	0	91 El Tempisque	88	8	55.5	13	21	3.0	9	-99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
345	0	92 Planta de bombao	88	8	35.7	13	22	35.4	56	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
346	0	93 El Zapotal	88	7	18.0	13	21	37.8	31	-99	0.90	0.80	4.00	1.10	1.00	4.00	4.00	0.00	0.00	0.00	0.00
347	0	94 El Zapotal	88	7	25.3	13	21	37.6	10	1	0.00	0.00	0.00	0.60	0.40	0.71	0.71	0.00	0.58	0.00	0.00
348	0	95 El Zapotal	88	7	13.9	13	21	37.9	22	2	0.00	0.00	0.00	0.30	0.10	3.00	3.00	0.00	0.00	0.00	0.00
349	0	96 El Zapotal	88	7	12.6	13	21	42.9	42	-99	0.00	0.00	0.00	0.30	0.10	3.00	3.00	0.00	0.00	0.00	0.00
350	0	97 El Zapotal	88	7	25.2	13	21	52.2	52	2	0.00	0.00	0.00	8.00	1.40	3.00	3.00	0.00	0.00	0.00	0.00
351	0	98 El Conaulio	88	6	46.2	13	20	32.2	10	-99	0.40	0.30	0.00	1.90	1.40	30.00	30.00	0.00	-99.00	0.00	0.00
352	0	99 El Conaulio	88	6	50.4	13	20	35.4	6	3	0.00	0.00	0.00	0.95	0.90	3.00	3.00	0.00	0.00	0.00	0.00
353	0	100 El Conaulio	88	6	44.4	13	20	36.9	8	0	0.00	0.00	0.00	1.60	1.5	45.00	45.00	0.00	0.00	0.00	0.00
354	0	101 El Conaulio	88	6	45.6	13	20	41.4	4	2	0.00	0.00	0.00	-99.00	-99.00	-99.00	-99.00	0.00	0.00	0.00	0.00
355	0	102 El Conaulio	88	6	47.1	13	20	39.6	3	1	0.00	0.00	0.00	0.75	0.50	2.00	2.00	0.00	0.00	0.00	0.00
356	0	103 El Conaulio	88	6	46.6	13	20	41.4	56	-99	0.10	0.00	1.00	0.35	0.10	24.00	2.00	0.00	0.00	0.00	0.00
357	0	104 El Conaulio	88	6	52.8	13	20	44.1	20	5	0.00	0.00	0.00	1.90	1.75	8.00	8.00	0.00	0.00	0.00	0.00

RESULTS OF INUNDATION SURVEY (8/9)

Table 2.2

No.	Area	Name of Colony	Longitude	Latitude	Living Period Years Incl. times	Annual Flood			Maximum Flood			1995 Flood								
						Depth1 (m)	Depth2 (m)	Duration1 (day)	Duration2 (day)	Date	Depth1 (m)	Depth2 (m)	Duration1 (day)	Duration2 (day)	Date	Depth1 (m)	Depth2 (m)	Duration1 (day)	Duration2 (day)	
353	0	105 El Consuelo	88 6	46.9 13 20	46.3	0	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00
359	0	106 El Consuelo	88 6	50.4 13 20	51.6	3	0.00	0.00	0.00	0.00	90	1.10	0.90	2.00	2.00	no	0.00	0.00	0.00	0.00
360	0	107 El Consuelo	88 6	52.2 13 20	59.7	10	0.00	0.00	0.00	0.00	no rem	-99.00	-99.00	-99.00	-99.00	no	0.00	0.00	0.00	0.00
361	0	108 El Consuelo	88 6	52.2 13 21	8.1	2	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00
362	0	109 El Consuelo	88 6	52.0 13 21	8.1	10	0.00	0.00	0.00	0.00	83	0.60	0.50	2.00	2.00	no	0.00	0.00	0.00	0.00
363	0	110 El Consuelo	88 6	50.7 13 21	16.2	14	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00
364	0	111 El Consuelo	88 6	52.6 13 21	16.8	40	-99	0.10	0.00	60.00	92	1.10	1.00	16.00	16.00	9	0.10	0.00	60.00	0.00
365	0	112 El Consuelo	88 6	48.3 13 21	23.6	40	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00
366	0	113 El Consuelo	88 6	46.8 13 21	32.1	9	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00
367	0	114 El Consuelo	88 6	56.7 13 21	33.6	16	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00
368	0	115 El Consuelo	88 6	58.5 13 21	38.4	5	1.00	0.00	0.00	0.00	no rem	0.10	0.00	3.00	4.00	no	0.00	0.00	0.00	0.00
369	0	116 El Consuelo	88 6	58.5 13 21	45.0	66	2.00	0.00	0.00	0.00	94/9	1.15	1.00	4.00	4.00	no	0.00	0.00	0.00	0.00
370	0	117 El Consuelo	88 7	4.2 13 21	34.8	28	4.00	0.00	0.00	0.00	88	0.40	0.30	1.00	1.00	no	0.00	0.00	0.00	0.00
371	0	118 Atamiz	88 6	30.6 13 20	46.5	10	4.00	0.00	0.00	0.00	92	0.80	0.65	22.00	22.00	no	0.00	0.00	0.00	0.00
372	0	119 Atamiz	88 6	7.3 13 20	43.2	3	-99	0.10	0.00	2.00	0.00	0.10	0.00	2.00	0.00	6	0.10	0.00	2.00	0.00
373	0	120 Atamiz	88 6	3.4 13 20	39.3	60	1.00	0.00	0.00	0.00	92	1.10	0.80	2.00	2.00	8	0.05	0.00	0.00	0.00
374	0	121 Atamiz	88 6	9.9 13 20	47.5	13	-99	0.35	0.30	1.00	1.00	0.45	0.40	2.00	2.00	no	0.00	0.00	0.00	0.00
375	0	122 Atamiz	88 5	54.3 13 21	39.0	4	2.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00
376	0	123 El Talpetate	88 7	43.2 13 19	4.0	20	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00
377	0	124 El Talpetate	88 7	44.5 13 19	3.1	17	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00
378	0	125 El Talpetate	88 7	45.3 13 19	6.9	22	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00
379	0	126 El Talpetate	88 7	45.3 13 19	7.5	33	0.00	0.00	0.00	0.00	91	0.05	0.00	0.08	0.00	no	0.00	0.00	0.00	0.00
380	0	127 El Talpetate	88 8	13.5 13 19	0.0	4	-99	2.00	1.35	0.25	0.25	2.75	2.10	0.50	0.50	10	2.00	1.35	0.25	0.25
381	0	128 El Talpetate	88 6	8.7 13 18	46.2	37	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00
382	0	129 El Carro	88 8	20.1 13 18	49.4	7	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00
383	0	130 El Carro	88 8	24.0 13 18	48.9	8	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00
384	0	131 Caseno Ceiba de Agua	88 7	2.7 13 23	49.2	4	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00
385	0	132 Hacienda La Fuente	88 5	31.5 13 24	3.9	13	4.00	0.00	0.00	0.00	93	1.25	1.00	1.00	1.00	no	0.00	0.00	0.00	0.00
386	0	133 Cooperativa San Carlos	88 5	30.0 13 24	0.9	16	2.00	0.00	0.00	0.00	87	1.00	0.50	3.00	3.00	no rem	0.05	0.00	2.00	0.00
387	0	134 Cooperativa San Carlos	88 5	32.4 13 24	0.3	10	2.00	0.00	0.00	0.00	87	1.60	1.20	3.00	3.00	no	0.00	0.00	0.00	0.00
388	0	135 Cooperativa San Carlos	88 5	32.9 13 24	0.8	15	4.00	0.00	0.00	0.00	87	1.60	1.20	3.00	3.00	no	0.00	0.00	0.00	0.00
389	0	136 Cooperativa San Carlos	88 5	46.5 13 24	11.1	14	3.00	0.00	0.00	0.00	88	1.10	1.00	0.63	0.63	no	0.00	0.00	0.00	0.00
390	0	137 Asentamiento El Refugio	88 6	6.6 13 23	16.2	44	3.00	0.00	0.00	0.00	92	1.00	0.80	3.00	3.00	8	0.05	0.00	1.00	0.00
391	0	138 Los Reyes	88 6	21.9 13 23	17.2	38	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00
392	0	139 Los Reyes	88 6	39.0 13 23	17.7	6	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00
393	0	140 El Tecomanal	88 6	50.7 13 23	19.0	42	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00
394	0	141 El Tecomanal	88 1	38.7 13 17	15.4	12	2.00	0.00	0.00	0.00	95	0.40	0.20	90.00	90.00	8,9,10	0.40	0.20	90.00	90.00
395	0	142 Canton El Zapotal	88 1	26.1 13 17	22.2	15	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00
396	0	143 Canton El Zapotal	88 1	18.0 13 17	43.2	15	-99	0.30	0.00	3.00	0.00	0.90	0.60	10.00	8.00	8	0.50	0.20	10.00	8.00
397	0	144 Caseno Los Pastos	88 1	25.0 13 17	45.2	17	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00
398	0	145 Caseno Los Pastos	88 1	24.0 13 18	30.1	10	0.00	0.00	0.00	0.00	91	0.05	0.00	1.00	0.00	no	0.00	0.00	0.00	0.00
399	0	146 Otomiega (San Pedro)	88 1	27.3 13 18	19.8	23	1.00	0.00	0.00	0.00	no rem	101.00	1.00	30.00	30.00	no	0.00	0.00	0.00	0.00
400	0	147 Otomiega (San Pedro)	88 1	21.9 13 18	28.3	16	-99	0.40	0.20	0.13	0.13	2.70	2.50	60.00	60.00	10	0.40	0.20	60.00	0.13
401	0	148 Otomiega (San Pedro)	88 1	39.6 13 18	33.1	10	1.00	0.05	0.00	0.00	no rem	1.00	0.30	2.00	2.00	10	0.20	0.00	10.00	0.00
402	0	149 Otomiega (San Pedro)	88 1	45.2 13 18	30.5	32	0.00	0.00	0.00	0.00	91	1.50	0.60	120.00	115.00	10	0.05	0.00	60.00	0.00
403	0	150 Otomiega (San Pedro)	88 2	12.3 13 19	2.4	6	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00
404	0	151 Punta de Ceiba	88 2	15.2 13 19	6.7	8	1.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00
405	0	152 Punta de Ceiba	88 6	10.3 13 21	59.1	55	4.00	0.00	0.00	0.00	no rem	0.60	0.50	60.00	60.00	no	0.00	0.00	0.00	0.00
406	0	153 Hacienda El Priudo	88 6	27.6 13 22	12.3	2	-99	0.05	0.00	20.00	0.00	0.05	0.00	-99.00	-99.00	no rem	0.05	0.00	20.00	0.00
407	0	154 Hacienda El Priudo	88 6	28.6 13 22	51.4	35	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00
408	0	155 El Moral	88 6	28.6 13 22	51.4	35	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00	no	0.00	0.00	0.00	0.00

RESULTS OF INUNDATION SURVEY (9/9)

Table 2.2

No.	Area No.	Name of Colony	Longitude		Latitude		Living Period		Annual Flood		Maximum Flood		1995 Flood														
			88	6	27.4	13	22	38.7	Years	Incl times	Depth1((m)	Depth2 (m)	Duration1((day)	Duration2((day)	Depth1((m)	Depth2((m)	Duration1 (day)	Duration2 (day)									
409	0	156 El Moral	88	6	30.9	13	22	41.4	2	-99	0	0	0.10	0.00	0.13	0.13	0.17	0.17	no rem	0.60	0.90	0.17	0.17	0.50	0.70	0.33	0.33
410	0	157 El Moral	88	6	36.7	13	22	20.4	11	-99	0	0	0.05	0.00	0.00	0.00	30.00	0.00	no rem	0.05	0.70	0.33	0.33	0.05	0.70	0.33	0.33
411	0	158 El Talpetates	88	6	38.4	13	22	17.5	4	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	no rem	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
412	0	159 El Talpetates	88	6	45.7	13	22	25.6	8	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	no rem	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
413	0	160 El Talpetates	88	6	46.5	13	22	16.5	2	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	no rem	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
414	0	161 El Talpetates	88	6	54.8	13	22	36.8	8	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	no rem	2.20	2.00	0.67	0.67	0.70	0.50	7.00	7.00
415	0	162 Planes de la Bomba	88	3	26.0	13	24	14.8	16	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	no rem	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
416	0	163 Hacienda San Antonio Silva	88	3	26.9	13	24	18.7	2	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	no rem	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
417	0	164 Planes la Barrantera	88	3	41.2	13	24	14.9	44	-99	0	0	0.05	0.00	1.00	0.00	1.00	0.00	no rem	0.05	0.00	1.00	0.00	0.05	0.00	1.00	0.00
418	0	165 El Huacoyol	88	3	50.4	13	24	14.7	35	-99	0	0	0.05	0.00	1.00	0.00	1.00	0.00	no rem	1.20	1.20	0.83	0.83	0.05	0.00	1.00	0.00
419	0	166 El Huacoyol	88	7	3.3	13	23	14.4	50	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	no rem	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
420	0	167 El Tecomatal	88	7	1.8	13	23	9.9	25	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	no rem	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
421	0	168 El Tecomatal	88	7	1.8	13	23	9.9	25	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	no rem	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

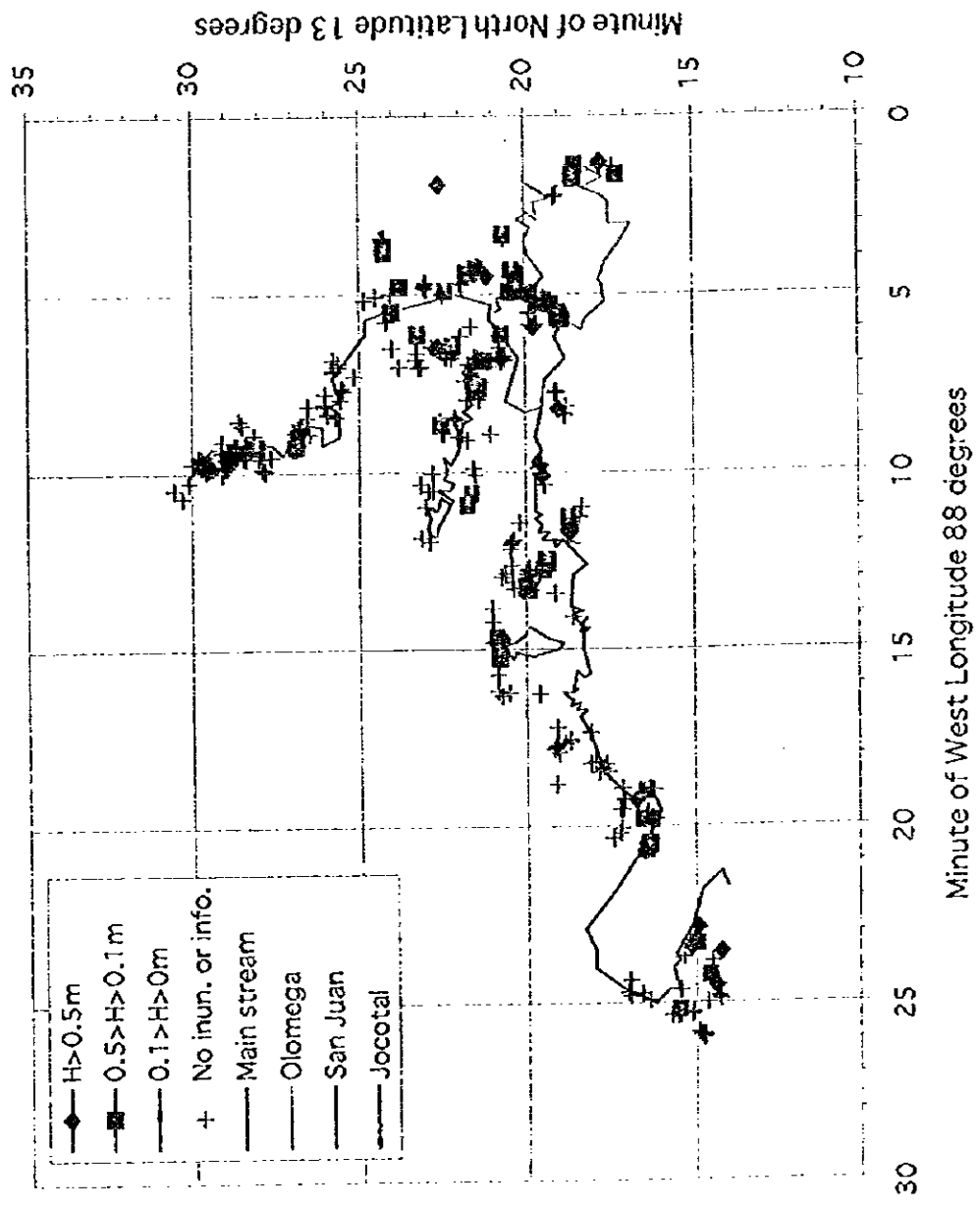


Figure.2.1 DISTRIBUTION OF INUNDATION DEPTH IN 1995 FLOOD

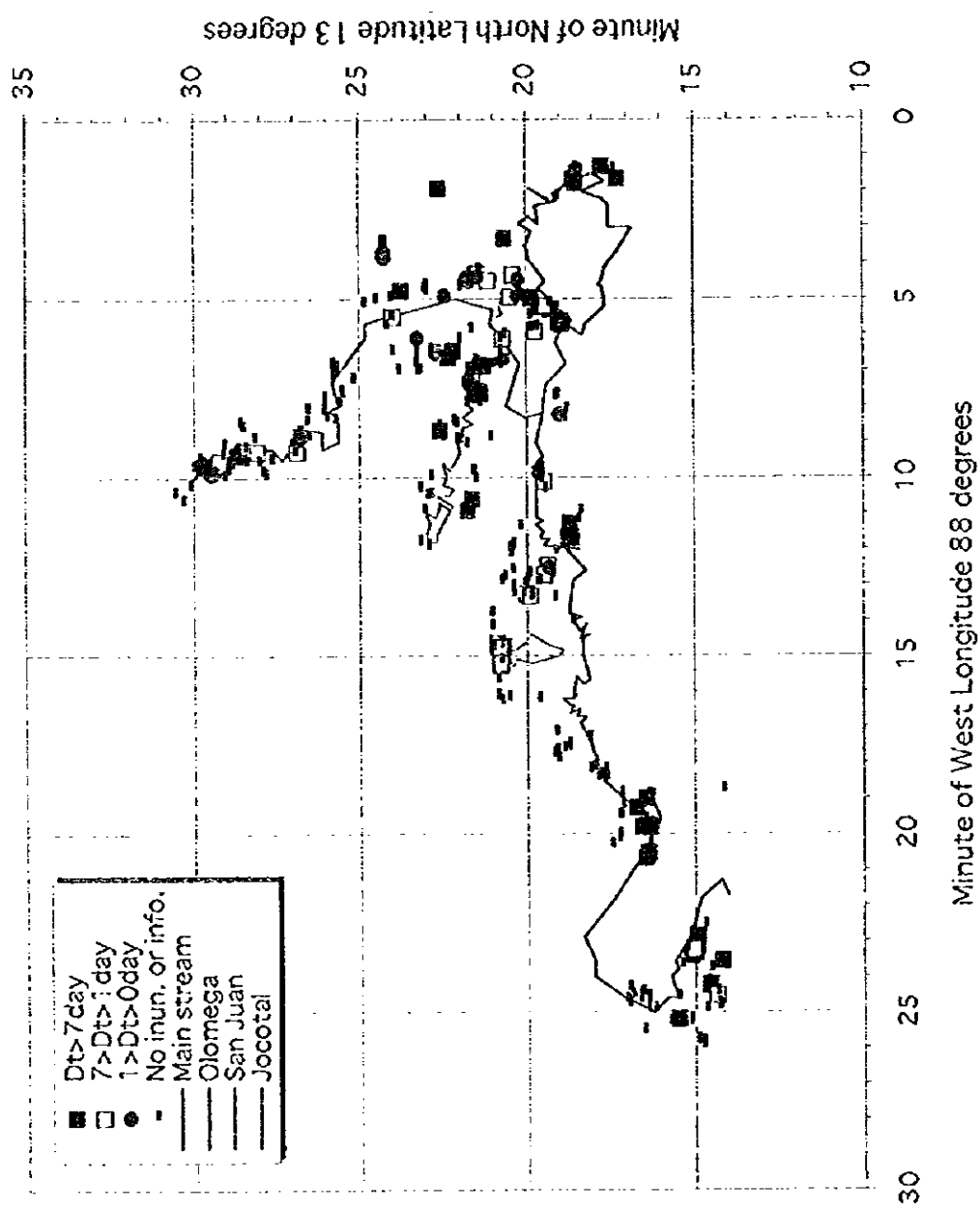


Figure. 2.2 DISTRIBUTION OF INUNDATION DURATION TIME IN 1995 FLOOD



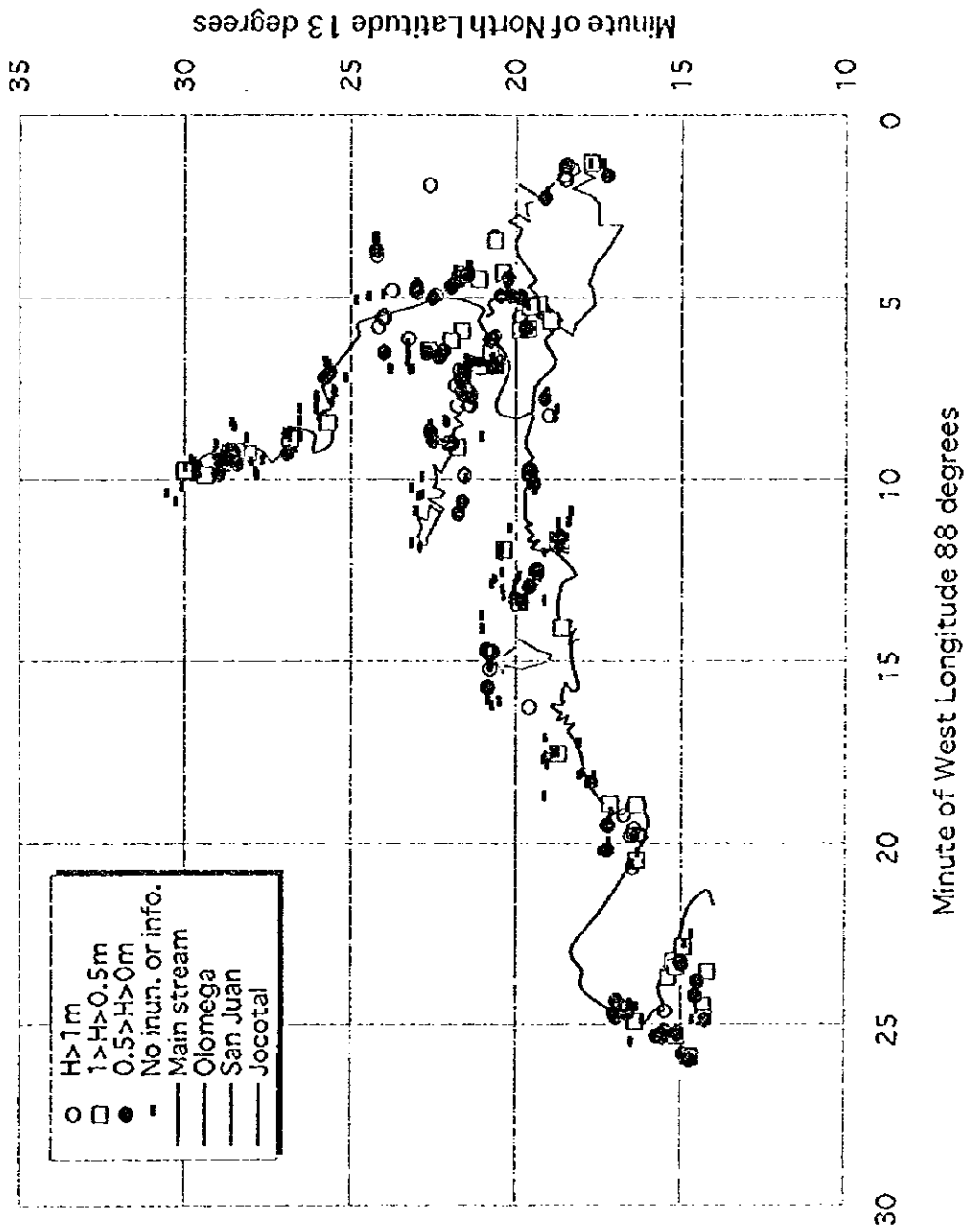


Figure 2.3 DISTRIBUTION OF MAXIMUM INUNDATION DEPTH

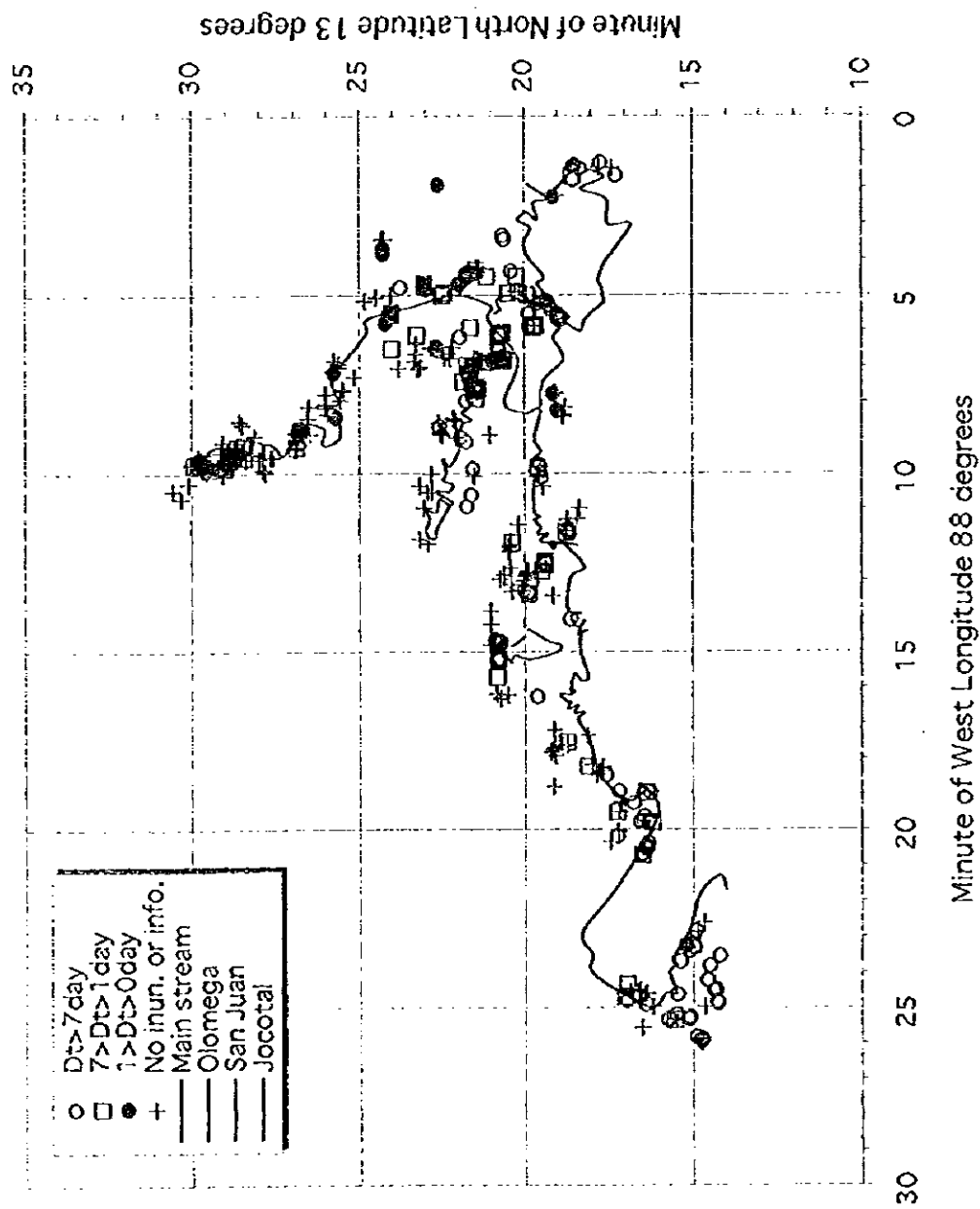


Figure. 2.4 DISTRIBUTION OF MAXIMUM INUNDATION DURATION

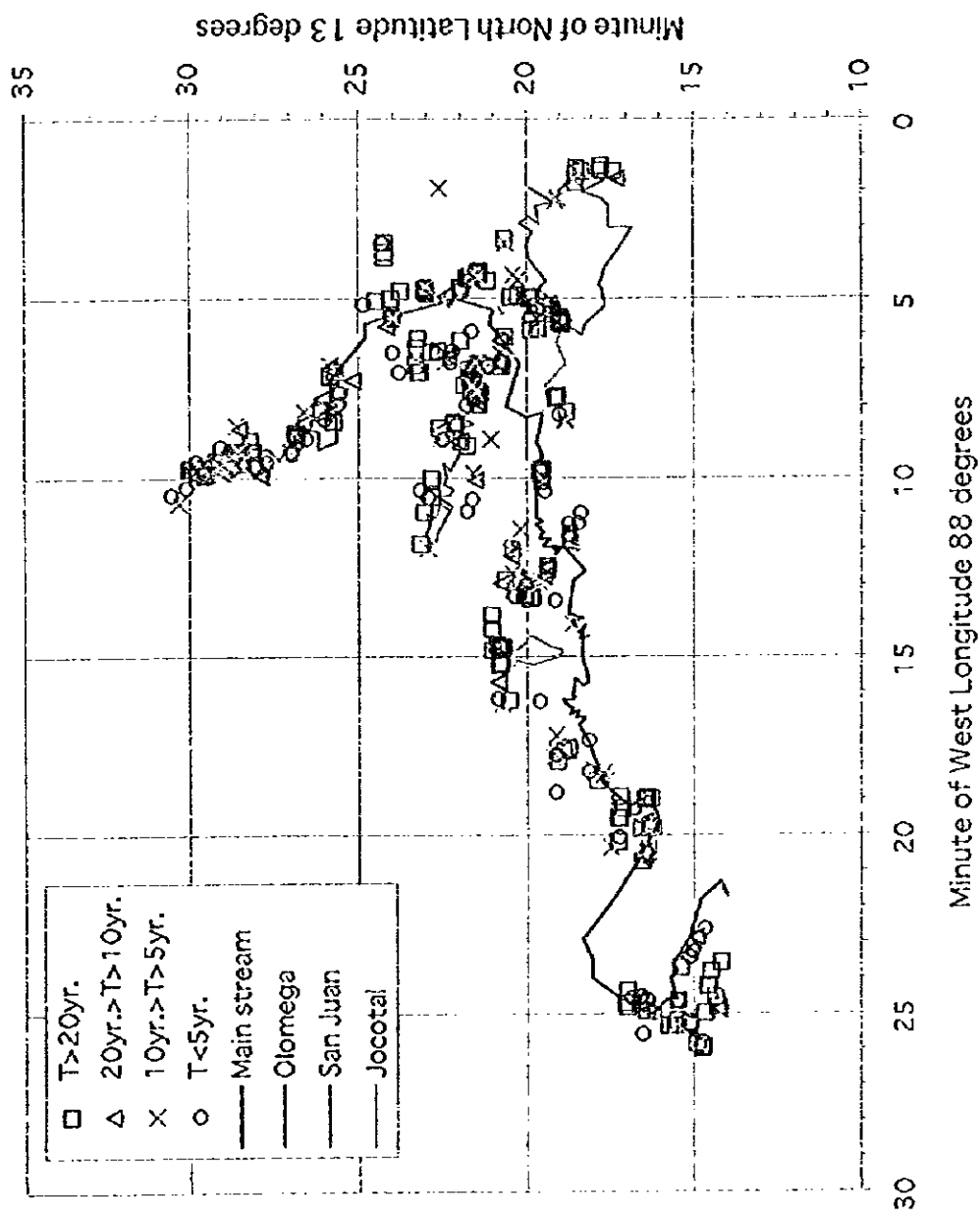


Figure.2.5 DISTRIBUTION OF INTERVIEWEE'S LIVING PERIOD