



กรมทางหลวง

คู่มือ การออกแบบระบบระบายน้ำ ส่วนที่ 2

ข้อมูลความสัมพันธ์ระหว่างความเข้มของฝน - ช่วงเวลา - ความถี่ฝน

Rainfall Intensity - Duration - Frequency Curve

สำนักสำรวจและออกแบบ
กรมทางหลวง



บทนำ

เอกสารข้อมูลความสัมพันธ์ ระหว่างความเข้มของฝน - ช่วงเวลา - ความถี่ของฝนนี้ รวบรวมมาจากเอกสารของกรมชลประทาน ซึ่งจัดทำโดยฝ่ายวิจัยและอุทกวิทยาประยุกต์ สำนักอุทกวิทยาและบริหารน้ำ โดยข้อมูลดังกล่าวได้รวบรวมไว้แบ่งเป็นรายภาคทั้งหมด 6 ภาค คือ ภาคเหนือ ภาคกลาง ภาคตะวันออกเฉียงเหนือ ภาคตะวันตก และภาคใต้ จำนวนทั้งหมด 69 สถานี ซึ่งข้อมูลที่น่ามาวิเคราะห์ ได้จากสถานีวัดน้ำฝนของกรมอุตุนิยมวิทยาและของกรมชลประทาน กระจายอยู่ในพื้นที่ต่าง ๆ ตามรูปแสดงข้อมูลตำแหน่งสถานีน้ำฝน

ข้อมูลตำแหน่งสถานีน้ำฝน มีดังต่อไปนี้

1. **ภาคเหนือตอนบน** มีสถานีจำนวน 10 สถานี ใน 5 จังหวัด ได้แก่
จังหวัด : เชียงใหม่, ลำปาง, แม่ฮ่องสอน, น่าน, แพร่
2. **ภาคเหนือตอนล่าง** มีสถานีจำนวน 12 สถานี ใน 6 จังหวัด ได้แก่
จังหวัด : กำแพงเพชร, เพชรบูรณ์, พิษณุโลก, สุโขทัย, ตาก, อุตรดิตถ์
3. **ภาคกลาง** มีสถานีจำนวน 6 สถานี ใน 5 จังหวัด ได้แก่
จังหวัด : ลพบุรี, นครสวรรค์, อุทัยธานี, กรุงเทพฯ, สุพรรณบุรี
4. **ภาคตะวันออกเฉียงเหนือ** มีสถานีจำนวน 12 สถานี ใน 10 จังหวัด ได้แก่
จังหวัด : บุรีรัมย์, ขอนแก่น, เลย, นครพนม, นครราชสีมา, ร้อยเอ็ด, สกลนคร, สุรินทร์, มุกดาหาร, อุบลราชธานี
5. **ภาคตะวันออก** มีสถานีจำนวน 12 สถานี ใน 6 จังหวัด ได้แก่
จังหวัด : ฉะเชิงเทรา, จันทบุรี, ชลบุรี, ปราจีนบุรี, ระยอง, สระแก้ว
6. **ภาคตะวันตก** มีสถานีจำนวน 5 สถานี ใน 3 จังหวัด ได้แก่
จังหวัด : กาญจนบุรี, เพชรบุรี, ประจวบคีรีขันธ์
7. **ภาคใต้** มีสถานีจำนวน 12 สถานี ใน 10 จังหวัด ได้แก่
จังหวัด : ชุมพร, นครศรีธรรมราช, นราธิวาส, ปัตตานี, พัทลุง, ภูเก็ต, ระนอง, สตูล, สงขลา, ตรัง



รูปแสดง ข้อมูลตำแหน่งสถานี น้ำฝน

ตารางที่ 2. รายชื่อสถานีฝนที่ใช้ในการศึกษาของจังหวัดต่างๆในภาคเหนือตอนบน

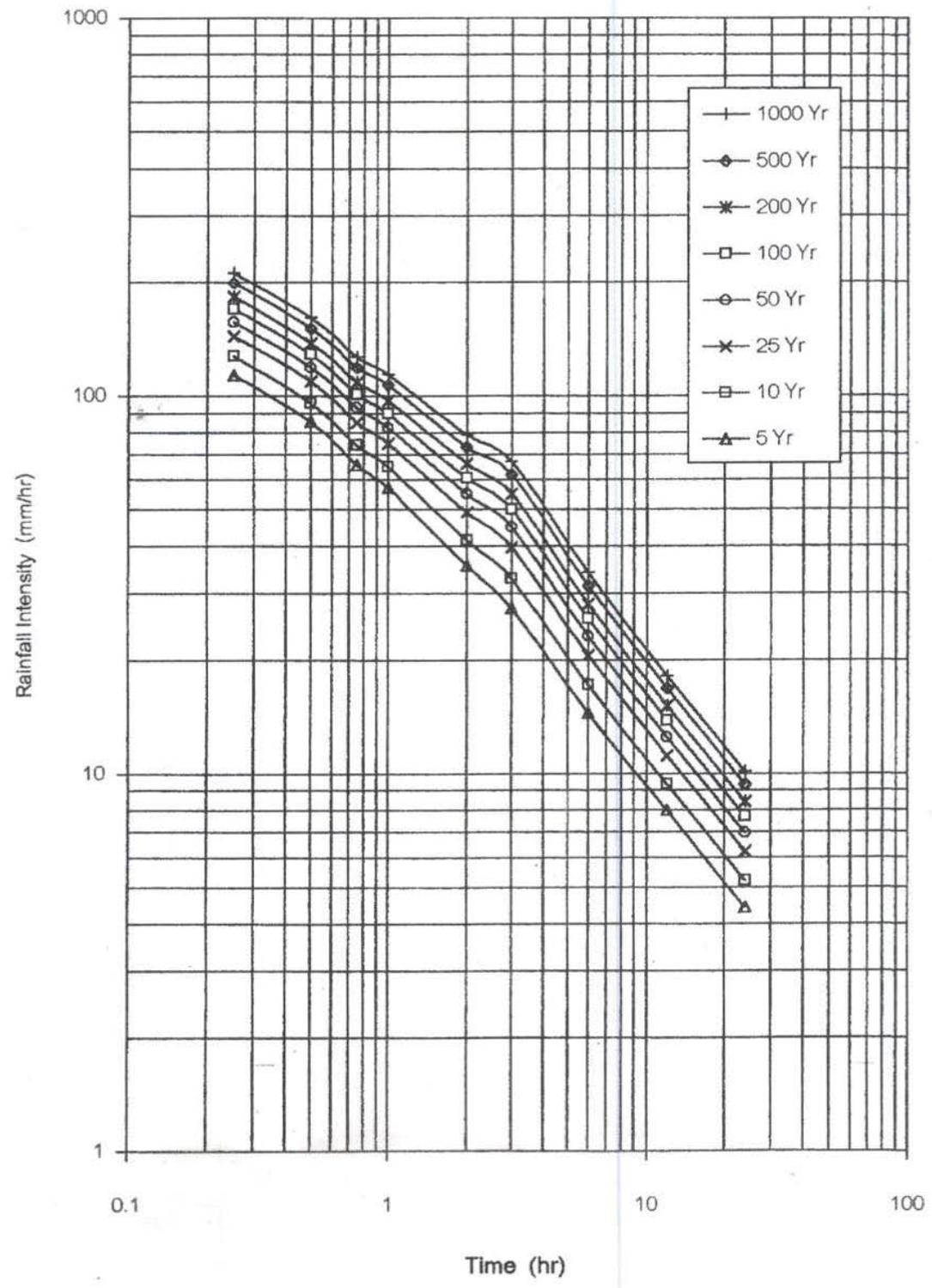
รหัสสถานี	ชื่อสถานี	อำเภอ	จังหวัด	ละติจูด	ลองจิจูด	ช่วงเวลาข้อมูล	หน่วยงาน
07013	อ.เมือง	เมือง	เชียงใหม่	18° 50' 23"	98° 58' 32"	1953-1993	กรมอุตุนิยมวิทยา
07391	อ.เมือง	เมือง	เชียงใหม่	18° 47' 21"	99° 01' 01"	1972-1994	กรมชลประทาน
07591	P.41	สันป่าตอง	เชียงใหม่	18° 37' 00"	98° 44' 43"	1979-1990	กรมชลประทาน
16013	อ.เมือง	เมือง	ลำปาง	18° 17' 23"	99° 30' 27"	1958 - 1953	กรมชลประทาน
16181	W.16	แจ้ห่ม	ลำปาง	18° 48' 12"	99° 38' 45"	1975-1994	กรมชลประทาน
20022	อ.แม่สะเรียง	แม่สะเรียง	แม่ฮ่องสอน	18° 09' 24"	99° 56' 05"	1975-1983,1986-1993	กรมอุตุนิยมวิทยา
28013	อ.เมือง	เมือง	น่าน	18° 46' 35"	100° 46' 26"	1964-1983,1986-1993	กรมอุตุนิยมวิทยา
28111	N.42	เวียงสา	น่าน	18° 34' 05"	100° 52' 28"	1977-1994	กรมชลประทาน
28131	N.35	เวียงสา	น่าน	18° 23' 46"	100° 51' 05"	1978-1991	กรมชลประทาน
40111	Y.20	สอง	แพร่	18° 35' 03"	100° 09' 17"	1974-1993	กรมชลประทาน

Frequency Analysis of Maximum Rainfall for Each Period at A.Muang C.Chiang Mai
(1953-1993)

Time (hr)	Rainfall Amount (mm)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	23.3	28.5	31.9	36.3	39.5	42.7	45.8	50.0	53.2
0.5	34.9	42.9	48.1	54.7	59.7	64.6	69.4	75.8	80.7
0.75	39.7	49.4	55.8	64.0	70.0	76.0	81.9	89.8	95.7
1	45.2	57.2	65.2	75.2	82.7	90.1	97.4	107.1	114.5
2	52.9	71.2	83.4	98.7	110.1	121.4	132.6	147.5	158.7
3	57.3	82.3	98.8	119.7	135.2	150.6	165.9	186.2	201.4
6	62.1	86.7	103.1	123.7	139.0	154.3	169.4	189.4	204.5
12	70.0	95.6	112.5	133.9	149.8	165.5	181.2	201.9	217.6
24	77.7	106.3	125.3	149.2	167.0	184.6	202.1	225.3	242.8

Time (hr)	Rainfall Intensity (mm/hr)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	93.3	114.0	127.7	145.0	157.9	170.6	183.4	200.1	212.8
0.5	69.9	85.7	96.2	109.5	119.3	129.1	138.8	151.7	161.4
0.75	53.0	65.9	74.5	85.3	93.3	101.3	109.2	119.7	127.6
1	45.2	57.2	65.2	75.2	82.7	90.1	97.4	107.1	114.5
2	26.4	35.6	41.7	49.4	55.0	60.7	66.3	73.7	79.3
3	19.1	27.4	32.9	39.9	45.1	50.2	55.3	62.1	67.1
6	10.3	14.5	17.2	20.6	23.2	25.7	28.2	31.6	34.1
12	5.8	8.0	9.4	11.2	12.5	13.8	15.1	16.8	18.1
24	3.2	4.4	5.2	6.2	7.0	7.7	8.4	9.4	10.1

Rainfall Intensity-Duration-Frequency Curve at A.Muang C.Chiang Mai
(1953-1993)

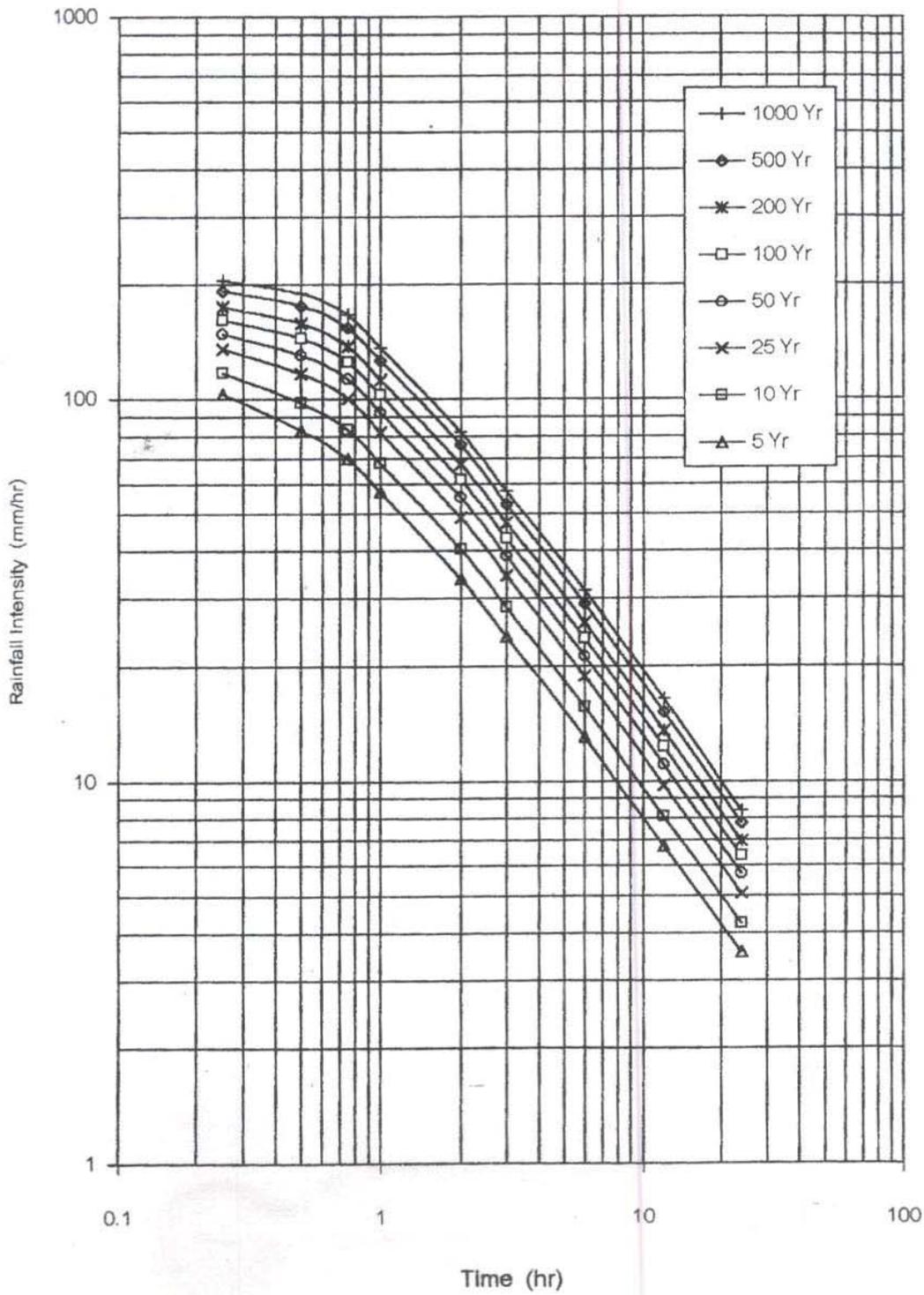


Frequency Analysis of Maximum Rainfall for Each Period at RID, Office 1 C.Chiang Mai
(1972-1994)

Time (hr)	Rainfall Amount (mm)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	20.6	25.9	29.4	33.9	37.2	40.5	43.8	48.1	51.4
0.5	30.4	41.6	49.0	58.4	65.4	72.3	79.1	88.2	95.0
0.75	37.4	52.6	62.6	75.4	84.8	94.2	103.5	115.8	125.1
1	40.8	57.4	68.3	82.2	92.5	102.7	112.9	126.3	136.5
2	47.3	67.6	81.1	98.1	110.8	123.3	135.8	152.3	164.8
3	50.5	71.7	85.7	103.4	116.5	129.6	142.5	159.7	172.6
6	55.0	78.2	93.6	113.0	127.5	141.8	156.0	174.8	189.1
12	56.4	80.7	96.8	117.2	132.3	147.2	162.2	181.9	196.7
24	61.0	85.4	101.5	121.9	137.0	152.0	166.9	186.6	201.5

Time (hr)	Rainfall Intensity (mm/hr)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	82.2	103.6	117.7	135.6	148.8	162.0	175.1	192.4	205.5
0.5	60.8	83.2	98.1	116.8	130.7	144.5	158.2	176.4	190.1
0.75	49.8	70.1	83.5	100.5	113.1	125.5	138.0	154.4	166.8
1	40.8	57.4	68.3	82.2	92.5	102.7	112.9	126.3	136.5
2	23.6	33.8	40.6	49.1	55.4	61.7	67.9	76.2	82.4
3	16.8	23.9	28.6	34.5	38.8	43.2	47.5	53.2	57.5
6	9.2	13.0	15.6	18.8	21.2	23.6	26.0	29.1	31.5
12	4.7	6.7	8.1	9.8	11.0	12.3	13.5	15.2	16.4
24	2.5	3.6	4.2	5.1	5.7	6.3	7.0	7.8	8.4

Rainfall Intensity-Duration-Frequency Curve at RID, Office 1 C.Chiang Mai
(1972-1994)



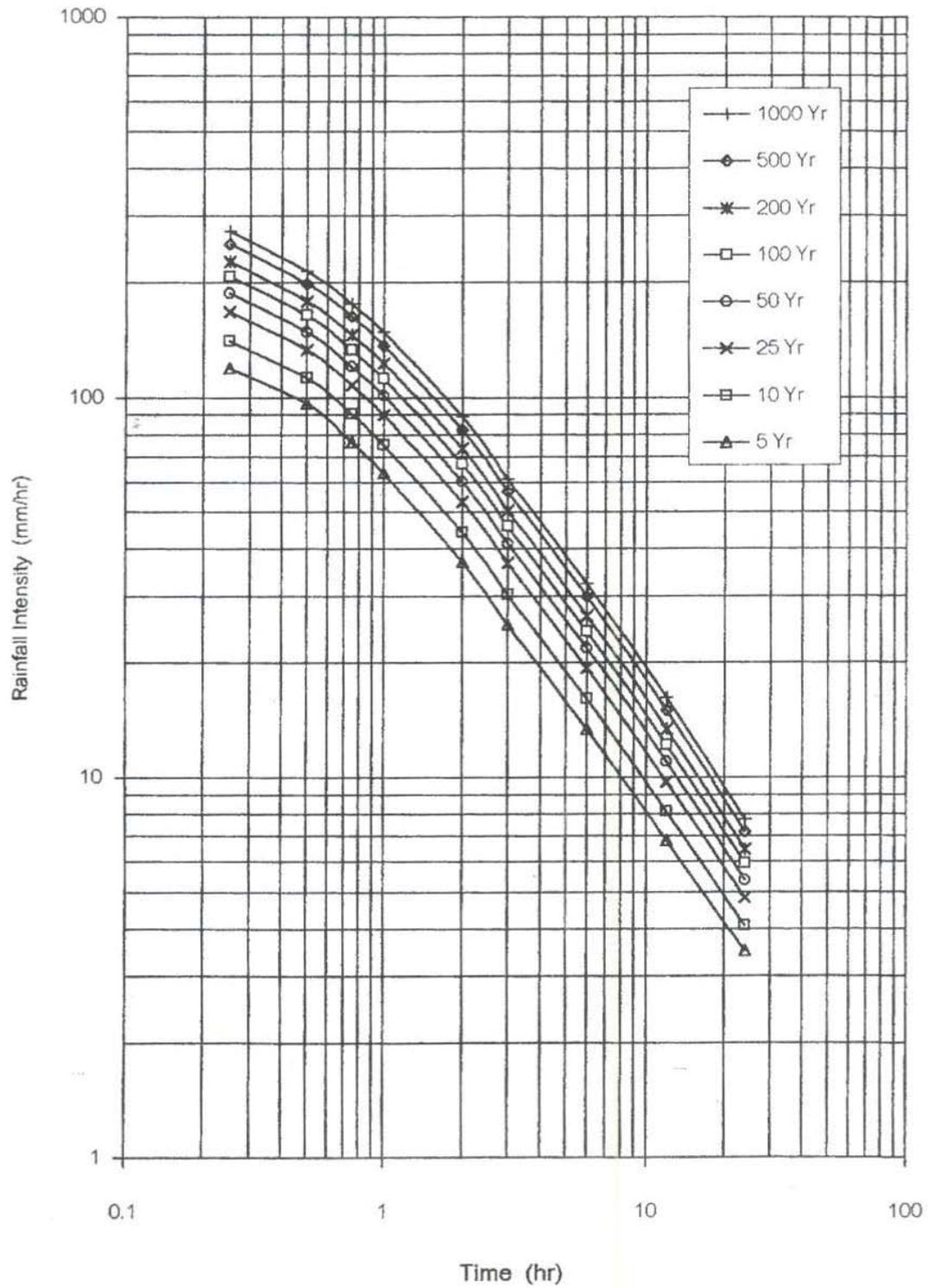
Frequency Analysis of Maximum Rainfall for Each Period at A.San Pa Tong C.Chiang Mai(P.41)
(1979-1990)

Time (hr)	Rainfall Amount (mm)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	21.9	30.0	35.3	42.0	47.0	52.0	56.9	63.4	68.4
0.5	36.0	48.4	56.5	66.9	74.5	82.1	89.7	99.7	107.2
0.75	41.8	57.5	67.9	81.0	90.8	100.4	110.0	122.7	132.3
1	45.7	63.6	75.4	90.3	101.3	112.3	123.3	137.7	148.6
2	51.8	73.8	88.3	106.7	120.3	133.8	147.3	165.0	178.5
3	53.3	76.0	91.0	109.9	124.0	137.9	151.8	170.1	184.0
6	57.0	80.7	96.5	116.4	131.1	145.8	160.4	179.6	194.2
12	58.4	82.0	97.6	117.3	132.0	146.5	161.0	180.1	194.6
24	62.3	83.7	97.9	115.9	129.2	142.4	155.6	172.9	186.1

Time (hr)	Rainfall Intensity (mm/hr)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	87.6	119.8	141.2	168.1	188.1	207.9	227.7	253.8	273.5
0.5	72.1	96.8	113.1	133.7	149.0	164.2	179.4	199.3	214.4
0.75	55.8	76.7	90.5	108.0	121.0	133.9	146.7	163.6	176.4
1	45.7	63.6	75.4	90.3	101.3	112.3	123.3	137.7	148.6
2	25.9	36.9	44.1	53.3	60.1	66.9	73.6	82.5	89.2
3	17.8	25.3	30.3	36.6	41.3	46.0	50.6	56.7	61.3
6	9.5	13.5	16.1	19.4	21.9	24.3	26.7	29.9	32.4
12	4.9	6.8	8.1	9.8	11.0	12.2	13.4	15.0	16.2
24	2.6	3.5	4.1	4.8	5.4	5.9	6.5	7.2	7.8

Rainfall Intensity-Duration-Frequency Curve at A.San Pa Tong C.Chiang Mai(P.41)

(1979-1990)



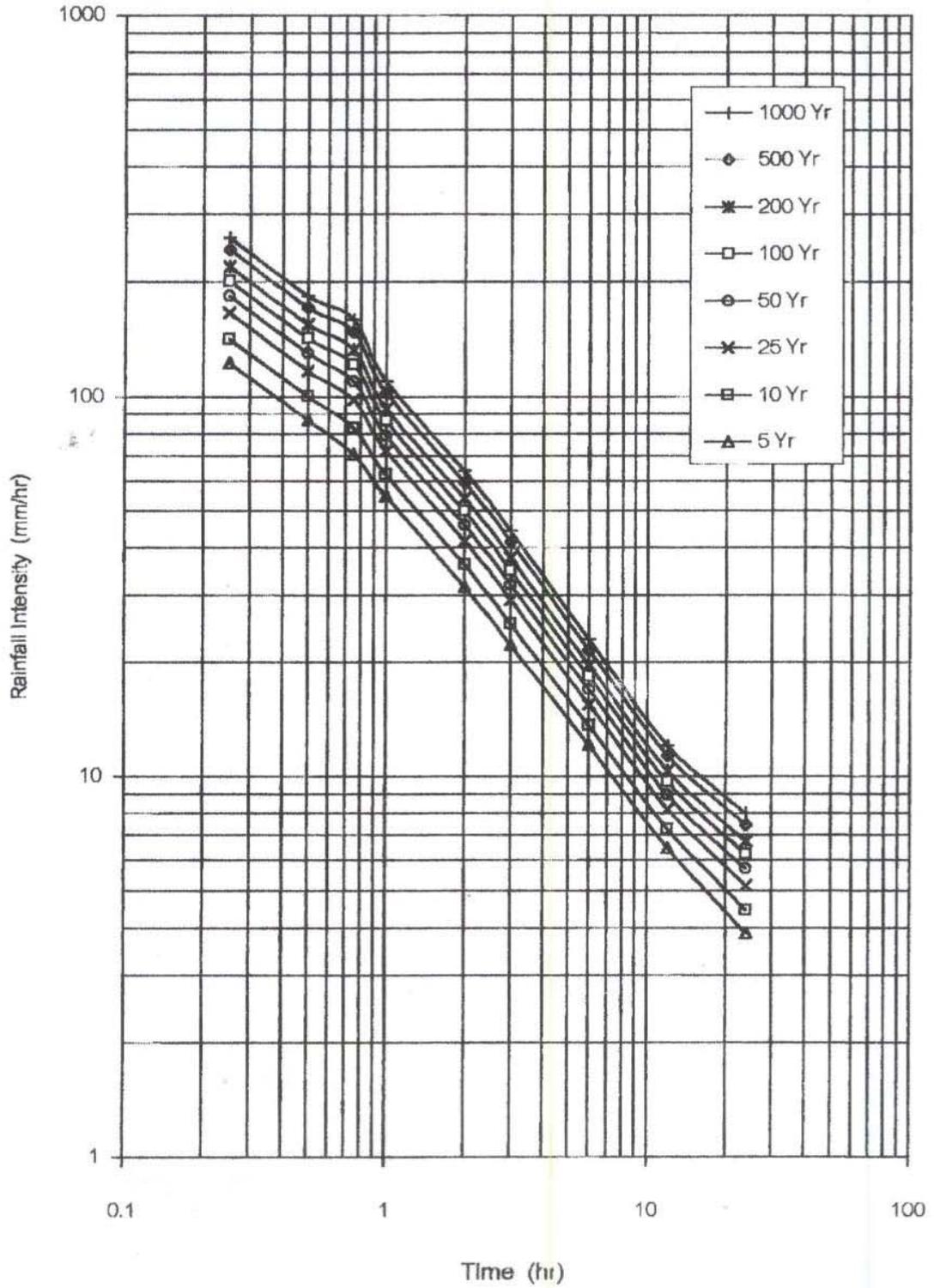
Frequency Analysis of Maximum Rainfall for Each Period at A.Muang C.Lampang

(1958-1993)

Time (hr)	Rainfall Amount (mm)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	23.6	30.8	35.5	41.5	45.9	50.4	54.8	60.6	65.0
0.5	33.1	43.4	50.1	58.7	65.1	71.4	77.6	85.9	92.2
0.75	38.9	52.9	62.1	73.8	82.4	91.0	99.6	110.9	119.4
1	43.2	54.7	62.3	72.0	79.1	86.3	93.3	102.7	109.7
2	49.8	63.3	72.2	83.5	91.8	100.2	108.4	119.3	127.6
3	53.0	66.8	75.9	87.5	96.0	104.5	113.0	124.2	132.6
6	59.1	72.7	81.8	93.2	101.6	110.0	118.4	129.4	137.7
12	63.8	77.8	87.2	99.0	107.7	116.4	125.0	136.4	145.1
24	71.7	92.6	106.4	123.9	136.9	149.8	162.6	179.5	192.3

Time (hr)	Rainfall Intensity (mm/hr)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	94.4	123.0	142.0	166.0	183.8	201.4	219.0	242.2	259.8
0.5	66.3	86.7	100.3	117.4	130.1	142.7	155.3	171.8	184.4
0.75	51.9	70.5	82.8	98.4	109.9	121.3	132.8	147.8	159.2
1	43.2	54.7	62.3	72.0	79.1	86.3	93.3	102.7	109.7
2	24.9	31.6	36.1	41.7	45.9	50.1	54.2	59.7	63.8
3	17.7	22.3	25.3	29.2	32.0	34.8	37.7	41.4	44.2
6	9.9	12.1	13.6	15.5	16.9	18.3	19.7	21.6	23.0
12	5.3	6.5	7.3	8.2	9.0	9.7	10.4	11.4	12.1
24	3.0	3.9	4.4	5.2	5.7	6.2	6.8	7.5	8.0

Rainfall Intensity-Duration-Frequency Curve at **A.Muang C.Lampang**
(1958-1993)

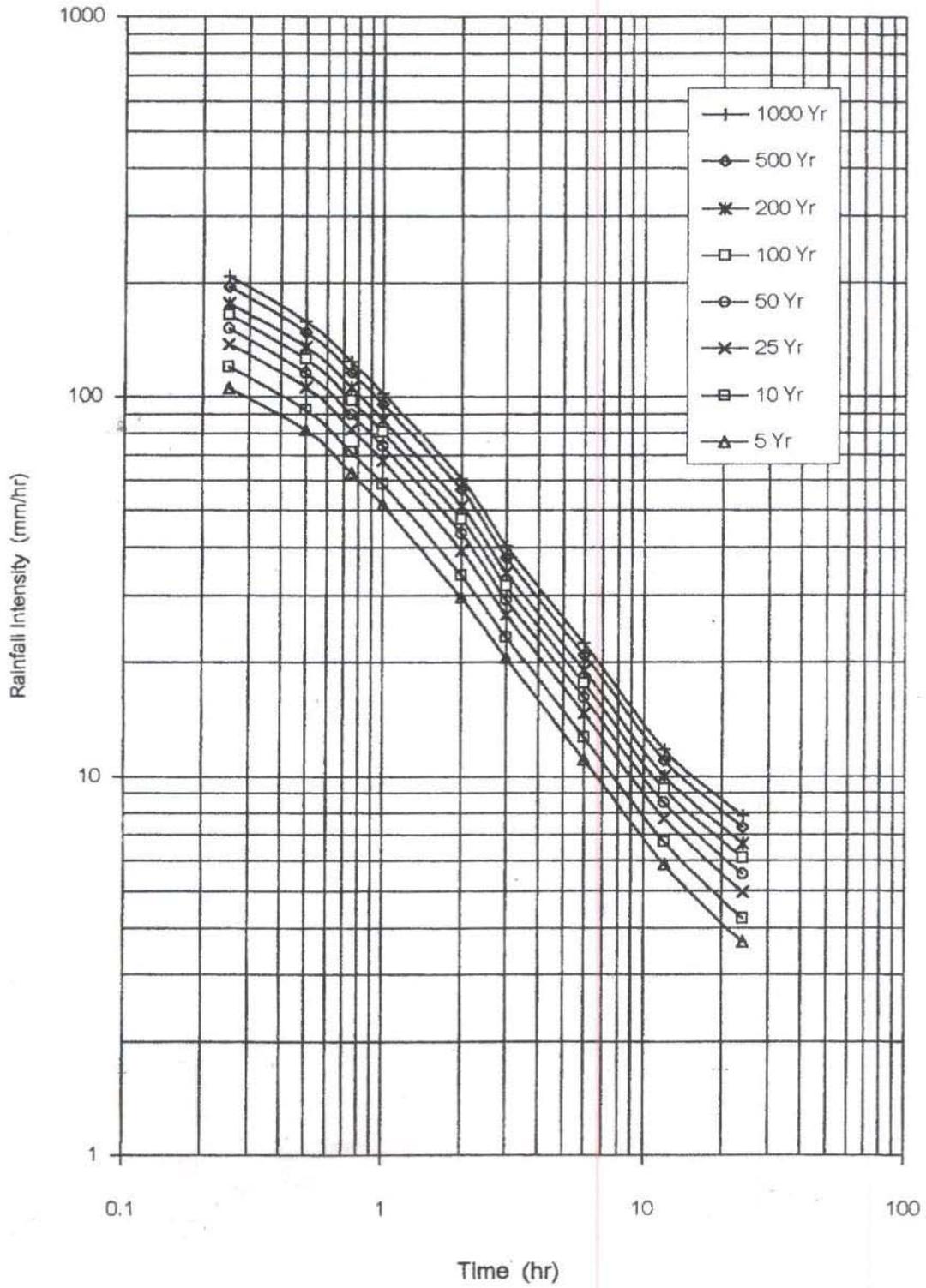


Frequency Analysis of Maximum Rainfall for Each Period at A.Chae Hom C.Lampang(W.16)
(1975-1994)

Time (hr)	Rainfall Amount (mm)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	21.0	26.4	30.0	34.5	37.9	41.3	44.4	49.0	52.3
0.5	32.9	40.9	46.3	53.0	58.0	62.9	67.9	74.4	79.2
0.75	37.7	47.3	53.7	61.7	67.7	73.6	79.5	87.2	93.1
1	41.3	51.9	58.9	67.8	74.3	80.8	87.3	95.9	102.4
2	46.4	59.5	68.1	79.0	87.1	95.2	103.2	113.8	121.7
3	49.0	61.5	69.8	80.3	88.1	95.8	103.5	113.6	121.3
6	52.6	66.8	76.1	88.0	96.8	105.5	114.2	125.6	134.3
12	55.5	70.4	80.2	92.7	101.9	111.1	120.2	132.2	141.3
24	66.7	87.9	101.9	119.5	132.7	145.7	158.7	175.8	188.7

Time (hr)	Rainfall Intensity (mm/hr)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	83.8	105.6	120.0	138.2	151.6	165.0	177.6	196.0	209.3
0.5	65.8	81.9	92.5	106.0	115.9	125.8	135.7	148.7	158.5
0.75	50.2	63.1	71.5	82.3	90.2	98.1	106.0	116.3	124.2
1	41.3	51.9	58.9	67.8	74.3	80.8	87.3	95.9	102.4
2	23.2	29.7	34.1	39.5	43.6	47.6	51.6	56.9	60.9
3	16.3	20.5	23.3	26.8	29.4	31.9	34.5	37.9	40.4
6	8.8	11.1	12.7	14.7	16.1	17.6	19.0	20.9	22.4
12	4.6	5.9	6.7	7.7	8.5	9.3	10.0	11.0	11.8
24	2.8	3.7	4.2	5.0	5.5	6.1	6.6	7.3	7.9

Rainfall Intensity-Duration-Frequency Curve at A.Chae Hom C.Lampang(W.16)
(1975-1994)



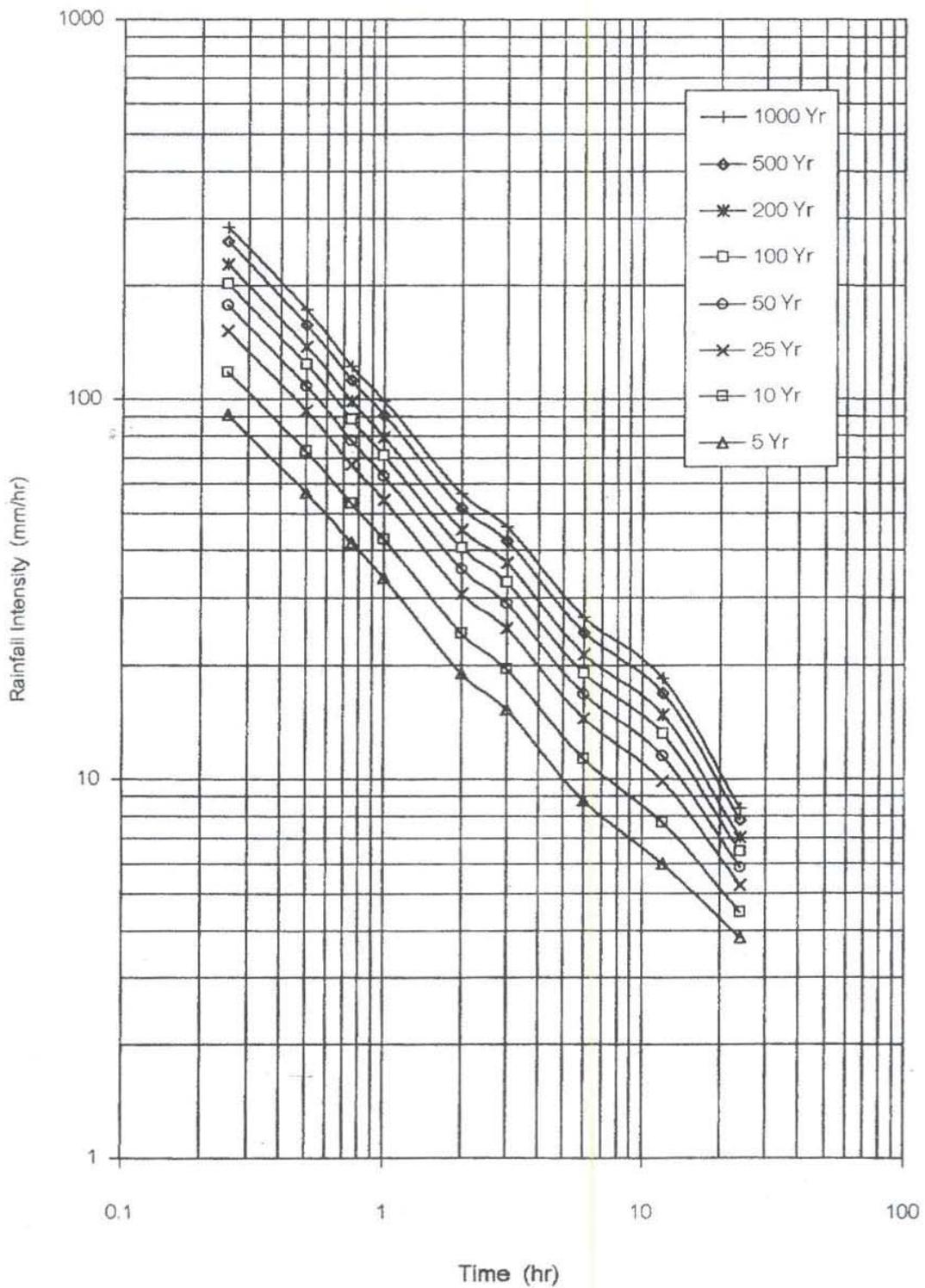
Frequency Analysis of Maximum Rainfall for Each Period at A.Mae Sariang C.Mae Hong Son
(1975-1983,1986-1993)

Time (hr)	Rainfall Amount (mm)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	12.6	22.8	29.6	38.1	44.4	50.7	57.0	65.3	71.1
0.5	16.3	28.5	36.6	46.8	54.4	61.9	69.4	79.3	86.8
0.75	18.9	31.6	40.0	50.7	58.5	66.4	74.2	84.4	92.2
1	20.3	34.0	43.0	54.5	63.0	71.4	79.8	90.8	99.2
2	22.3	38.1	48.6	61.8	71.6	81.4	91.1	103.9	113.6
3	26.1	45.7	58.7	75.1	87.2	99.3	111.3	127.2	139.2
6	30.0	52.6	67.5	86.4	100.4	114.3	128.2	146.4	160.2
12	40.6	71.8	92.4	118.5	137.9	157.1	176.3	201.5	220.6
24	68.9	91.9	107.1	126.3	140.5	154.6	168.7	187.3	201.3

Time (hr)	Rainfall Intensity (mm/hr)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	50.3	91.2	118.2	152.4	177.7	202.8	227.9	261.0	284.2
0.5	32.6	57.0	73.2	93.6	108.8	123.8	138.8	158.6	173.5
0.75	25.2	42.2	53.4	67.5	78.1	88.5	98.9	112.6	123.0
1	20.3	34.0	43.0	54.5	63.0	71.4	79.8	90.8	99.2
2	11.1	19.1	24.3	30.9	35.8	40.7	45.5	51.9	56.8
3	8.7	15.2	19.6	25.0	29.1	33.1	37.1	42.4	46.4
6	5.0	8.8	11.3	14.4	16.7	19.1	21.4	24.4	26.7
12	3.4	6.0	7.7	9.9	11.5	13.1	14.7	16.8	18.4
24	2.9	3.8	4.5	5.3	5.9	6.4	7.0	7.8	8.4

Rainfall Intensity-Duration-Frequency Curve at A.Mae Sariang C.Mae Hong Son

(1975-1983,1986-1993)



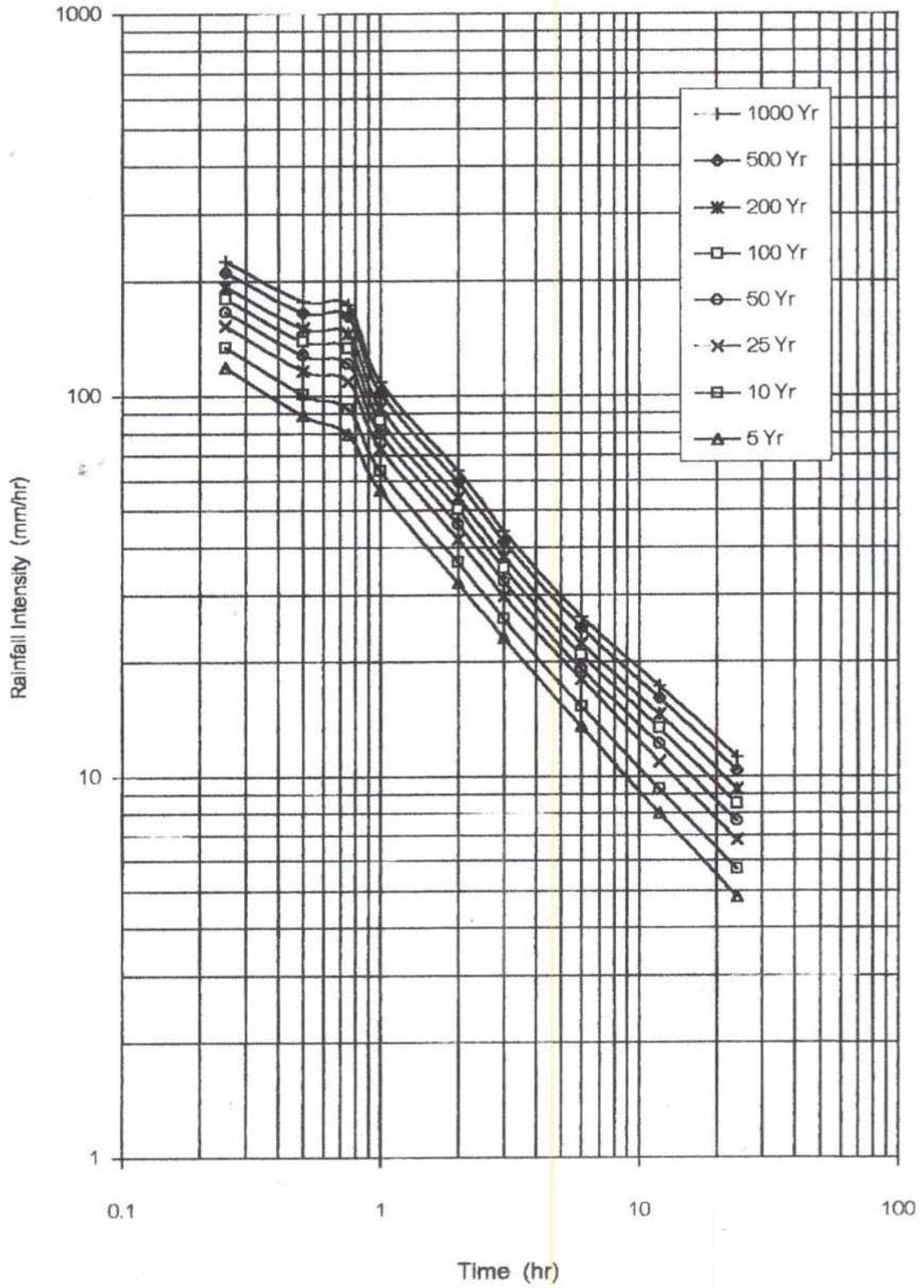
Frequency Analysis of Maximum Rainfall for Each Period at A.Muang C.Nan
(1964-1983,1986-1993)

Time (hr)	Rainfall Amount (mm)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	24.3	29.9	33.6	38.2	41.7	45.2	48.6	53.1	56.5
0.5	35.3	44.6	50.7	58.4	64.1	69.8	75.5	82.9	88.6
0.75	44.8	59.7	69.5	82.0	91.2	100.4	109.5	121.6	130.7
1	45.4	56.4	63.8	73.0	79.9	86.7	93.5	102.4	109.2
2	51.0	64.3	73.0	84.1	92.3	100.4	108.6	119.3	127.4
3	56.0	69.3	78.1	89.2	97.4	105.6	113.8	124.6	132.7
6	64.5	80.6	91.3	107.7	114.7	124.6	134.5	147.5	157.4
12	72.8	96.1	111.4	130.9	145.3	159.6	173.9	192.7	206.9
24	83.4	115.6	136.8	163.7	183.6	203.4	223.2	249.2	268.8

Time (hr)	Rainfall Intensity (mm/hr)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	97.1	119.4	134.2	153.0	166.8	180.6	194.4	212.4	226.2
0.5	70.6	89.1	101.3	116.8	128.2	139.6	150.9	165.9	177.2
0.75	59.7	79.6	92.7	109.3	121.6	133.9	146.1	162.1	174.3
1	45.4	56.4	63.8	73.0	79.9	86.7	93.5	102.4	109.2
2	25.5	32.1	36.5	42.0	46.1	50.2	54.3	59.6	63.7
3	18.7	23.1	26.0	29.7	32.5	35.2	37.9	41.5	44.2
6	10.8	13.4	15.2	18.0	19.1	20.8	22.4	24.6	26.2
12	6.1	8.0	9.3	10.9	12.1	13.3	14.5	16.1	17.2
24	3.5	4.8	5.7	6.8	7.7	8.5	9.3	10.4	11.2

Rainfall Intensity-Duration-Frequency Curve at A.Muang C.Nan

(1964-1983,1986-1993)



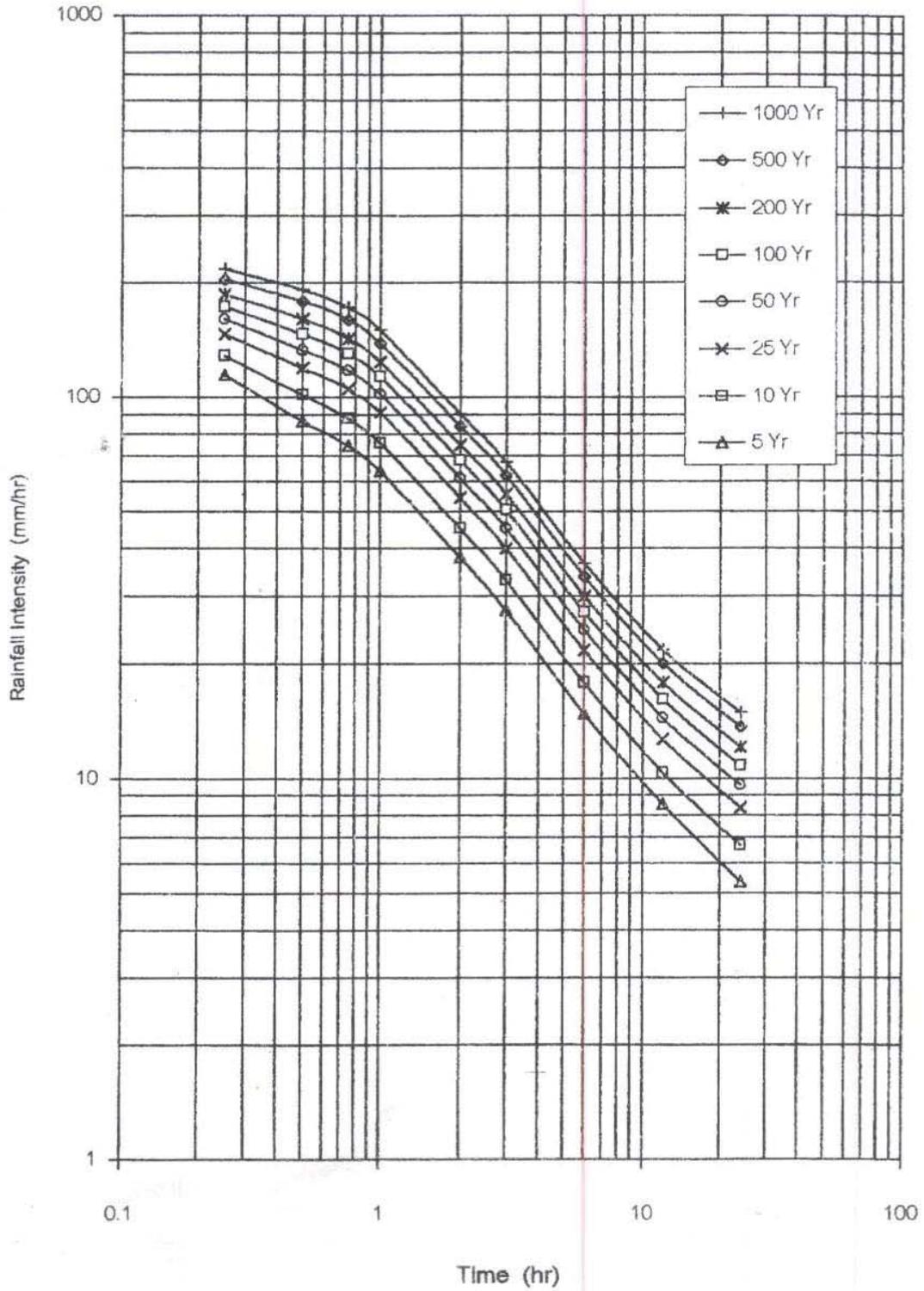
Frequency Analysis of Maximum Rainfall for Each Period at A.Sa C.Nan(N.42)
(1977-1994)

Time (hr)	Rainfall Amount (mm)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	23.4	28.7	32.3	36.8	40.1	43.5	46.8	51.1	54.4
0.5	32.5	43.5	50.8	60.0	66.9	73.6	80.4	89.3	96.1
0.75	40.7	56.1	66.3	79.2	88.7	98.2	107.6	120.1	129.5
1	45.8	64.0	76.1	91.3	102.6	113.8	124.9	139.7	150.8
2	54.0	76.1	90.7	109.2	122.9	136.5	150.1	168.0	181.5
3	57.6	82.8	99.4	120.5	136.1	151.6	167.1	187.4	202.8
6	61.6	89.0	107.2	130.1	147.1	163.9	180.8	202.9	219.7
12	69.5	102.6	124.6	152.4	172.9	193.4	213.8	240.6	260.9
24	80.3	128.4	160.3	200.5	230.3	259.9	289.4	328.4	357.8

Time (hr)	Rainfall Intensity (mm/hr)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	93.4	115.0	129.2	147.2	160.6	173.8	187.0	204.5	217.6
0.5	64.9	87.0	101.6	120.0	133.7	147.3	160.8	178.7	192.2
0.75	54.3	74.8	88.4	105.5	118.3	130.9	143.5	160.1	172.7
1	45.8	64.0	76.1	91.3	102.6	113.8	124.9	139.7	150.8
2	27.0	38.1	45.4	54.6	61.5	68.3	75.0	84.0	90.8
3	19.2	27.6	33.1	40.2	45.4	50.5	55.7	62.5	67.6
6	10.3	14.8	17.9	21.7	24.5	27.3	30.1	33.8	36.6
12	5.8	8.6	10.4	12.7	14.4	16.1	17.8	20.1	21.7
24	3.3	5.4	6.7	8.4	9.6	10.8	12.1	13.7	14.9

Rainfall Intensity-Duration-Frequency Curve at A.Sa C.Nan(N.42)

(1977-1994)



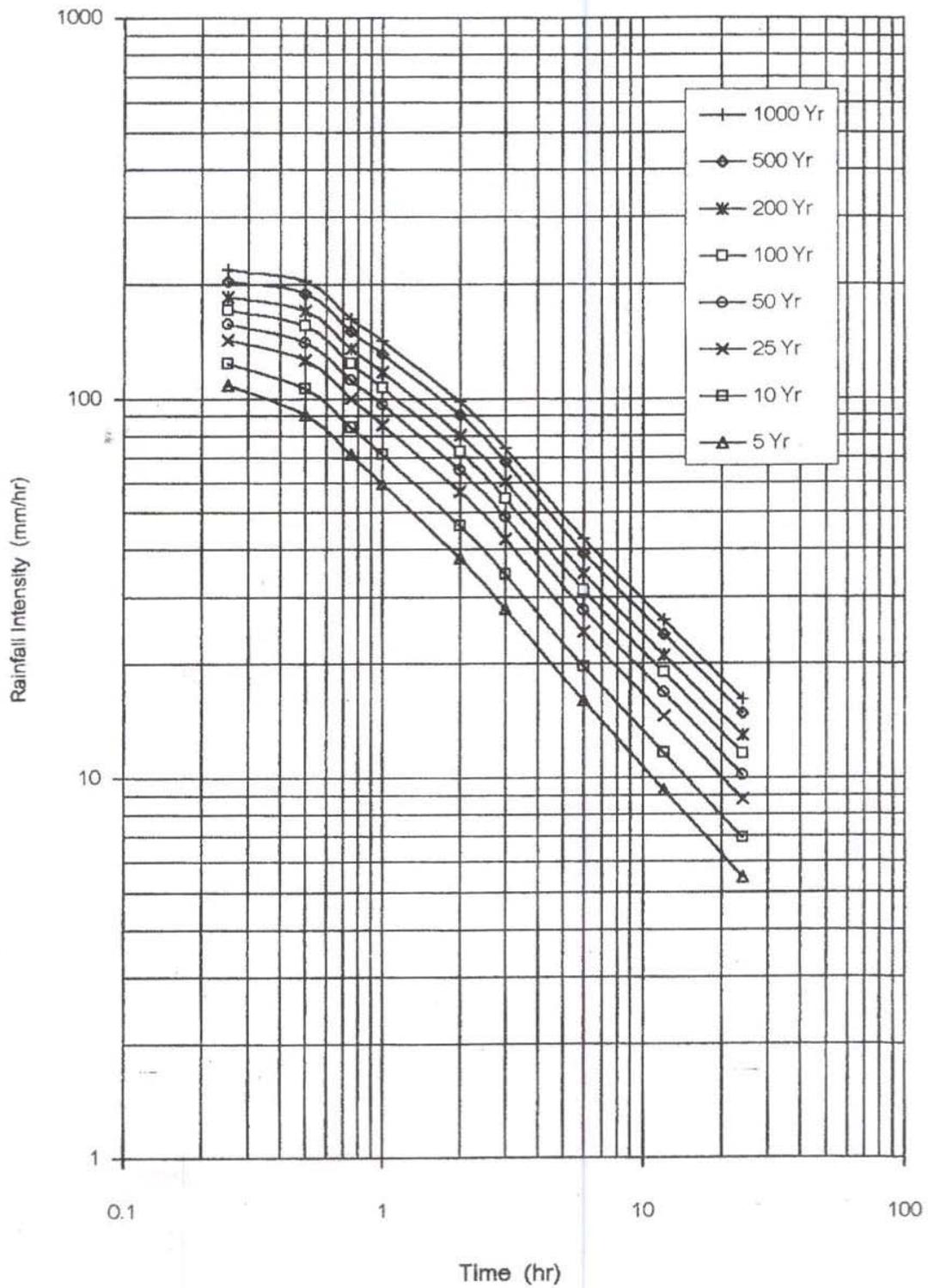
Frequency Analysis of Maximum Rainfall for Each Period at A.Sa C.Nan(N.35)
(1978-1991)

Time (hr)	Rainfall Amount (mm)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	21.4	27.2	31.0	35.9	39.5	43.0	46.6	51.2	54.8
0.5	33.5	45.4	53.3	63.3	70.7	78.0	85.4	95.0	102.3
0.75	39.2	53.7	63.2	75.3	84.2	93.1	102.0	113.6	122.5
1	42.4	59.7	71.2	85.7	96.5	107.2	117.8	131.8	142.5
2	50.5	75.8	92.5	113.7	129.4	145.0	160.5	181.0	196.5
3	54.8	83.9	103.2	127.6	145.6	163.6	181.5	205.0	222.9
6	62.5	96.0	118.2	146.2	166.9	187.6	208.1	235.2	255.7
12	69.0	111.4	139.4	174.9	201.2	227.3	253.4	287.7	313.6
24	77.8	131.3	166.7	211.4	244.6	277.5	310.4	353.7	386.4

Time (hr)	Rainfall Intensity (mm/hr)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	85.7	108.8	124.2	143.5	157.8	172.0	186.2	205.0	219.1
0.5	66.9	90.8	106.6	126.6	141.4	156.1	170.7	190.0	204.6
0.75	52.3	71.5	84.3	100.3	112.3	124.1	135.9	151.5	163.3
1	42.4	59.7	71.2	85.7	96.5	107.2	117.8	131.8	142.5
2	25.2	37.9	46.3	56.8	64.7	72.5	80.3	90.5	98.2
3	18.3	28.0	34.4	42.5	48.5	54.5	60.5	68.3	74.3
6	10.4	16.0	19.7	24.4	27.8	31.3	34.7	39.2	42.6
12	5.7	9.3	11.6	14.6	16.8	18.9	21.1	24.0	26.1
24	3.2	5.5	6.9	8.8	10.2	11.6	12.9	14.7	16.1

Rainfall Intensity-Duration-Frequency Curve at A.Sa C.Nan(N.35)

(1978-1991)



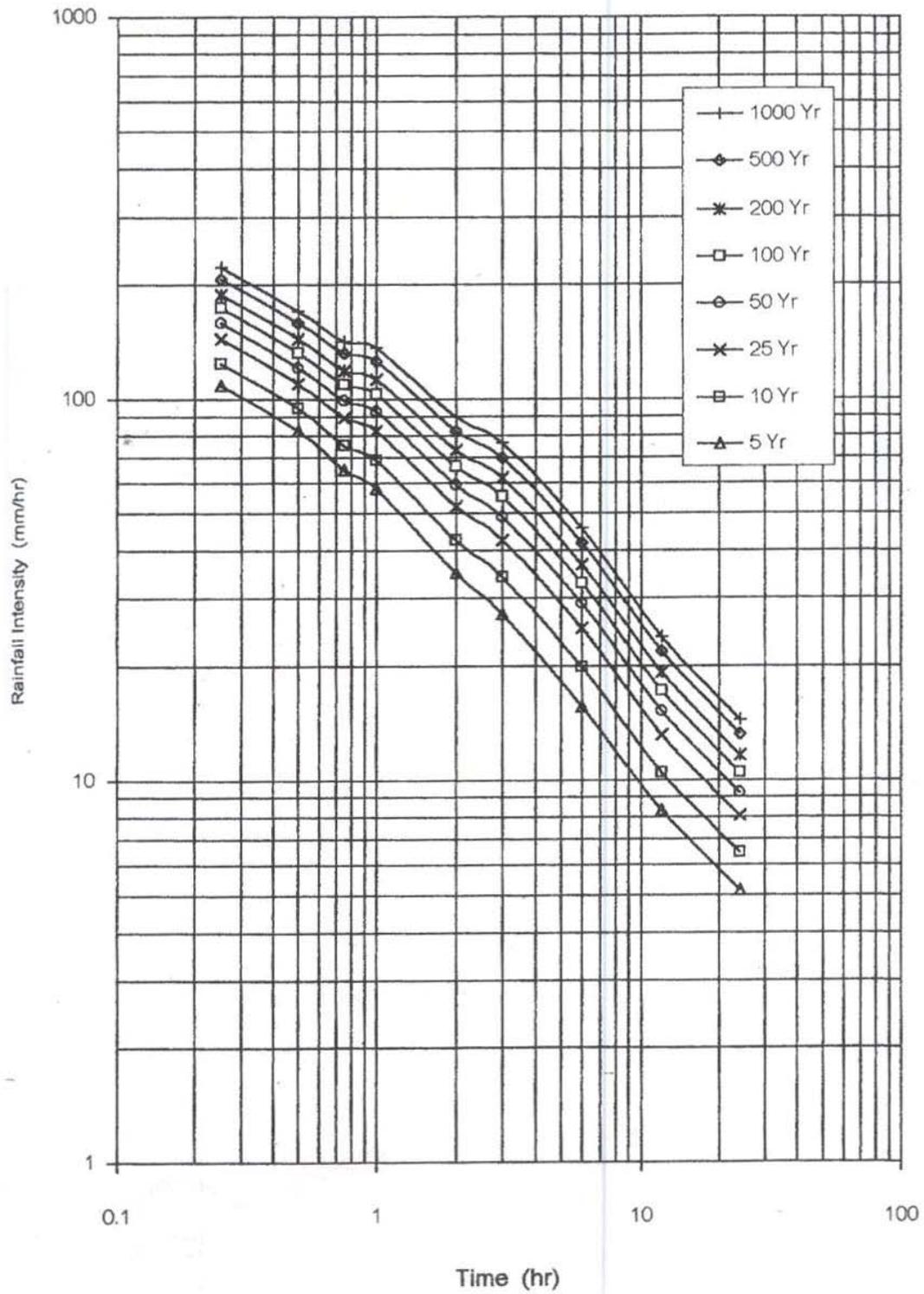
Frequency Analysis of Maximum Rainfall for Each Period at A.Song C.Phræ(Y.20)
(1974-1993)

Time (hr)	Rainfall Amount (mm)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	21.3	27.2	31.2	36.1	39.8	43.5	47.1	52.0	55.6
0.5	32.1	41.3	47.4	55.1	60.8	66.5	72.2	79.6	85.3
0.75	36.5	48.7	56.8	67.0	74.6	82.1	89.7	99.6	107.0
1	41.7	58.2	69.1	82.9	93.1	103.3	113.4	126.7	136.8
2	47.3	70.3	85.5	104.7	119.0	133.1	147.2	165.8	179.9
3	51.0	82.0	102.5	128.4	147.6	166.7	185.7	210.7	229.7
6	55.6	93.7	118.9	150.8	174.4	197.9	221.2	252.1	275.4
12	61.1	100.0	125.8	158.4	182.5	206.5	230.4	261.9	285.8
24	76.9	123.7	154.6	193.7	222.7	251.5	280.2	318.1	346.7

Time (hr)	Rainfall Intensity (mm/hr)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	85.0	108.8	124.6	144.5	159.3	173.9	188.6	207.8	222.4
0.5	64.1	82.6	94.8	110.2	121.7	133.0	144.3	159.3	170.6
0.75	48.6	64.9	75.7	89.4	99.5	109.5	119.5	132.7	142.7
1	41.7	58.2	69.1	82.9	93.1	103.3	113.4	126.7	136.8
2	23.7	35.1	42.7	52.3	59.5	66.6	73.6	82.9	89.9
3	17.0	27.3	34.2	42.8	49.2	55.6	61.9	70.2	76.6
6	9.3	15.6	19.8	25.1	29.1	33.0	36.9	42.0	45.9
12	5.1	8.3	10.5	13.2	15.2	17.2	19.2	21.8	23.8
24	3.2	5.2	6.4	8.1	9.3	10.5	11.7	13.3	14.4

Rainfall Intensity-Duration-Frequency Curve at A.Song C.Phrae(Y.20)

(1974-1993)

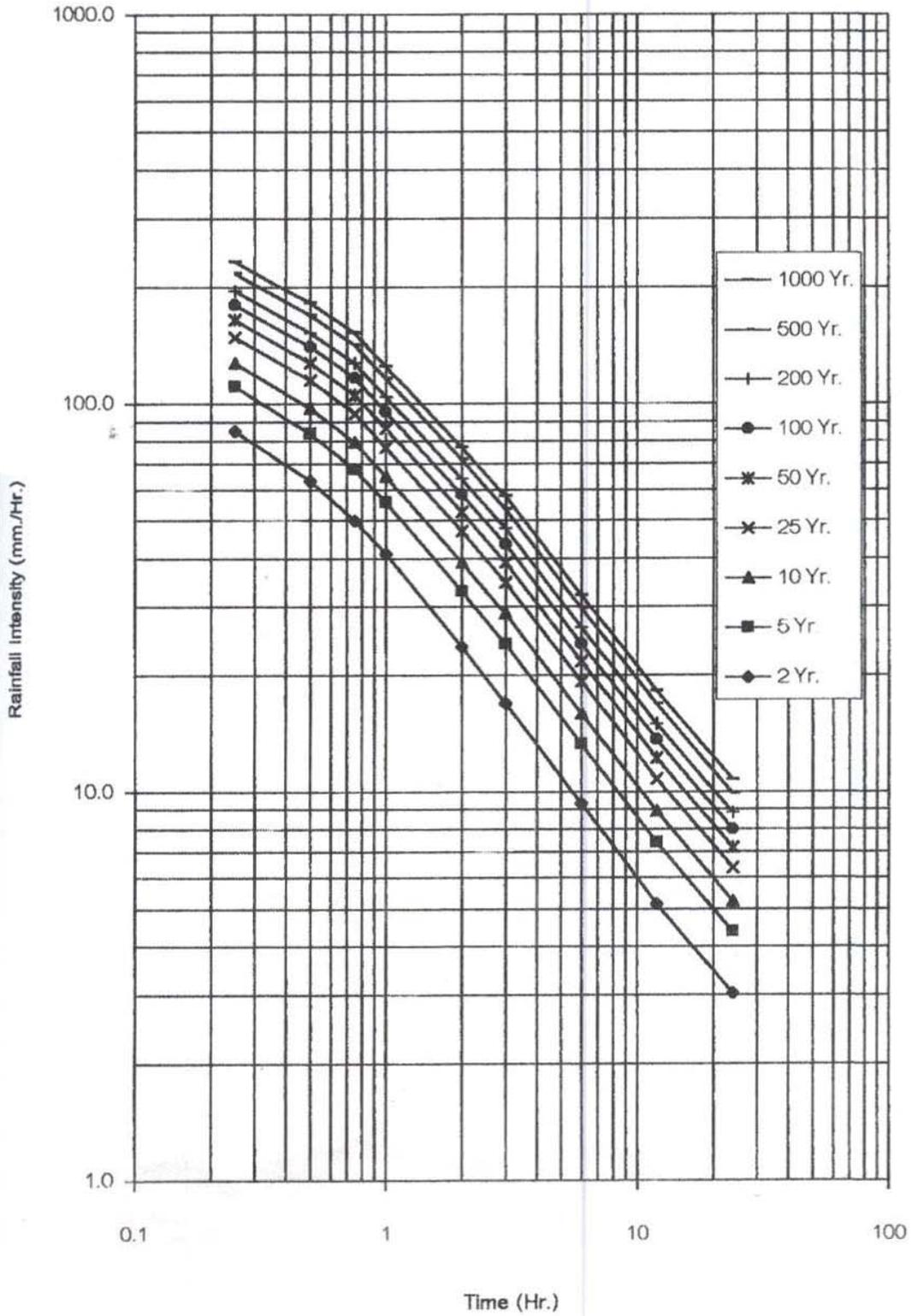


Average Value of Frequency Analysis of Maximum Rainfall for Each Period in Upper Northern Part

Time (hr)	Rainfall Amount (mm)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	21.3	27.7	32.0	37.3	41.3	45.3	49.2	54.4	58.3
0.5	31.7	42.0	48.9	57.5	63.9	70.3	76.7	85.0	91.3
0.75	37.6	50.9	59.8	71.0	79.3	87.5	95.7	106.6	114.8
1	41.2	55.7	65.3	77.5	86.5	95.4	104.4	116.1	125.0
2	47.3	66.0	78.3	93.9	105.5	117.0	128.5	143.6	155.0
3	50.9	72.2	86.3	104.1	117.4	130.5	143.6	160.9	173.9
6	56.0	79.7	95.4	115.5	130.0	144.6	159.1	178.3	192.8
12	61.7	88.8	106.8	129.5	146.3	163.1	179.7	201.7	218.3
24	72.7	104.7	125.8	152.6	172.4	192.1	211.8	237.7	257.2

Time (hr)	Rainfall Intensity (mm/hr)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	85.3	110.9	127.9	149.3	165.2	181.0	196.7	217.5	233.0
0.5	63.4	84.1	97.8	115.1	127.9	140.6	153.3	170.0	182.7
0.75	50.1	67.9	79.7	94.7	105.7	116.7	127.7	142.1	153.0
1	41.2	55.7	65.3	77.5	86.5	95.4	104.4	116.1	125.0
2	23.7	33.0	39.2	47.0	52.8	58.5	64.2	71.8	77.5
3	17.0	24.1	28.8	34.7	39.1	43.5	47.9	53.6	58.0
6	9.3	13.3	15.9	19.3	21.7	24.1	26.5	29.7	32.1
12	5.1	7.4	8.9	10.8	12.2	13.6	15.0	16.8	18.2
24	3.0	4.4	5.2	6.4	7.2	8.0	8.8	9.9	10.7

Rainfall Intensity - Duration - Frequency Average Curve of
Upper Northern Part



ตารางที่ 2. รายชื่อสถานีฝนที่ใช้ในการศึกษาของจังหวัดต่างๆในภาคเหนือตอนล่าง

รหัสสถานี	ชื่อสถานี	อำเภอ	จังหวัด	ละติจูด	ลองจิจูด	ช่วงเวลาข้อมูล	หน่วยงาน
12061	P.26	เมือง	กำแพงเพชร	16° 26' 54"	99° 25' 57"	1972-1967,1994	กรมชลประทาน
12091	P.35	คลองขลุง	กำแพงเพชร	16° 04' 22"	99° 24' 18"	1976-1994	กรมชลประทาน
36013	อ.เมือง	เมือง	เพชรบูรณ์	16° 25' 00"	101° 09' 35"	1986-1995	กรมอุตุนิยมวิทยา
39013	อ.เมือง	เมือง	พิษณุโลก	16° 49' 24"	100° 15' 45"	1954-1993	กรมอุตุนิยมวิทยา
39091	N.24	วังทอง	พิษณุโลก	16° 50' 35"	100° 31' 20"	1968-1990	กรมชลประทาน
39161	N.40	วัดโบสถ์	พิษณุโลก	17° 13' 14"	100° 21' 10"	1979-1994	กรมชลประทาน
59022	Y.6	ศรีสังขาลย์	สุโขทัย	17° 30' 55"	99° 45' 52"	1965-1994	กรมอุตุนิยมวิทยา
59131	Y.14	ศรีสังขาลย์	สุโขทัย	17° 35' 42"	99° 43' 08"	1959-1989	กรมชลประทาน
63013	อ.เมือง	เมือง	ตาก	16° 52' 50"	99° 07' 36"	1964-1983,1986-1993	กรมอุตุนิยมวิทยา
63073	เขื่อนภูมิพล	สามเงา	ตาก	17° 14' 30"	99° 03' 45"	1986-1993	กรมอุตุนิยมวิทยา
70013	อ.เมือง	เมือง	อุตรดิตถ์	17° 37' 32"	100° 05' 57"	1961-1975,1980-1993	กรมอุตุนิยมวิทยา
70131	N.16	น้ำปาด	อุตรดิตถ์	17° 44' 24"	100° 42' 00"	1964-1988	กรมชลประทาน

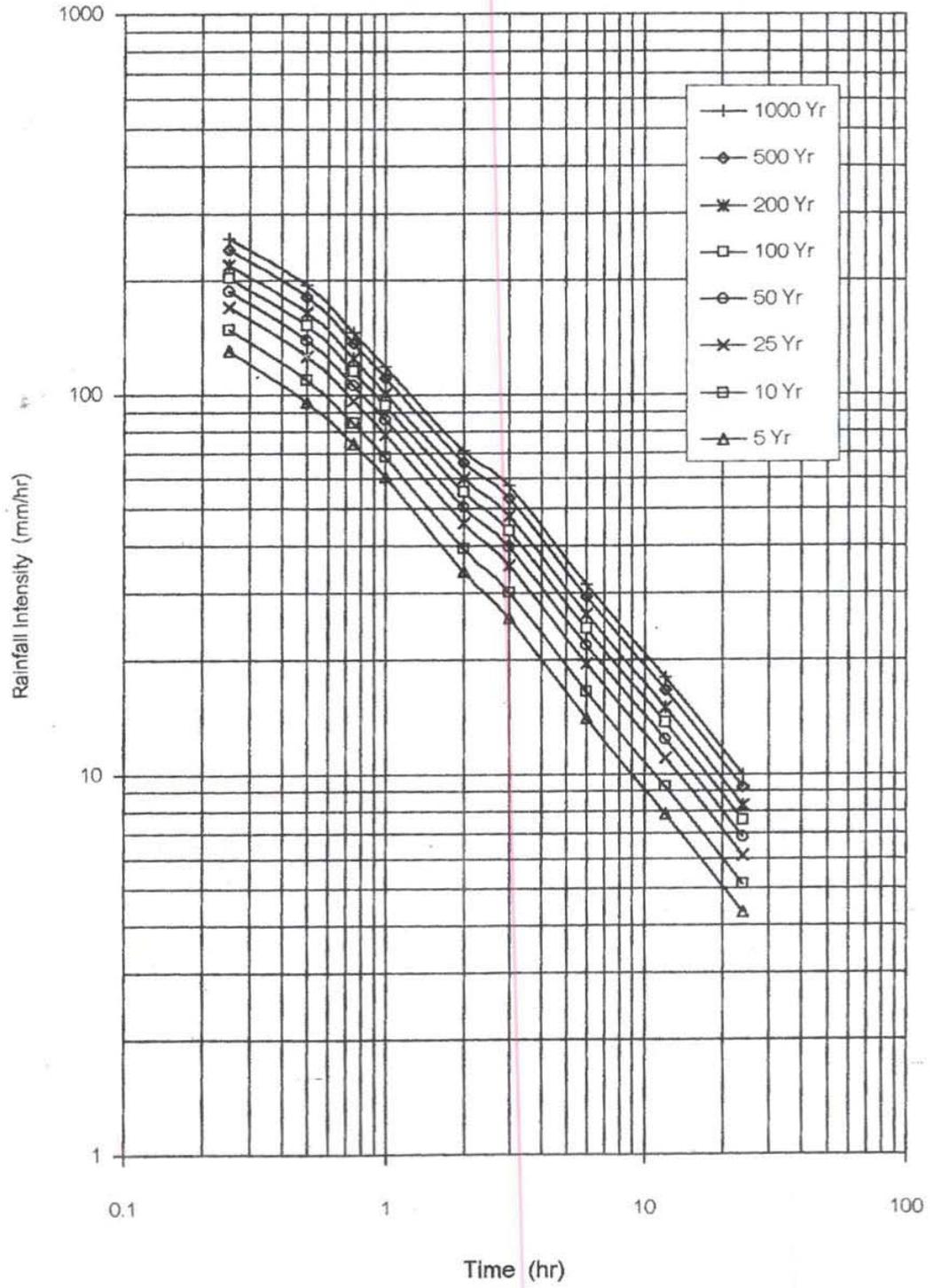
Frequency Analysis of Maximum Rainfall for Each Period at A.Muang C.Kamphang Phet(P.26)
(1967-1987,1994)

Time (hr)	Rainfall Amount (mm)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	26.0	32.7	37.1	42.7	46.8	51.0	55.1	60.5	64.6
0.5	37.5	47.9	54.8	63.4	69.9	76.3	82.6	91.0	97.4
0.75	44.5	55.8	63.3	72.8	79.8	86.8	93.8	102.9	109.9
1	48.5	60.6	68.7	78.9	86.4	93.9	101.3	111.2	118.6
2	53.0	68.6	78.9	91.9	101.5	111.1	120.7	133.3	142.8
3	57.4	77.3	90.5	107.2	119.5	131.8	144.0	160.1	172.3
6	62.0	84.2	98.9	117.4	131.2	144.8	158.4	176.4	189.9
12	69.1	94.4	111.1	132.3	148.0	163.6	179.1	199.6	215.1
24	75.5	104.0	122.8	146.6	164.2	181.7	199.2	222.2	239.6

Time (hr)	Rainfall Intensity (mm/hr)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	103.8	130.6	148.3	170.7	187.4	203.8	220.3	242.0	258.4
0.5	75.0	95.8	109.5	126.8	139.7	152.5	165.2	182.0	194.7
0.75	59.3	74.4	84.4	97.1	106.4	115.7	125.0	137.2	146.5
1	48.5	60.6	68.7	78.9	86.4	93.9	101.3	111.2	118.6
2	26.5	34.3	39.4	45.9	50.8	55.6	60.3	66.6	71.4
3	19.1	25.8	30.2	35.7	39.8	43.9	48.0	53.4	57.4
6	10.3	14.0	16.5	19.6	21.9	24.1	26.4	29.4	31.7
12	5.8	7.9	9.3	11.0	12.3	13.6	14.9	16.6	17.9
24	3.1	4.3	5.1	6.1	6.8	7.6	8.3	9.3	10.0

Rainfall Intensity-Duration-Frequency Curve at A.Muang C.Kamphang Phet(P.26)

(1967-1987,1994)



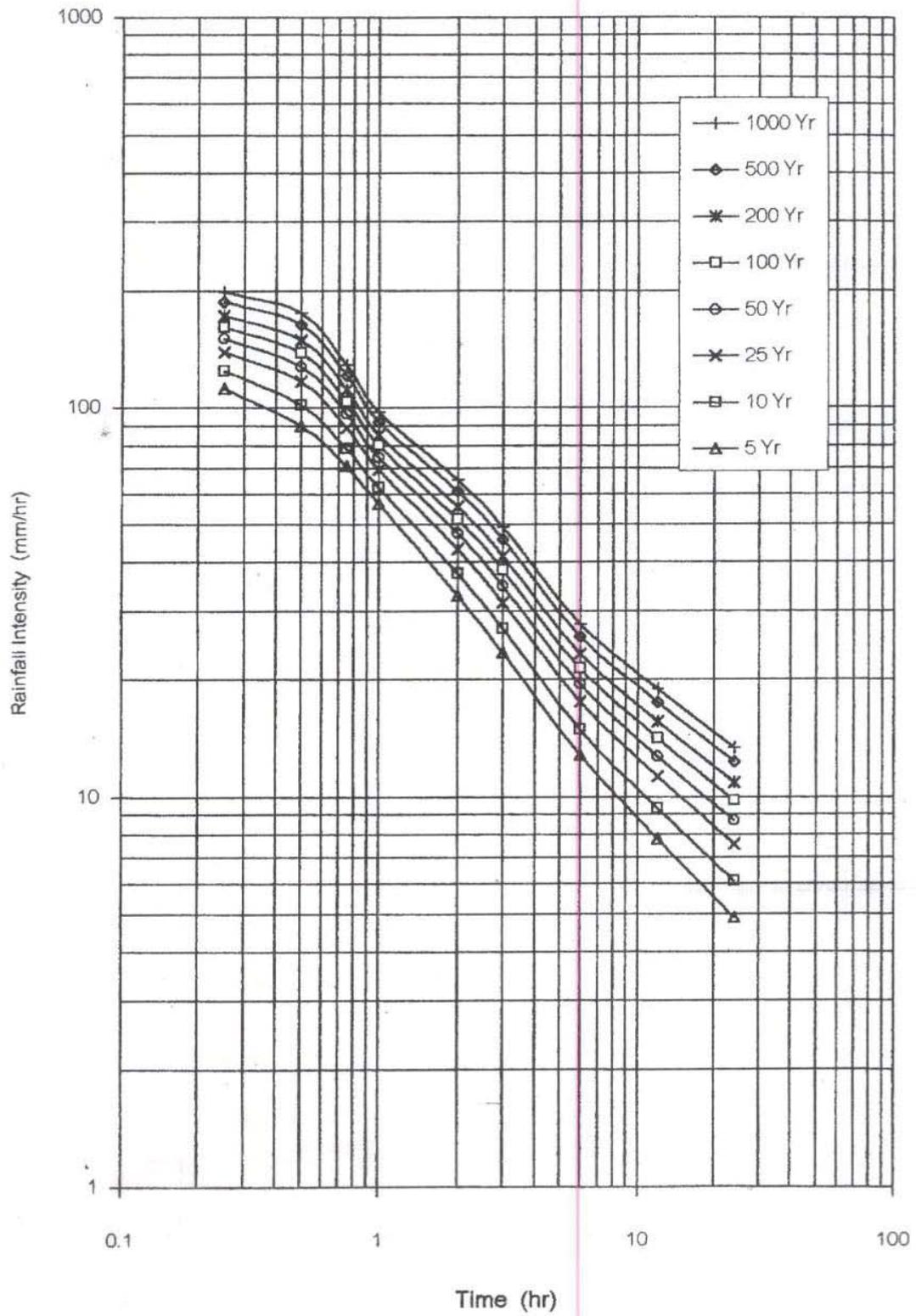
Frequency Analysis of Maximum Rainfall for Each Period at A.Khlong Khlung C.Kamphang Phet(P.35)
(1976-1994)

Time (hr)	Rainfall Amount (mm)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	23.5	28.1	31.1	34.9	37.7	40.5	43.3	47.0	49.8
0.5	36.1	45.0	50.9	58.4	63.9	69.4	74.9	82.1	87.6
0.75	44.0	53.1	59.1	66.7	72.4	78.0	83.6	91.0	96.5
1	47.9	56.5	62.2	69.4	74.8	80.1	85.4	92.3	97.6
2	52.5	66.0	75.0	86.4	94.8	103.2	111.5	122.5	130.8
3	54.3	70.5	81.1	94.6	104.7	114.6	124.5	137.6	147.5
6	58.4	77.1	89.6	105.3	117.0	128.5	140.1	155.3	166.8
12	65.4	93.4	112.0	135.4	152.8	170.1	187.3	210.0	227.2
24	75.1	117.8	146.1	181.9	208.4	234.8	261.0	295.6	321.8

Time (hr)	Rainfall Intensity (mm/hr)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	94.1	112.3	124.3	139.5	150.8	162.0	173.2	187.9	199.1
0.5	72.1	90.0	101.8	116.7	127.8	138.8	149.7	164.2	175.1
0.75	58.6	70.8	78.8	89.0	96.5	104.0	111.4	121.3	128.7
1	47.9	56.5	62.2	69.4	74.8	80.1	85.4	92.3	97.6
2	26.2	33.0	37.5	43.2	47.4	51.6	55.8	61.2	65.4
3	18.1	23.5	27.0	31.5	34.9	38.2	41.5	45.9	49.2
6	9.7	12.9	14.9	17.6	19.5	21.4	23.3	25.9	27.8
12	5.4	7.8	9.3	11.3	12.7	14.2	15.6	17.5	18.9
24	3.1	4.9	6.1	7.6	8.7	9.8	10.9	12.3	13.4

Rainfall Intensity-Duration-Frequency Curve at A.Khlong Khlung C.Kamphang Phet(P.35)

(1976-1994)

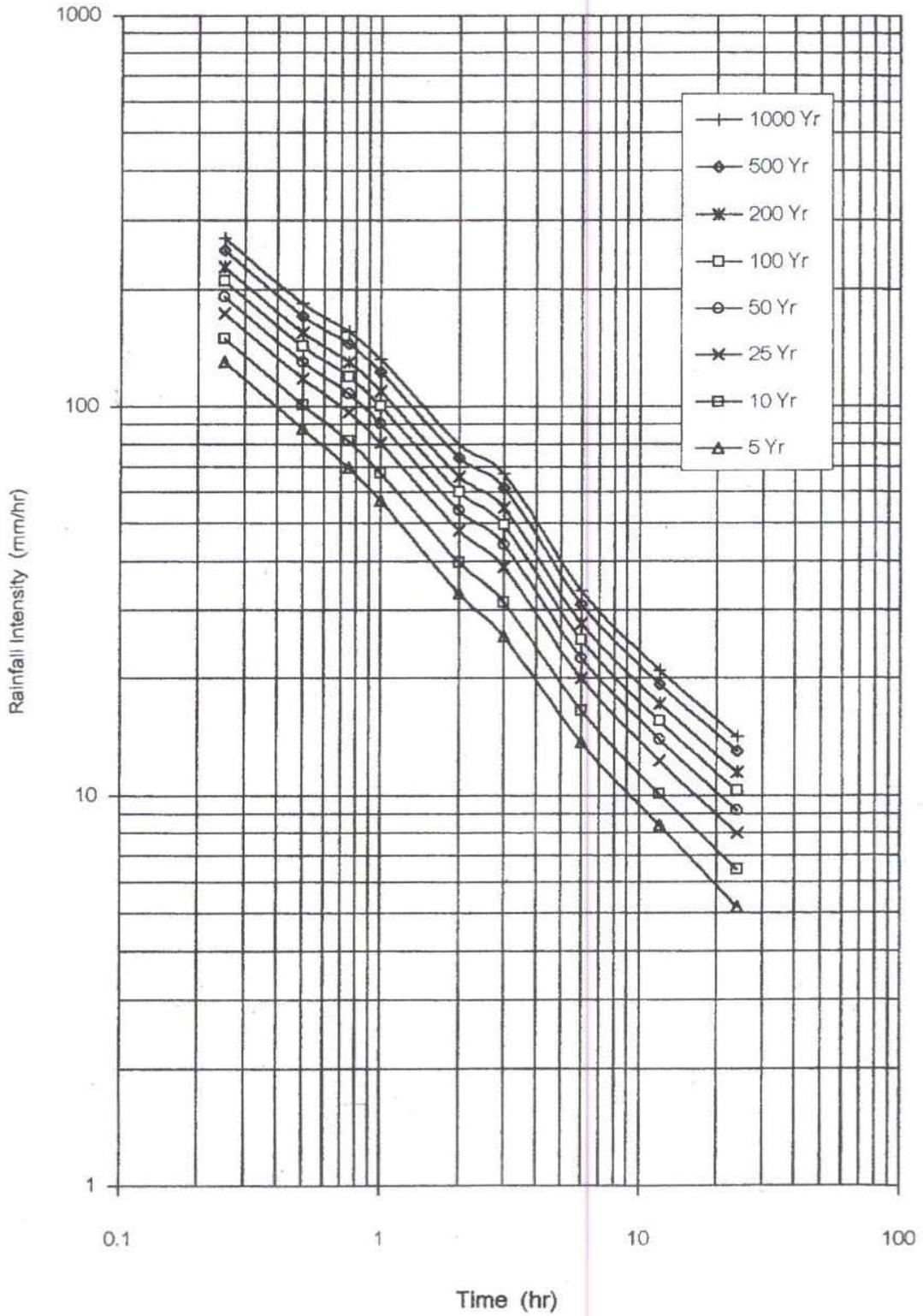


Frequency Analysis of Maximum Rainfall for Each Period at A.Muang C.Phetchbun
(1986-1995)

Time (hr)	Rainfall Amount (mm)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	25.1	32.4	37.3	43.5	48.0	52.6	57.1	63.0	67.5
0.5	33.7	43.7	50.4	58.8	65.1	71.3	77.5	85.6	91.8
0.75	38.5	52.1	61.1	72.4	80.9	89.2	97.5	108.5	116.8
1	41.3	57.1	67.5	80.7	90.4	100.1	109.8	122.6	132.2
2	46.7	66.3	79.4	95.8	108.0	120.1	132.2	148.1	160.2
3	51.1	77.1	94.3	116.0	132.2	148.2	164.2	185.2	201.1
6	57.3	82.5	99.1	120.2	135.8	151.2	166.7	187.0	202.4
12	68.9	100.6	121.5	148.0	167.7	187.2	206.6	232.2	251.6
24	79.4	124.6	154.5	192.3	220.3	248.1	275.9	312.4	340.1

Time (hr)	Rainfall Intensity (mm/hr)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	100.3	129.7	149.2	173.8	192.1	210.2	228.3	252.1	270.2
0.5	67.3	87.5	100.8	117.7	130.2	142.6	154.9	171.3	183.6
0.75	51.4	69.5	81.4	96.6	107.8	118.9	130.0	144.7	155.8
1	41.3	57.1	67.5	80.7	90.4	100.1	109.8	122.6	132.2
2	23.3	33.2	39.7	47.9	54.0	60.1	66.1	74.1	80.1
3	17.0	25.7	31.4	38.7	44.1	49.4	54.7	61.7	67.0
6	9.6	13.7	16.5	20.0	22.6	25.2	27.8	31.2	33.7
12	5.7	8.4	10.1	12.3	14.0	15.6	17.2	19.4	21.0
24	3.3	5.2	6.4	8.0	9.2	10.3	11.5	13.0	14.2

Rainfall Intensity-Duration-Frequency Curve at A.Muang C.Phetchbun
(1986-1995)

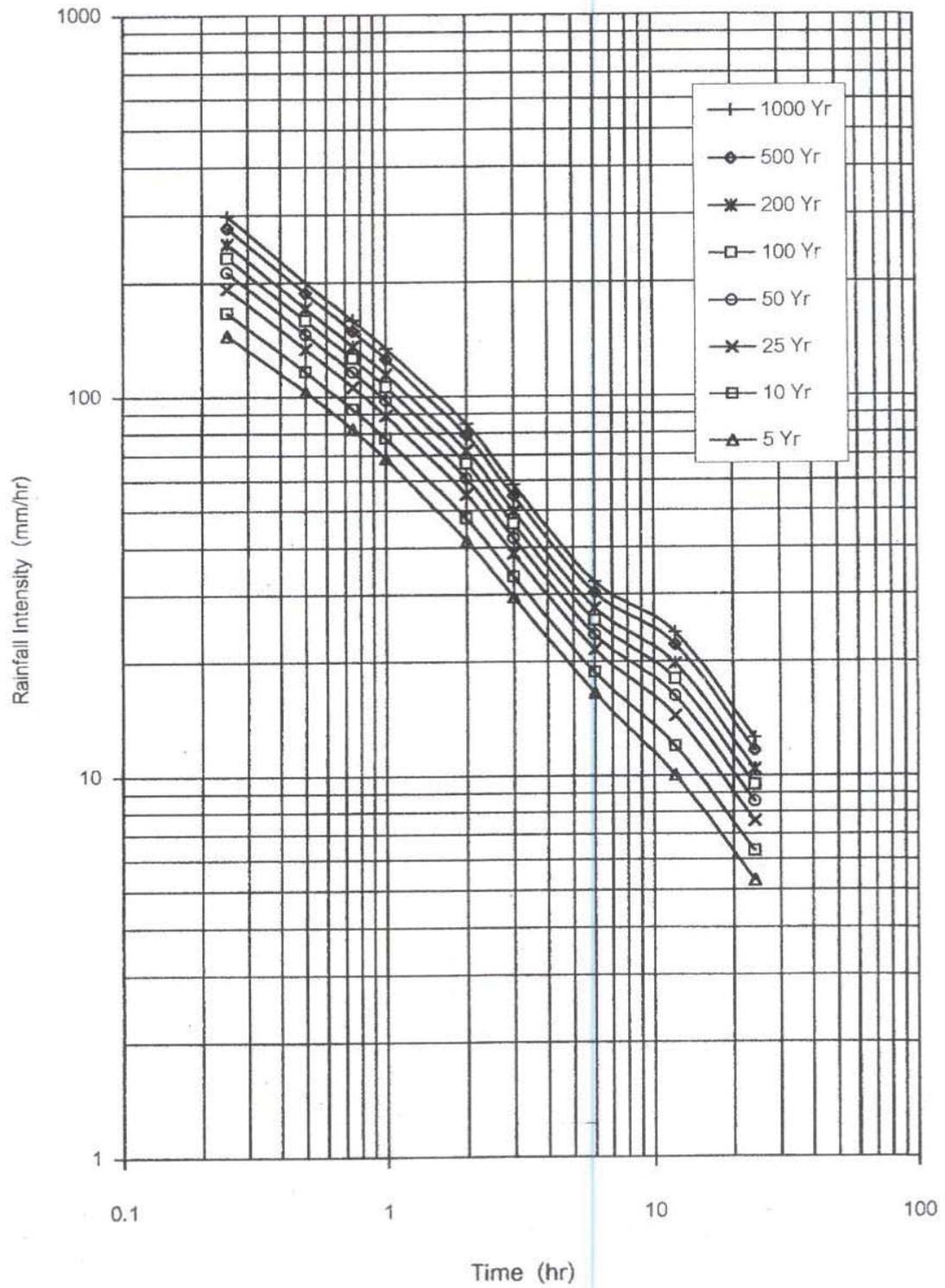


Frequency Analysis of Maximum Rainfall for Each Period at A.Muang C.Phitsanulok
(1954-1993)

Time (hr)	Rainfall Amount (mm)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	28.3	36.3	41.6	48.3	53.3	58.2	63.1	69.6	74.4
0.5	41.2	51.7	58.4	67.0	73.3	79.6	85.8	94.1	100.3
0.75	49.4	61.6	69.6	79.7	87.3	94.7	102.2	112.0	119.4
1	54.9	68.7	77.8	89.3	97.9	106.4	114.9	126.0	134.5
2	65.3	83.4	95.3	110.4	121.6	132.7	143.8	158.4	169.5
3	70.4	88.6	100.6	115.8	127.1	138.2	149.4	164.1	175.2
6	79.0	99.0	112.3	129.1	141.6	153.9	166.2	182.5	194.8
12	85.6	120.4	143.4	172.5	194.1	215.6	236.9	266.1	286.4
24	90.7	127.3	151.5	182.1	204.8	227.3	249.8	279.4	301.7

Time (hr)	Rainfall Intensity (mm/hr)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	113.2	145.2	166.4	193.1	213.0	232.7	252.3	278.2	297.8
0.5	82.4	103.3	116.8	133.9	146.6	159.1	171.6	188.2	200.6
0.75	65.9	82.1	92.8	106.3	116.4	126.3	136.3	149.3	159.2
1	54.9	68.7	77.8	89.3	97.9	106.4	114.9	126.0	134.5
2	32.7	41.7	47.7	55.2	60.8	66.4	71.9	79.2	84.7
3	23.5	29.5	33.5	38.6	42.4	46.1	49.8	54.7	58.4
6	13.2	16.5	18.7	21.5	23.6	25.7	27.7	30.4	32.5
12	7.1	10.0	12.0	14.4	16.2	18.0	19.7	22.2	23.9
24	3.8	5.3	6.3	7.6	8.5	9.5	10.4	11.6	12.6

Rainfall Intensity-Duration-Frequency Curve at A.Muang C.Phitsanulok
(1954-1993)



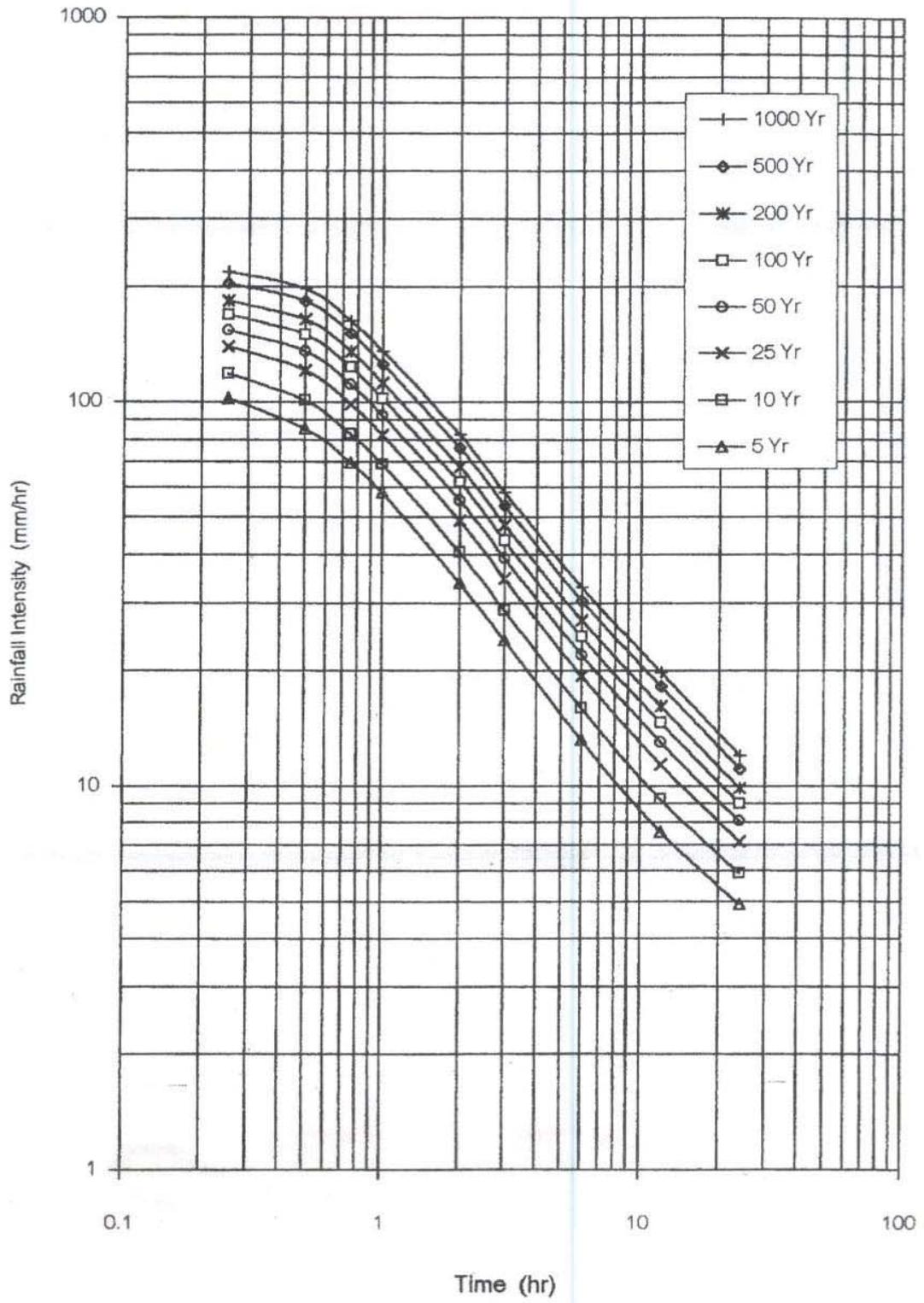
Frequency Analysis of Maximum Rainfall for Each Period at A.Wang Thong C.Phitsanulok(N.24)
(1968-1990)

Time (hr)	Rainfall Amount (mm)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	19.5	25.6	29.7	34.8	38.6	42.4	46.1	51.1	54.8
0.5	30.9	42.8	50.7	60.6	67.9	75.2	82.5	92.1	99.4
0.75	37.5	52.3	62.1	74.4	83.5	92.6	101.7	113.6	122.7
1	41.8	58.0	68.8	82.4	92.5	102.5	112.5	125.7	135.6
2	47.1	67.6	81.1	98.2	110.9	123.5	136.1	152.6	165.1
3	50.8	72.1	86.2	104.0	117.2	130.3	143.4	160.6	173.7
6	54.1	79.0	95.5	116.3	131.8	147.1	162.4	182.5	197.8
12	59.8	90.6	110.9	136.6	155.7	174.7	193.5	218.4	237.2
24	82.6	118.2	141.8	171.6	193.7	215.7	237.6	266.4	288.2

Time (hr)	Rainfall Intensity (mm/hr)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	78.1	102.6	118.8	139.2	154.4	169.5	184.5	204.4	219.3
0.5	61.9	85.6	101.3	121.1	135.9	150.5	165.0	184.2	198.7
0.75	50.0	69.7	82.7	99.2	111.4	123.5	135.6	151.5	163.5
1	41.8	58.0	68.8	82.4	92.5	102.5	112.5	125.7	135.6
2	23.6	33.8	40.6	49.1	55.5	61.8	68.0	76.3	82.6
3	16.9	24.0	28.7	34.7	39.1	43.4	47.8	53.5	57.9
6	9.0	13.2	15.9	19.4	22.0	24.5	27.1	30.4	33.0
12	5.0	7.5	9.2	11.4	13.0	14.6	16.1	18.2	19.8
24	3.4	4.9	5.9	7.2	8.1	9.0	9.9	11.1	12.0

Rainfall Intensity-Duration-Frequency Curve at A.Wang Thong C.Phitsanulok(N.24)

(1968-1990)

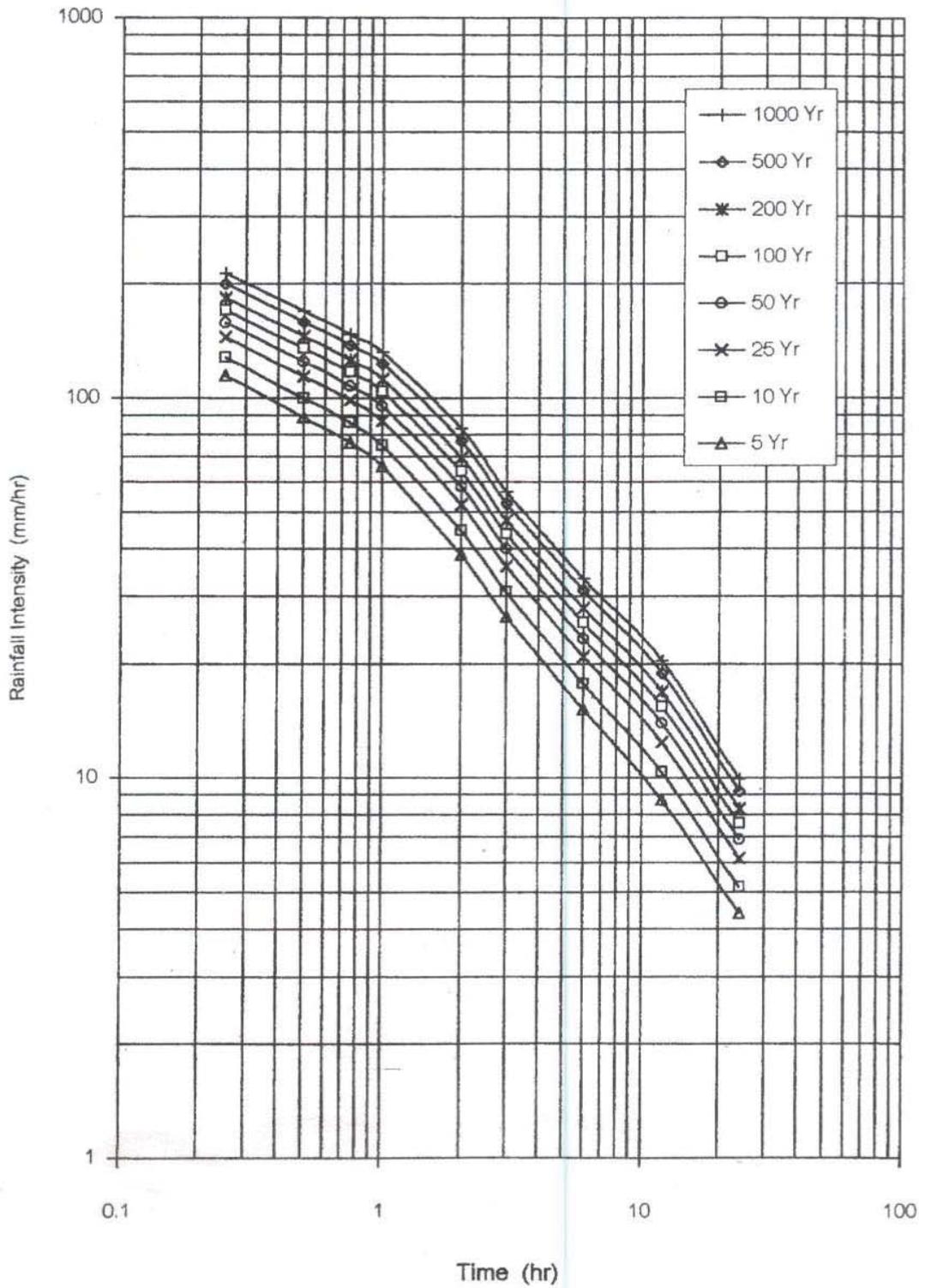


Frequency Analysis of Maximum Rainfall for Each Period at A.Wat Bot C.Phitsanulok(N.40)
(1979-1994)

Time (hr)	Rainfall Amount (mm)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	23.6	28.7	32.1	36.4	39.6	42.8	45.9	50.1	53.2
0.5	36.2	44.6	50.2	57.3	62.5	67.7	72.9	79.8	85.0
0.75	46.1	57.4	64.8	74.2	81.1	88.0	94.9	104.0	110.9
1	52.0	66.0	75.3	87.0	95.7	104.3	112.9	124.3	132.8
2	58.7	77.3	89.6	105.2	116.7	128.2	139.6	154.7	166.1
3	60.9	79.9	92.4	108.3	120.0	131.7	143.3	158.7	170.3
6	68.1	91.1	106.4	125.6	139.9	154.1	168.2	186.8	200.9
12	75.8	105.1	124.5	149.0	167.3	185.4	203.4	227.2	245.2
24	77.8	105.7	124.1	147.4	164.7	181.9	199.0	221.5	238.6

Time (hr)	Rainfall Intensity (mm/hr)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	94.3	114.9	128.5	145.6	158.4	171.1	183.7	200.3	212.9
0.5	72.3	89.2	100.4	114.6	125.1	135.5	145.8	159.5	169.9
0.75	61.5	76.5	86.4	98.9	108.2	117.4	126.5	138.6	147.8
1	52.0	66.0	75.3	87.0	95.7	104.3	112.9	124.3	132.8
2	29.3	38.7	44.8	52.6	58.4	64.1	69.8	77.3	83.0
3	20.3	26.6	30.8	36.1	40.0	43.9	47.8	52.9	56.8
6	11.4	15.2	17.7	20.9	23.3	25.7	28.0	31.1	33.5
12	6.3	8.8	10.4	12.4	13.9	15.5	17.0	18.9	20.4
24	3.2	4.4	5.2	6.1	6.9	7.6	8.3	9.2	9.9

Rainfall Intensity-Duration-Frequency Curve at A.Wat Bot C.Phitsanulok(N.40)
 (1979-1994)



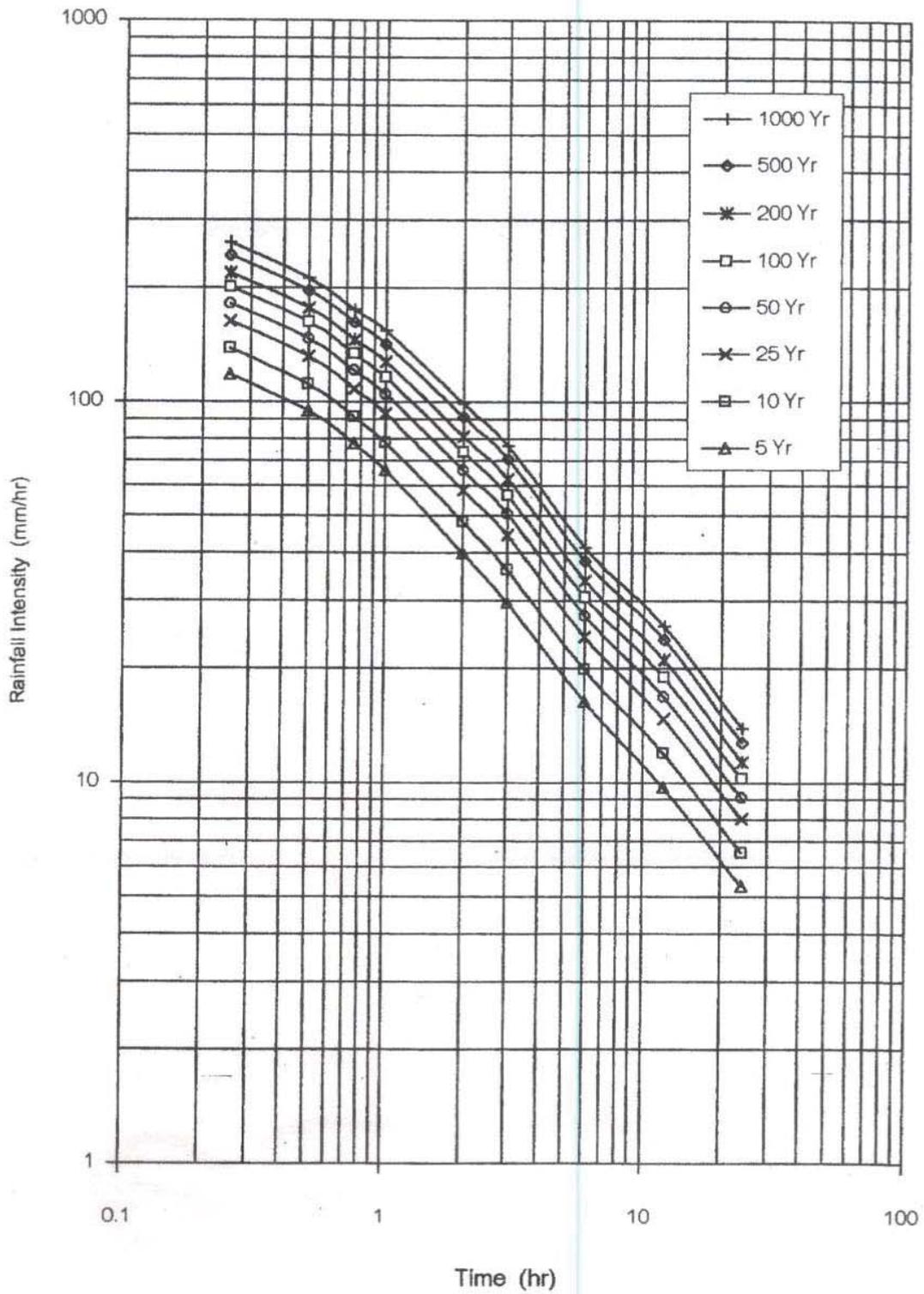
Frequency Analysis of Maximum Rainfall for Each Period at A.Si Satchanalai C.Sukhothai(Y.6)
(1965-1994)

Time (hr)	Rainfall Amount (mm)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	22.0	29.6	34.6	40.9	45.6	50.2	54.9	61.0	65.6
0.5	35.3	47.6	55.7	66.0	73.6	81.2	88.7	98.6	106.1
0.75	43.2	58.5	68.7	81.5	91.0	100.5	109.9	122.3	131.7
1	47.6	66.1	78.3	93.7	105.1	116.5	127.8	142.7	154.0
2	55.4	80.1	96.5	117.2	132.6	147.8	163.0	183.0	198.2
3	59.8	89.4	108.9	133.6	151.9	170.0	188.2	212.0	230.1
6	66.8	98.2	119.0	145.4	164.9	184.2	203.6	229.0	248.3
12	76.0	116.5	143.3	177.1	202.2	227.2	252.0	284.8	309.5
24	85.0	128.0	156.4	192.4	219.1	245.6	272.0	306.8	333.1

Time (hr)	Rainfall Intensity (mm/hr)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	88.1	118.3	138.3	163.6	182.3	200.9	219.4	243.8	262.3
0.5	70.7	95.2	111.4	132.0	147.2	162.3	177.4	197.3	212.3
0.75	57.6	78.0	91.6	108.7	121.3	133.9	146.5	163.1	175.6
1	47.6	66.1	78.3	93.7	105.1	116.5	127.8	142.7	154.0
2	27.7	40.1	48.3	58.6	66.3	73.9	81.5	91.5	99.1
3	19.9	29.8	36.3	44.5	50.6	56.7	62.7	70.7	76.7
6	11.1	16.4	19.8	24.2	27.5	30.7	33.9	38.2	41.4
12	6.3	9.7	11.9	14.8	16.9	18.9	21.0	23.7	25.8
24	3.5	5.3	6.5	8.0	9.1	10.2	11.3	12.8	13.9

Rainfall Intensity-Duration-Frequency Curve at A.Si Satchanalai C.Sukhothai(Y.6)

(1965-1994)

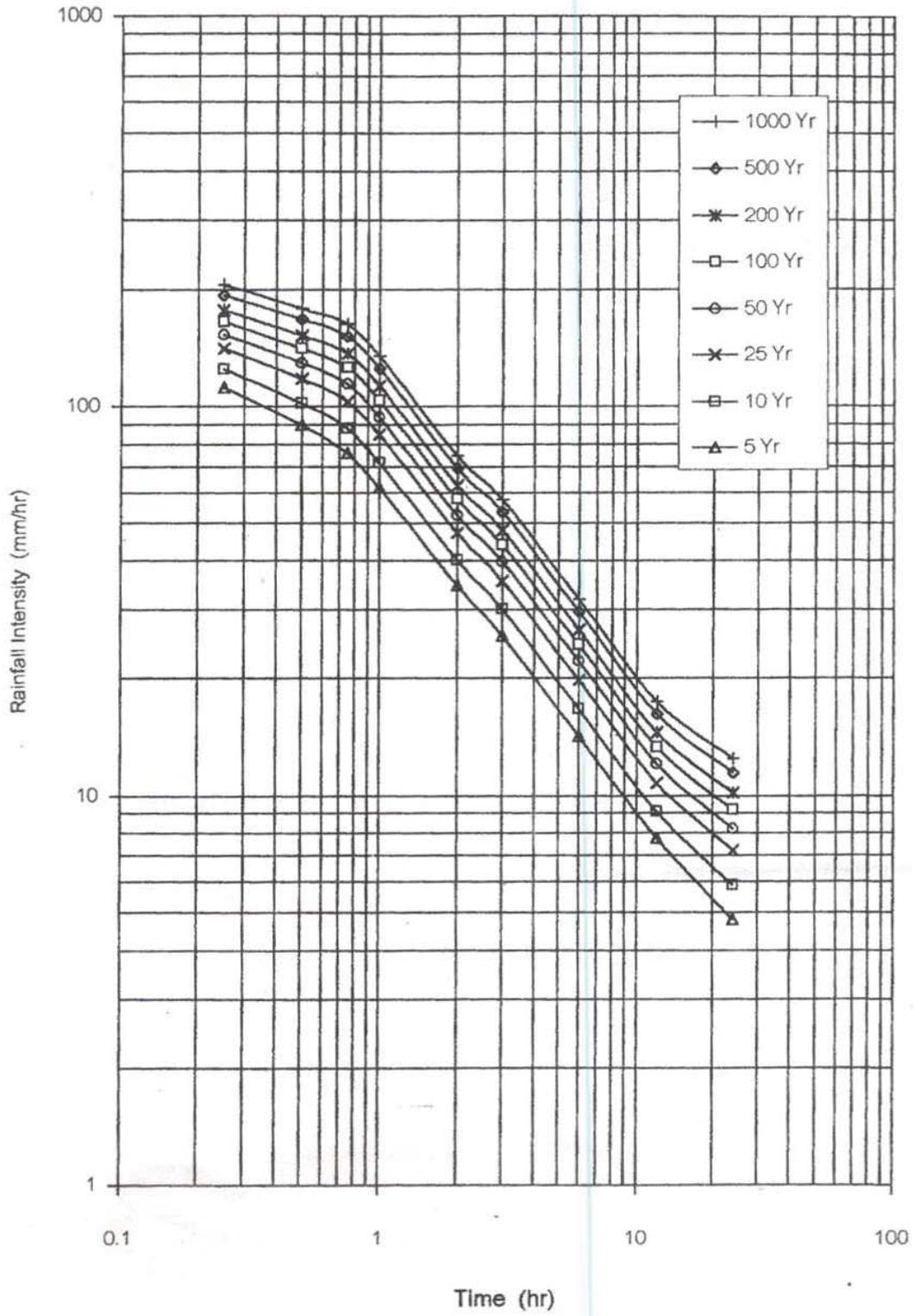


Frequency Analysis of Maximum Rainfall for Each Period at A.Si Satchanalai C.Sukhothai(Y.14)
(1959-1989)

Time (hr)	Rainfall Amount (mm)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	23.1	28.0	31.2	35.4	38.4	41.4	44.4	48.4	51.4
0.5	35.6	45.0	51.2	59.1	64.9	70.7	76.5	84.1	89.8
0.75	43.1	56.8	65.9	77.5	86.0	94.5	102.9	114.1	122.5
1	46.2	61.6	71.9	84.8	94.3	103.9	113.3	125.8	135.3
2	52.8	69.5	80.6	94.6	105.0	115.3	125.4	139.1	149.4
3	57.3	77.2	90.4	107.0	119.4	131.7	143.9	160.0	172.2
6	63.2	85.4	100.2	118.9	132.7	146.4	160.1	178.2	191.8
12	68.8	93.1	109.2	129.6	144.7	159.7	174.6	194.4	209.3
24	76.8	115.4	140.9	173.2	197.1	220.9	244.5	275.8	299.4

Time (hr)	Rainfall Intensity (mm/hr)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	92.4	112.0	125.0	141.4	153.6	165.6	177.7	193.6	205.6
0.5	71.3	90.0	102.5	118.2	129.8	141.4	152.9	168.1	179.6
0.75	57.4	75.8	87.9	103.3	114.7	126.0	137.2	152.1	163.3
1	46.2	61.6	71.9	84.8	94.3	103.9	113.3	125.8	135.3
2	26.4	34.8	40.3	47.3	52.5	57.6	62.7	69.6	74.7
3	19.1	25.7	30.1	35.7	39.8	43.9	48.0	53.3	57.4
6	10.5	14.2	16.7	19.8	22.1	24.4	26.7	29.7	32.0
12	5.7	7.8	9.1	10.8	12.1	13.3	14.6	16.2	17.4
24	3.2	4.8	5.9	7.2	8.2	9.2	10.2	11.5	12.5

Rainfall Intensity-Duration-Frequency Curve at A.Si Satchanalai C.Sukhothai(Y.14)
(1959-1989)



Frequency Analysis of Maximum Rainfall for Each Period at A.Muang C.Tak

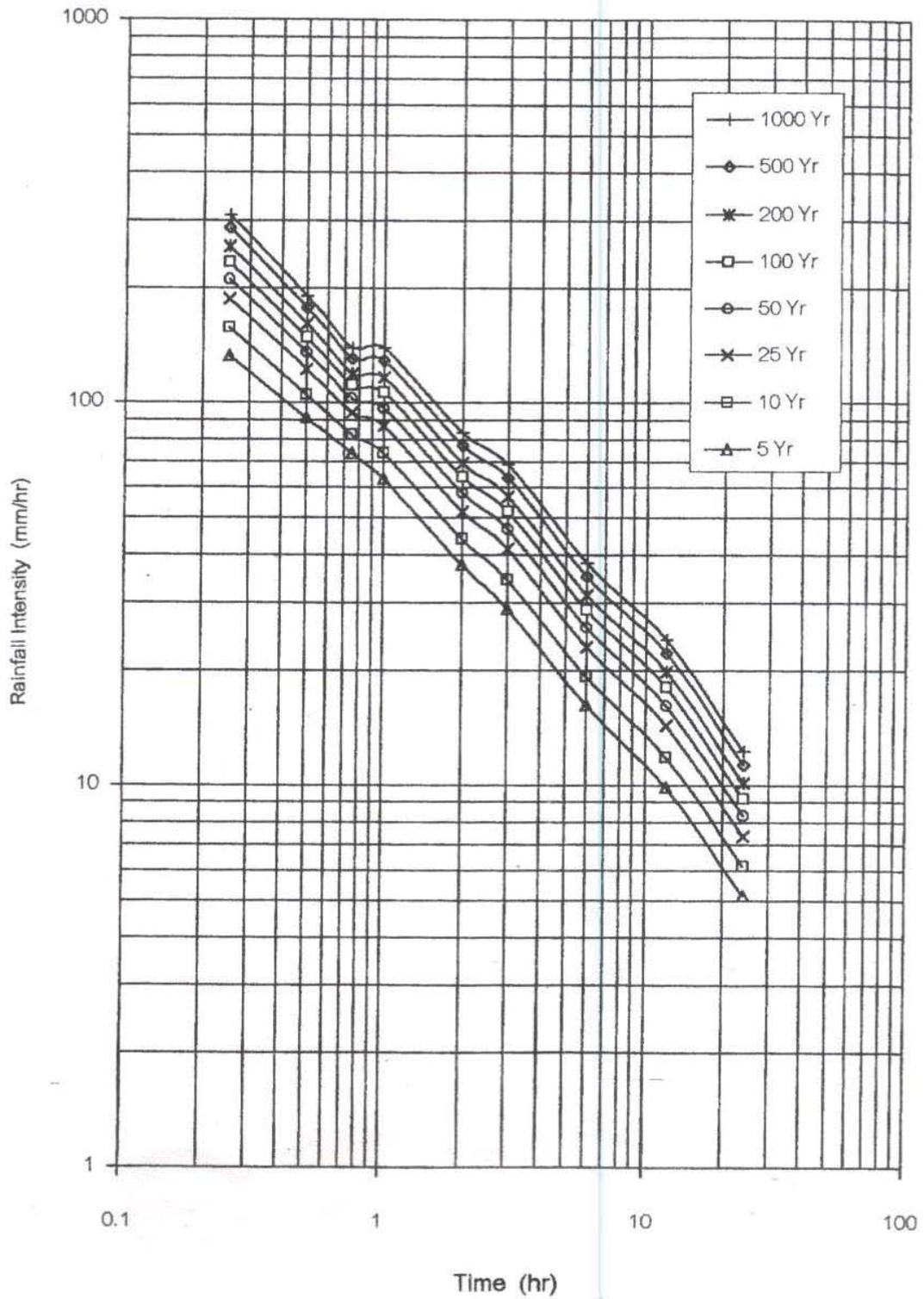
(1964-1983,1986-1993)

Time (hr)	Rainfall Amount (mm)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	23.9	33.2	39.3	47.1	52.8	58.5	64.2	71.7	77.4
0.5	35.2	45.6	52.6	61.3	67.8	74.3	80.7	89.2	95.6
0.75	45.1	55.3	62.1	70.7	77.1	83.4	89.7	98.0	104.3
1	47.3	63.3	73.8	87.2	97.1	106.9	116.7	129.6	139.3
2	56.4	75.5	88.2	104.2	116.1	127.9	139.7	155.2	167.0
3	61.9	87.0	103.7	124.7	140.3	155.8	171.2	191.6	207.0
6	69.7	97.3	115.5	138.6	155.7	172.6	189.5	211.8	228.7
12	82.9	118.5	142.0	171.8	193.9	215.8	237.6	266.4	288.2
24	87.7	123.6	147.3	177.3	199.5	221.6	243.6	272.7	294.6

Time (hr)	Rainfall Intensity (mm/hr)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	95.7	132.8	157.3	188.3	211.3	234.1	256.9	286.9	309.6
0.5	70.4	91.3	105.1	122.6	135.6	148.5	161.4	178.3	191.1
0.75	60.1	73.8	82.8	94.3	102.8	111.2	119.6	130.7	139.0
1	47.3	63.3	73.8	87.2	97.1	106.9	116.7	129.6	139.3
2	28.2	37.8	44.1	52.1	58.1	64.0	69.9	77.6	83.5
3	20.6	29.0	34.6	41.6	46.8	51.9	57.1	63.9	69.0
6	11.6	16.2	19.3	23.1	25.9	28.8	31.6	35.3	38.1
12	6.9	9.9	11.8	14.3	16.2	18.0	19.8	22.2	24.0
24	3.7	5.1	6.1	7.4	8.3	9.2	10.2	11.4	12.3

Rainfall Intensity-Duration-Frequency Curve at A.Muang C.Tak

(1964-1983,1986-1993)

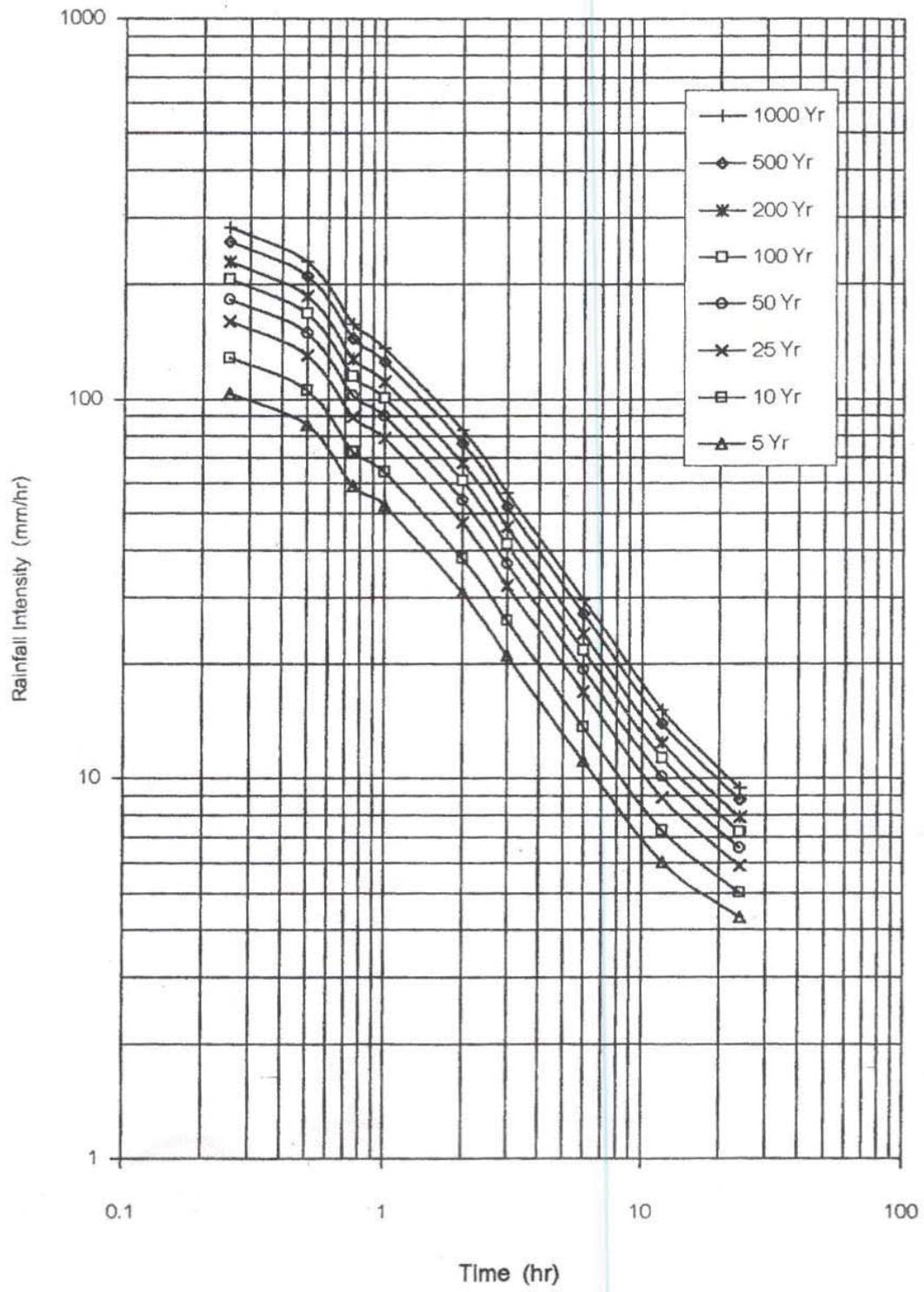


Frequency Analysis of Maximum Rainfall for Each Period at Bhumipol Dam C.Tak
(1986-1993)

Time (hr)	Rainfall Amount (mm)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	16.5	25.9	32.2	40.0	45.9	51.7	57.5	65.1	70.8
0.5	27.7	42.9	52.9	65.5	74.9	84.2	93.5	105.8	115.0
0.75	28.6	44.1	54.4	67.3	76.9	86.5	96.0	108.5	118.0
1	34.8	52.5	64.2	79.1	90.0	101.0	111.8	126.2	137.0
2	40.1	61.9	76.4	94.6	108.2	121.6	135.1	152.7	166.1
3	41.0	63.4	78.2	96.8	110.7	124.4	138.2	156.2	169.9
6	43.4	66.7	82.2	101.7	116.2	130.6	145.0	163.9	178.2
12	49.5	72.5	87.8	107.0	121.3	135.5	149.7	168.3	182.4
24	76.9	102.9	120.2	141.9	158.1	174.1	190.1	211.2	227.1

Time (hr)	Rainfall Intensity (mm/hr)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	66.0	103.6	128.6	160.1	183.5	206.7	229.8	260.3	283.4
0.5	55.5	85.7	105.8	131.1	149.8	168.5	187.1	211.6	230.1
0.75	38.2	58.8	72.5	89.8	102.6	115.3	128.0	144.7	157.4
1	34.8	52.5	64.2	79.1	90.0	101.0	111.8	126.2	137.0
2	20.0	31.0	38.2	47.3	54.1	60.8	67.5	76.4	83.1
3	13.7	21.1	26.1	32.3	36.9	41.5	46.1	52.1	56.6
6	7.2	11.1	13.7	17.0	19.4	21.8	24.2	27.3	29.7
12	4.1	6.0	7.3	8.9	10.1	11.3	12.5	14.0	15.2
24	3.2	4.3	5.0	5.9	6.6	7.3	7.9	8.8	9.5

Rainfall Intensity-Duration-Frequency Curve at Bhumipol Dam C.Tak
(1986-1993)



Frequency Analysis of Maximum Rainfall for Each Period at A.Muang C.Uttaradith

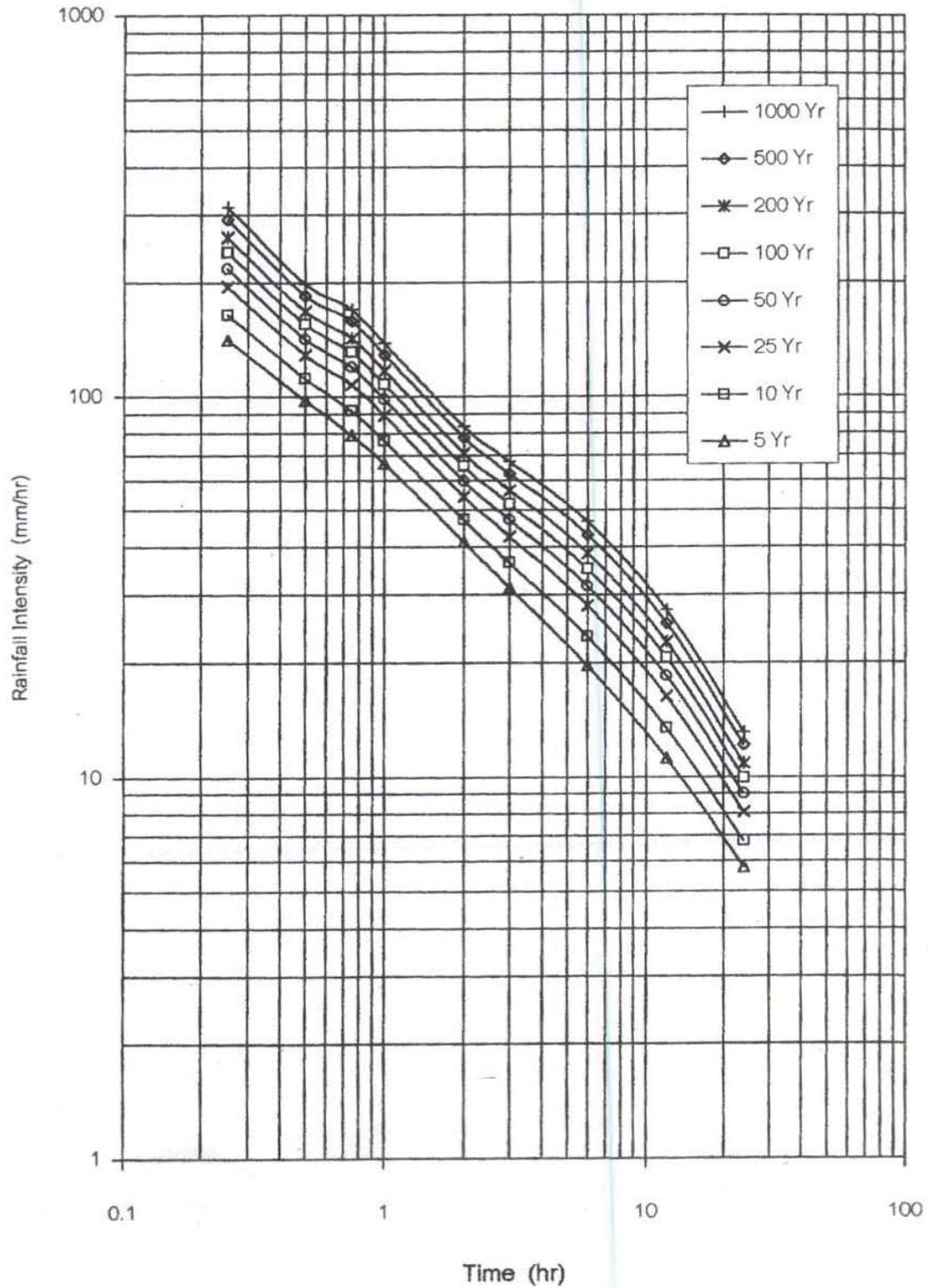
(1961-1975,1980-1993)

Time (hr)	Rainfall Amount (mm)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	26.3	35.4	41.4	48.9	54.5	60.1	65.7	73.0	78.5
0.5	38.4	49.0	56.0	64.8	71.4	77.9	84.4	92.9	99.4
0.75	45.2	59.5	69.0	81.0	89.9	98.7	107.6	119.2	127.9
1	51.9	66.9	76.9	89.5	98.8	108.1	117.3	129.5	138.7
2	64.8	82.6	94.4	109.3	120.3	131.3	142.2	156.7	167.5
3	71.4	94.0	109.0	128.0	142.1	156.1	170.0	188.3	202.2
6	84.0	118.0	140.5	168.9	190.0	211.0	231.8	259.3	280.1
12	93.5	134.5	161.6	195.9	221.4	246.6	271.8	305.0	330.1
24	101.3	138.1	162.5	193.3	216.2	238.9	261.5	291.3	313.8

Time (hr)	Rainfall Intensity (mm/hr)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	105.2	141.4	165.4	195.7	218.1	240.4	262.6	292.0	314.1
0.5	76.7	97.9	111.9	129.6	142.7	155.7	168.7	185.8	198.8
0.75	60.2	79.3	92.0	108.0	119.9	131.7	143.4	158.9	170.6
1	51.9	66.9	76.9	89.5	98.8	108.1	117.3	129.5	138.7
2	32.4	41.3	47.2	54.6	60.2	65.7	71.1	78.3	83.8
3	23.8	31.3	36.3	42.7	47.4	52.0	56.7	62.8	67.4
6	14.0	19.7	23.4	28.2	31.7	35.2	38.6	43.2	46.7
12	7.8	11.2	13.5	16.3	18.4	20.6	22.6	25.4	27.5
24	4.2	5.8	6.8	8.1	9.0	10.0	10.9	12.1	13.1

Rainfall Intensity-Duration-Frequency Curve at A.Muang C.Uttaradith

(1961-1975,1980-1993)



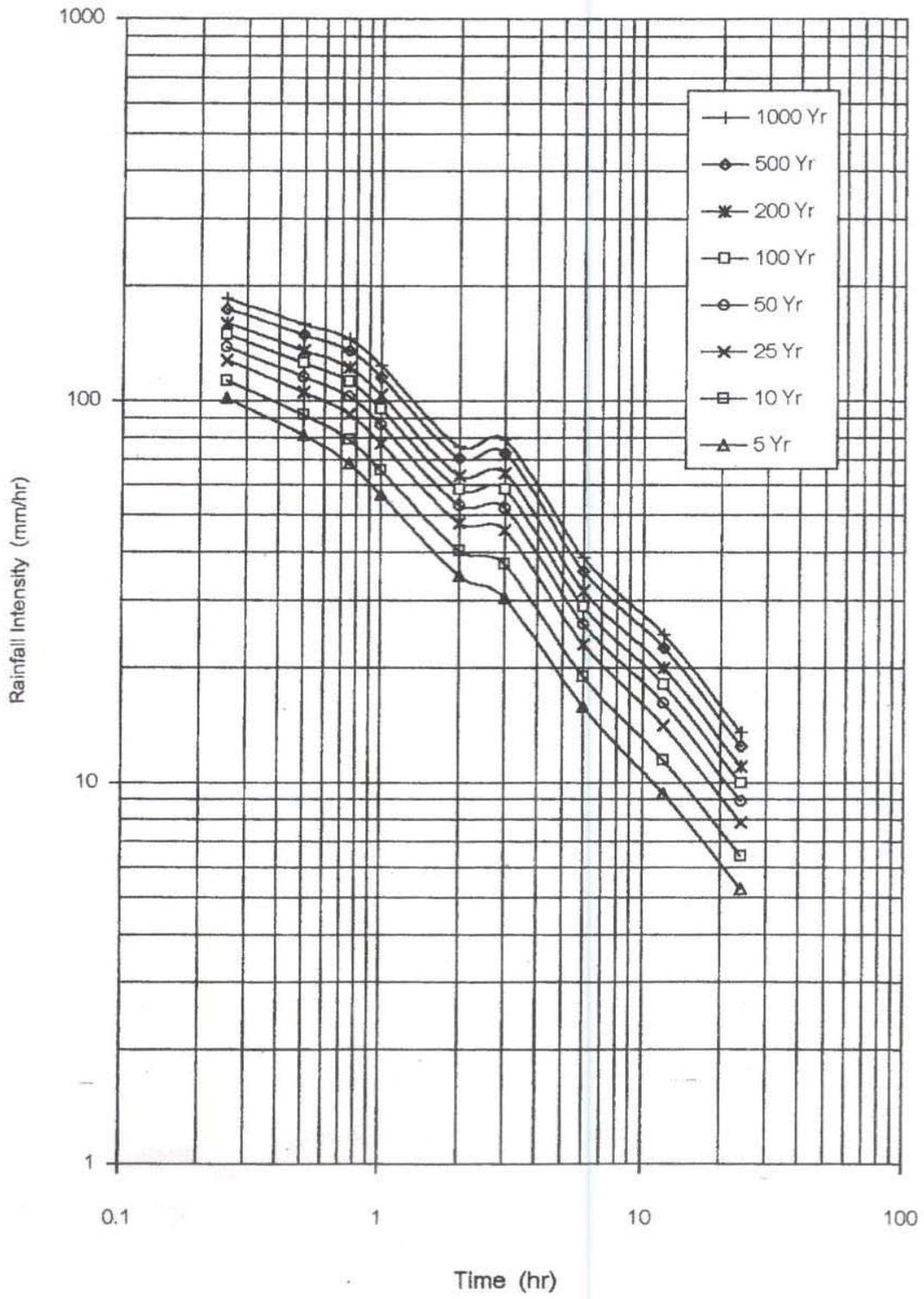
Frequency Analysis of Maximum Rainfall for Each Period at A.Nam Pat C.Uttaradith(N.16)

(1964-1988)

Time (hr)	Rainfall Amount (mm)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	21.1	25.4	28.3	32.0	34.7	37.4	40.1	43.7	46.3
0.5	32.5	40.7	46.1	52.9	57.9	63.0	68.0	74.6	79.6
0.75	39.3	51.4	59.4	69.5	77.1	84.5	92.0	101.8	109.2
1	42.4	56.5	65.9	77.8	86.6	95.3	104.0	115.5	124.1
2	52.5	69.8	81.2	95.7	106.4	117.1	127.7	141.7	152.3
3	61.1	91.8	112.1	137.7	156.7	175.6	194.5	219.3	238.1
6	65.7	94.6	113.8	138.0	156.0	173.8	191.6	215.0	232.7
12	74.5	112.5	137.7	169.5	193.0	216.5	239.8	270.6	293.8
24	84.8	126.4	153.9	188.7	214.6	240.2	265.7	299.4	324.9

Time (hr)	Rainfall Intensity (mm/hr)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	84.2	101.8	113.4	128.0	138.9	149.7	160.5	174.6	185.4
0.5	65.0	81.3	92.1	105.8	115.9	125.9	135.9	149.2	159.1
0.75	52.3	68.5	79.2	92.7	102.8	112.7	122.6	135.7	145.6
1	42.4	56.5	65.9	77.8	86.6	95.3	104.0	115.5	124.1
2	26.2	34.9	40.6	47.8	53.2	58.5	63.8	70.8	76.1
3	20.4	30.6	37.4	45.9	52.2	58.5	64.8	73.1	79.4
6	10.9	15.8	19.0	23.0	26.0	29.0	31.9	35.8	38.8
12	6.2	9.4	11.5	14.1	16.1	18.0	20.0	22.5	24.5
24	3.5	5.3	6.4	7.9	8.9	10.0	11.1	12.5	13.5

Rainfall Intensity-Duration-Frequency Curve at A.Nam Pat C.Uttaradith(N.16)
(1964-1988)

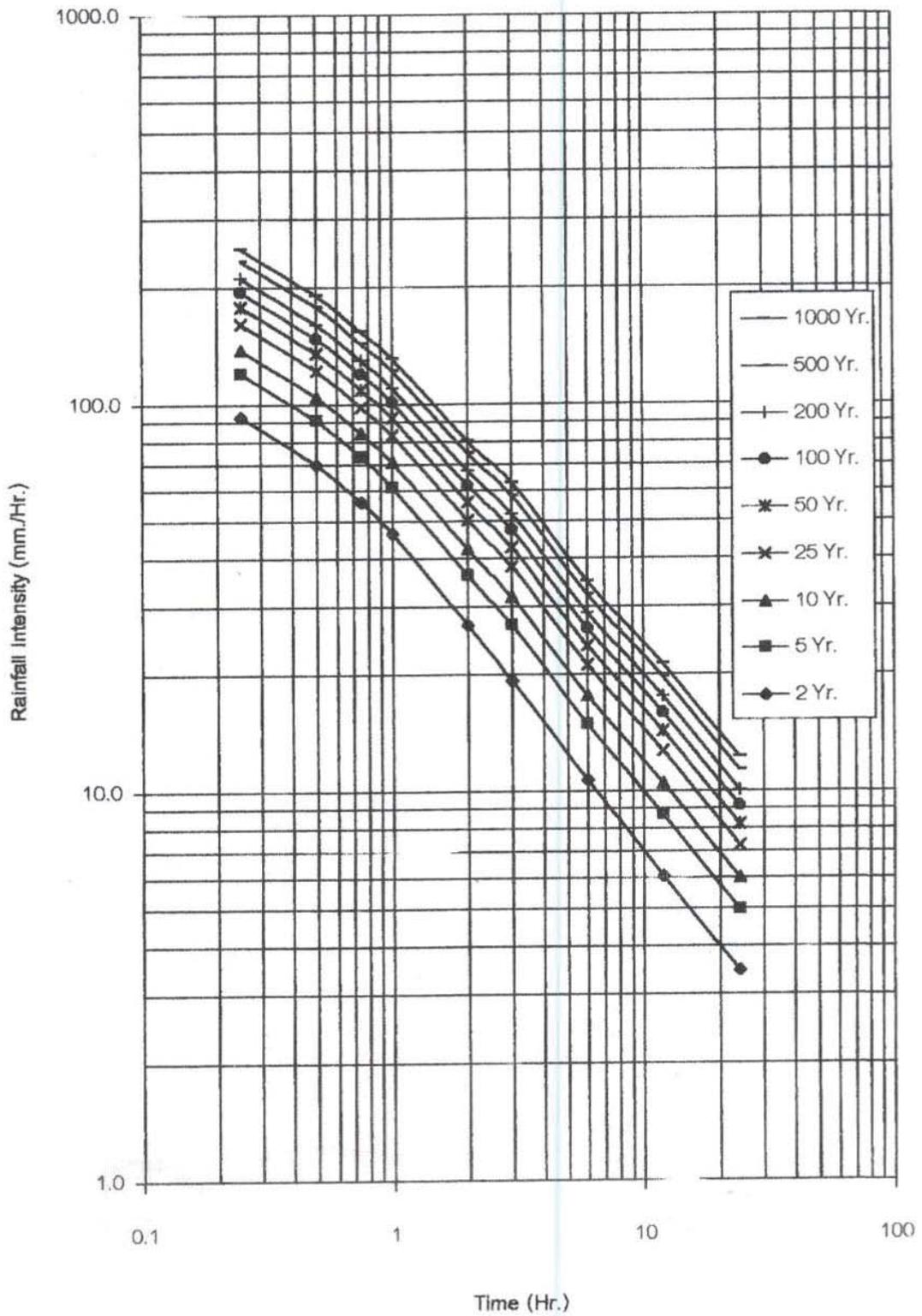


Average Value of Frequency Analysis of Maximum Rainfall for Each Period in Lower Northern Part

Time (hr)	Rainfall Amount (mm)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	23.2	30.1	34.7	40.4	44.7	48.9	53.1	58.7	62.9
0.5	35.0	45.5	52.5	61.3	67.8	74.2	80.7	89.2	95.6
0.75	42.0	54.8	63.3	74.0	81.9	89.8	97.6	108.0	115.8
1	46.4	61.2	70.9	83.3	92.5	101.6	110.6	122.6	131.6
2	53.8	72.4	84.7	100.3	111.9	123.3	134.7	149.8	161.2
3	58.1	80.7	95.6	114.5	128.5	142.4	156.2	174.5	188.3
6	64.3	89.4	106.1	127.1	142.7	158.2	173.6	194.0	209.4
12	72.5	104.3	125.4	152.1	171.8	191.5	211.0	236.9	256.3
24	82.8	119.3	143.5	174.1	196.7	219.2	241.6	271.2	293.6

Time (hr)	Rainfall Intensity (mm/hr)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	93.0	120.4	138.6	161.6	178.7	195.6	212.4	234.7	251.5
0.5	70.0	91.1	105.0	122.5	135.5	148.4	161.3	178.3	191.1
0.75	56.1	73.1	84.4	98.6	109.2	119.7	130.2	144.0	154.4
1	46.4	61.2	70.9	83.3	92.5	101.6	110.6	122.6	131.6
2	26.9	36.2	42.4	50.1	55.9	61.7	67.4	74.9	80.6
3	19.4	26.9	31.9	38.2	42.8	47.5	52.1	58.2	62.8
6	10.7	14.9	17.7	21.2	23.8	26.4	28.9	32.3	34.9
12	6.0	8.7	10.5	12.7	14.3	16.0	17.6	19.7	21.4
24	3.4	5.0	6.0	7.3	8.2	9.1	10.1	11.3	12.2

Rainfall Intensity - Duration - Frequency Average Curve of
Lower Northern Part



ส่วนที่ 1.

ความสัมพันธ์ระหว่างความเข้มฝน-ช่วงเวลา-ความถี่ฝน

ของปริมาณฝนสูงสุดในช่วงเวลา 24 ชั่วโมง

ตารางที่ 1 ปริมาณฝนเฉลี่ยรายปี แสดงค่าเฉลี่ย ค่าน้อยที่สุด และค่ามากที่สุด ในแต่ละจังหวัด

ภาคกลาง

จังหวัด	ปริมาณฝนเฉลี่ยรายปี (มม.)		
	สถานีที่น้อยที่สุด	ค่าเฉลี่ยของจังหวัด	สถานีที่มากที่สุด
อุทัยธานี	776.8	1237.0	1510.5
ชัยนาท	737.8	1005.7	1172.9
ลพบุรี	771.6	1164.5	1332.8
สิงห์บุรี	687.2	920.2	1109.0
อ่างทอง	717.5	1066.0	1207.8
สระบุรี	940.3	1387.4	1945.2
อยุธยา	555.3	1153.3	1338.8
สุพรรณบุรี	573.2	973.3	1289.9
นครปฐม	831.1	1072.6	1123.0
นนทบุรี	984.6	1193.9	1425.7
ปทุมธานี	865.4	1291.6	1473.7
กรุงเทพมหานคร	815.4	1263.5	1936.3
สมุทรปราการ	793.2	853.9	1611.2
สมุทรสาคร	1049.5	1174.2	1325.1
สมุทรสงคราม	1024.4	1078.8	1112.0

ตารางที่ 2. รายชื่อสถานีฝนที่ใช้ในการศึกษาของจังหวัดต่างๆในภาคกลาง

รหัสสถานี	ชื่อสถานี	อำเภอ	จังหวัด	ละติจูด	ลองจิจูด	ช่วงเวลาข้อมูล	หน่วยงาน
19013	อ.เมือง	เมือง	ลพบุรี	14° 47' 45"	100° 39' 20"	1958-1983, 1986-1998	กรมอุตุนิยมวิทยา
19150	CPK.13	บ้านหมี่	ลพบุรี	15° 00' 05"	100° 34' 26"	1973-1987	กรมชลประทาน
26013	อ.เมือง	เมือง	นครสวรรค์	15° 42' 11"	100° 08' 27"	1965-1982, 1986-1998	กรมอุตุนิยมวิทยา
69150	C.30	บ้านไร่	อุทัยธานี	15° 21' 04"	99° 32' 22"	1984-1994	กรมชลประทาน
41111	C.12	ดุสิต	กรุงเทพฯ	13° 47' 14"	100° 30' 56"	1950-1994	กรมชลประทาน
60013	อ.เมือง	เมือง	สุพรรณบุรี	14° 24' 10"	100° 07' 14"	1986-1998	กรมชลประทาน

Frequency Analysis of Maximum Rainfall for Each Period at Lop Buri

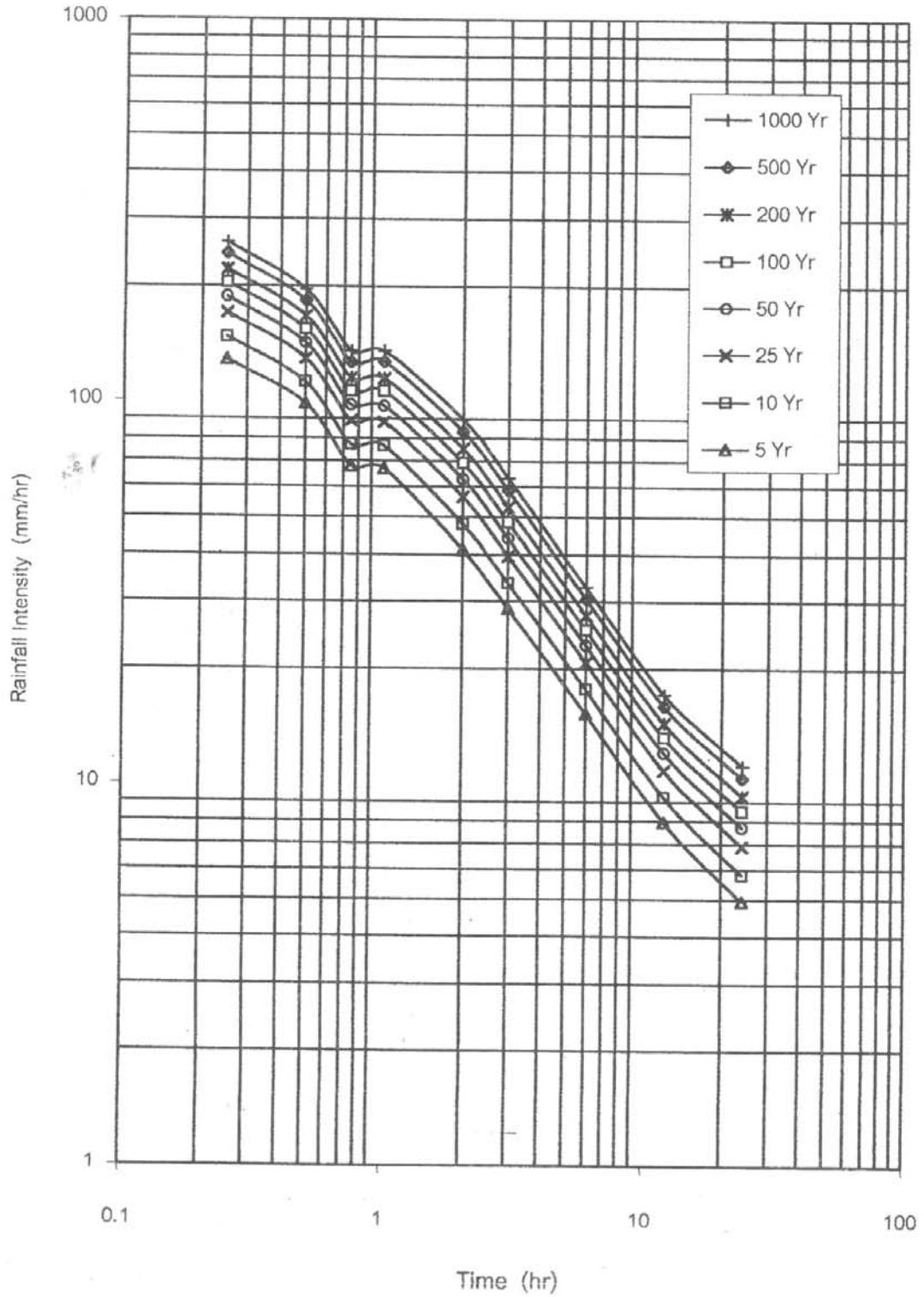
(1958 - 1983 , 1986 - 1998)

Time (hr)	Rainfall Amount (mm)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	25.2	32.2	36.8	42.6	46.9	51.1	55.4	61.0	65.2
0.5	39.2	49.4	56.1	64.7	71.0	77.2	83.5	91.7	97.9
0.75	40.5	51.0	58.0	66.8	73.4	79.9	86.3	94.9	101.3
1	52.6	67.0	76.5	88.5	97.4	106.2	115.0	126.7	135.4
2	61.9	82.3	95.7	112.8	125.4	138.0	150.5	167.0	179.5
3	64.8	86.4	100.7	118.7	132.1	145.4	158.6	176.1	189.3
6	69.8	91.8	106.3	124.6	138.2	151.8	165.7	183.0	196.4
12	72.5	95.7	111.0	130.4	144.7	159.0	173.2	191.9	206.1
24	87.9	119.1	139.8	165.9	185.3	204.5	223.7	249.0	268.1

Time (hr)	Rainfall Intensity (mm/hr)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	101.0	128.7	147.0	170.2	187.4	204.5	221.5	244.0	260.9
0.5	78.5	98.8	112.3	129.3	141.9	154.5	166.9	183.4	195.9
0.75	54.0	68.0	77.3	89.1	97.8	106.5	115.1	126.5	135.1
1	52.6	67.0	76.5	88.5	97.4	106.2	115.0	126.7	135.4
2	30.9	41.1	47.9	56.4	62.7	69.0	75.3	83.5	89.7
3	21.6	28.8	33.6	39.6	44.0	48.5	52.9	58.7	63.1
6	11.6	15.3	17.7	20.8	23.0	25.3	27.6	30.5	32.7
12	6.0	8.0	9.2	10.9	12.1	13.2	14.4	16.0	17.2
24	3.7	5.0	5.8	6.9	7.7	8.5	9.3	10.4	11.2

Rainfall Intensity-Duration-Frequency Curve at Lop Buri

(1958 - 1983 , 1986 - 1998)

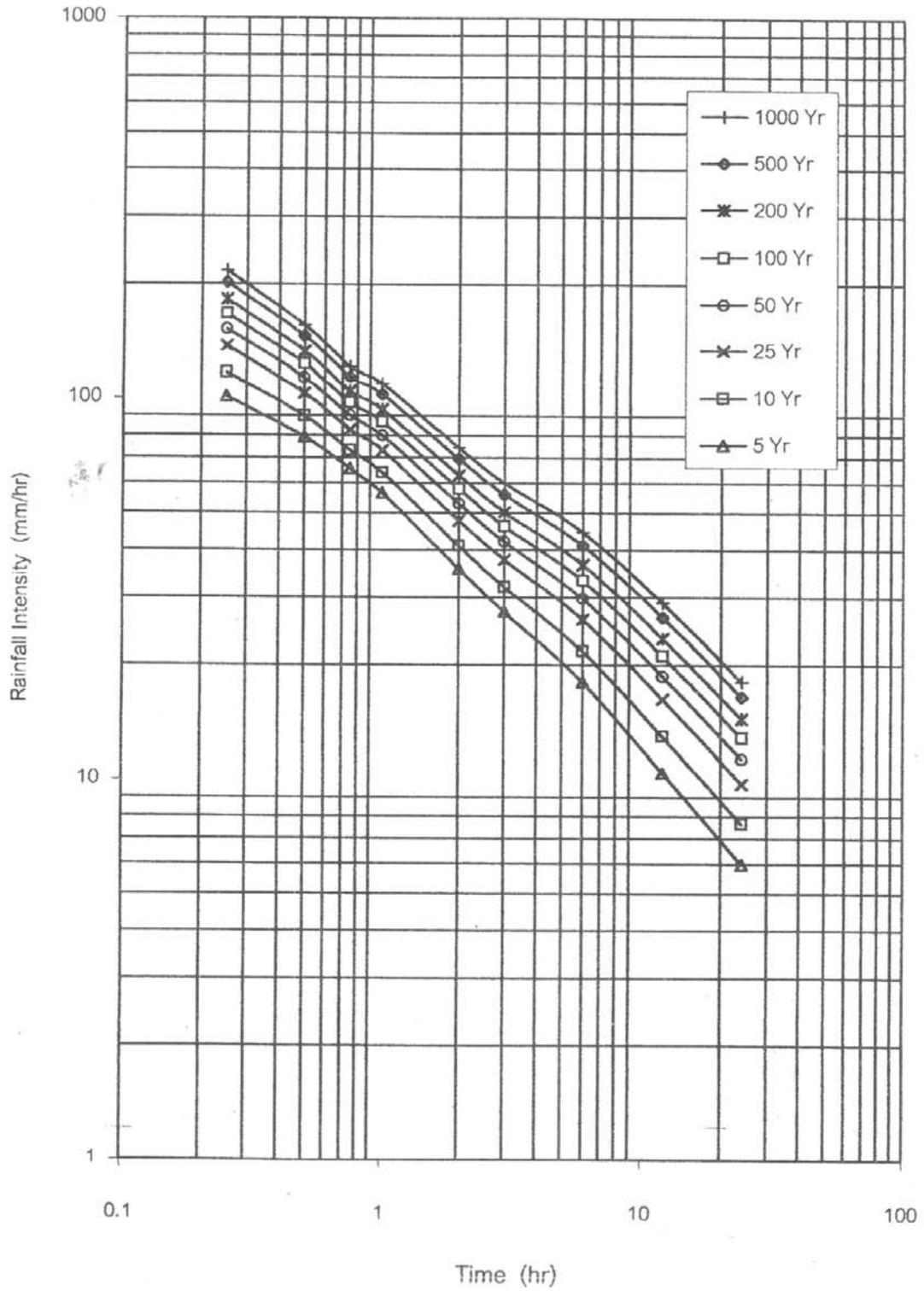


Frequency Analysis of Maximum Rainfall for Each Period at A.Ban Mi C.Lop Buri(CPK.13)
(1973- 1987)

Time (hr)	Rainfall Amount (mm)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	19.3	25.3	29.3	34.4	38.1	41.8	45.5	50.4	54.1
0.5	31.6	39.7	45.0	51.7	56.7	61.6	66.5	73.0	77.9
0.75	40.2	49.0	54.9	62.2	67.7	73.1	78.5	85.6	91.0
1	45.4	56.5	63.9	73.1	80.0	86.8	93.6	102.6	109.4
2	55.1	71.3	82.1	95.7	105.8	115.8	125.7	138.9	148.8
3	62.3	82.7	96.2	113.3	126.0	138.5	151.1	167.6	180.1
6	75.0	108.3	130.4	158.2	178.9	199.5	219.9	246.9	267.3
12	78.7	125.5	156.5	195.6	224.7	253.5	282.2	320.1	348.7
24	82.8	143.6	183.8	234.7	272.4	309.8	347.2	396.4	433.6

Time (hr)	Rainfall Intensity (mm/hr)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	77.3	101.4	117.3	137.4	152.4	167.2	182.0	201.5	216.2
0.5	63.3	79.3	89.9	103.3	113.3	123.2	133.0	146.0	155.8
0.75	53.6	65.4	73.1	82.9	90.2	97.5	104.7	114.1	121.3
1	45.4	56.5	63.9	73.1	80.0	86.8	93.6	102.6	109.4
2	27.5	35.7	41.0	47.8	52.9	57.9	62.9	69.4	74.4
3	20.8	27.6	32.1	37.8	42.0	46.2	50.4	55.9	60.0
6	12.5	18.0	21.7	26.4	29.8	33.2	36.7	41.2	44.6
12	6.6	10.5	13.0	16.3	18.7	21.1	23.5	26.7	29.1
24	3.4	6.0	7.7	9.8	11.3	12.9	14.5	16.5	18.1

Rainfall Intensity-Duration-Frequency Curve at A.Ban Mi C.Lop Buri(CPK.13)
(1973 - 1987)



Frequency Analysis of Maximum Rainfall for Each Period at Nakhon Sawan

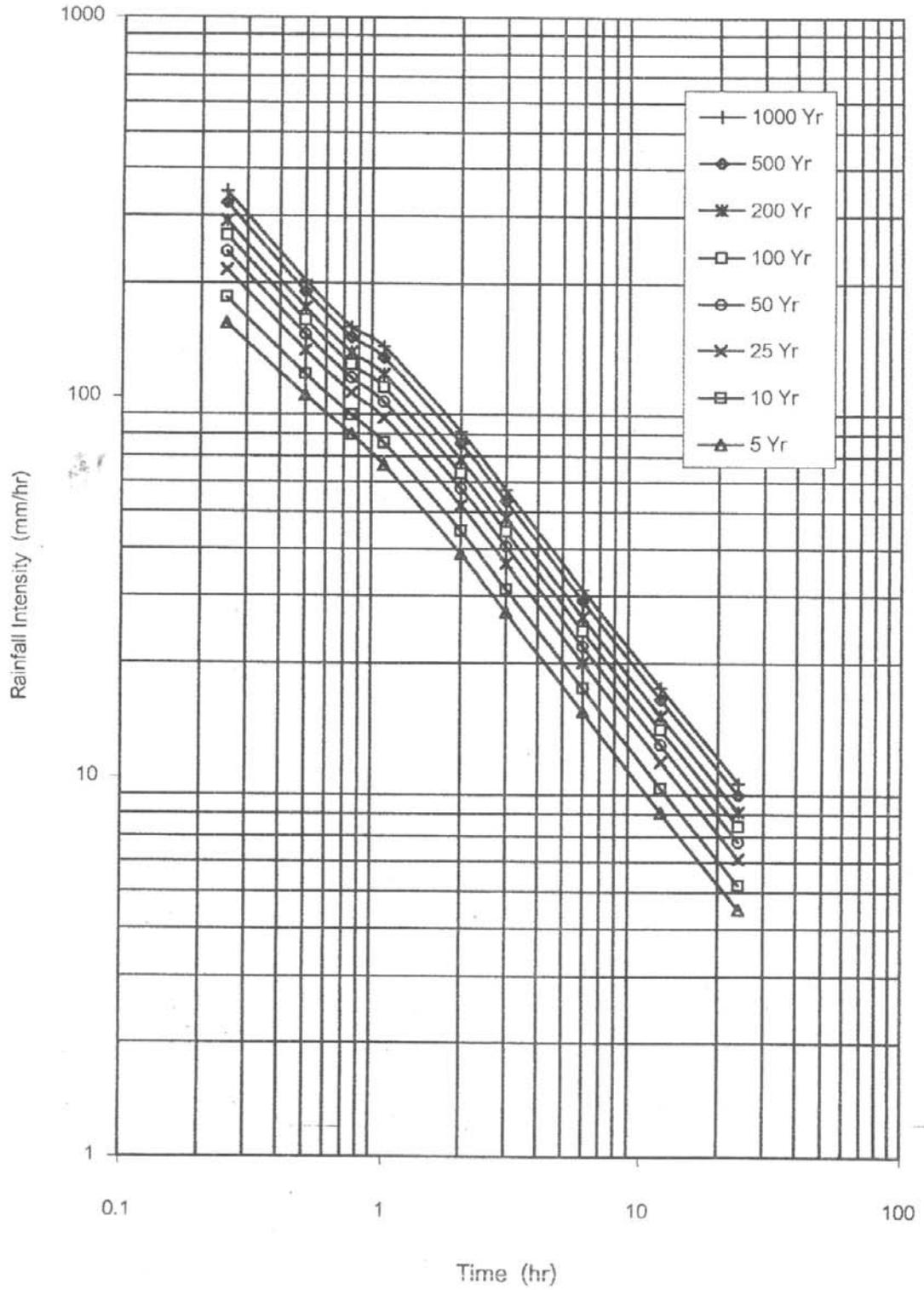
(1965- 1982 , 1986 - 1998)

Time (hr)	Rainfall Amount (mm)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	29.1	39.2	45.9	54.3	60.6	66.8	73.0	81.2	87.3
0.5	40.0	50.6	57.7	66.6	73.2	79.8	86.4	95.0	101.5
0.75	48.5	60.0	67.6	77.3	84.5	91.6	98.6	108.0	115.1
1	51.8	66.4	76.1	88.3	97.4	106.4	115.3	127.2	136.1
2	59.7	77.6	89.4	104.3	115.3	126.3	137.3	151.7	162.6
3	62.6	81.6	94.1	109.9	121.6	133.3	144.9	160.2	171.8
6	69.0	89.5	103.1	120.3	133.1	145.7	158.4	175.0	187.6
12	74.0	97.1	112.4	131.8	146.1	160.4	174.6	193.3	207.5
24	82.2	108.0	125.2	146.8	162.8	178.8	194.6	215.6	231.4

Time (hr)	Rainfall Intensity (mm/hr)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	116.5	156.8	183.6	217.3	242.4	267.2	292.0	324.6	349.4
0.5	79.9	101.3	115.4	133.2	146.5	159.6	172.7	190.0	203.1
0.75	64.6	80.0	90.2	103.1	112.6	122.1	131.5	144.0	153.4
1	51.8	66.4	76.1	88.3	97.4	106.4	115.3	127.2	136.1
2	29.9	38.8	44.7	52.1	57.7	63.2	68.6	75.8	81.3
3	20.9	27.2	31.4	36.6	40.5	44.4	48.3	53.4	57.3
6	11.5	14.9	17.2	20.1	22.2	24.3	26.4	29.2	31.3
12	6.2	8.1	9.4	11.0	12.2	13.4	14.5	16.1	17.3
24	3.4	4.5	5.2	6.1	6.8	7.4	8.1	9.0	9.6

Rainfall Intensity-Duration-Frequency Curve at Nakhon Sawan

(1965 - 1982 , 1986 - 1998)

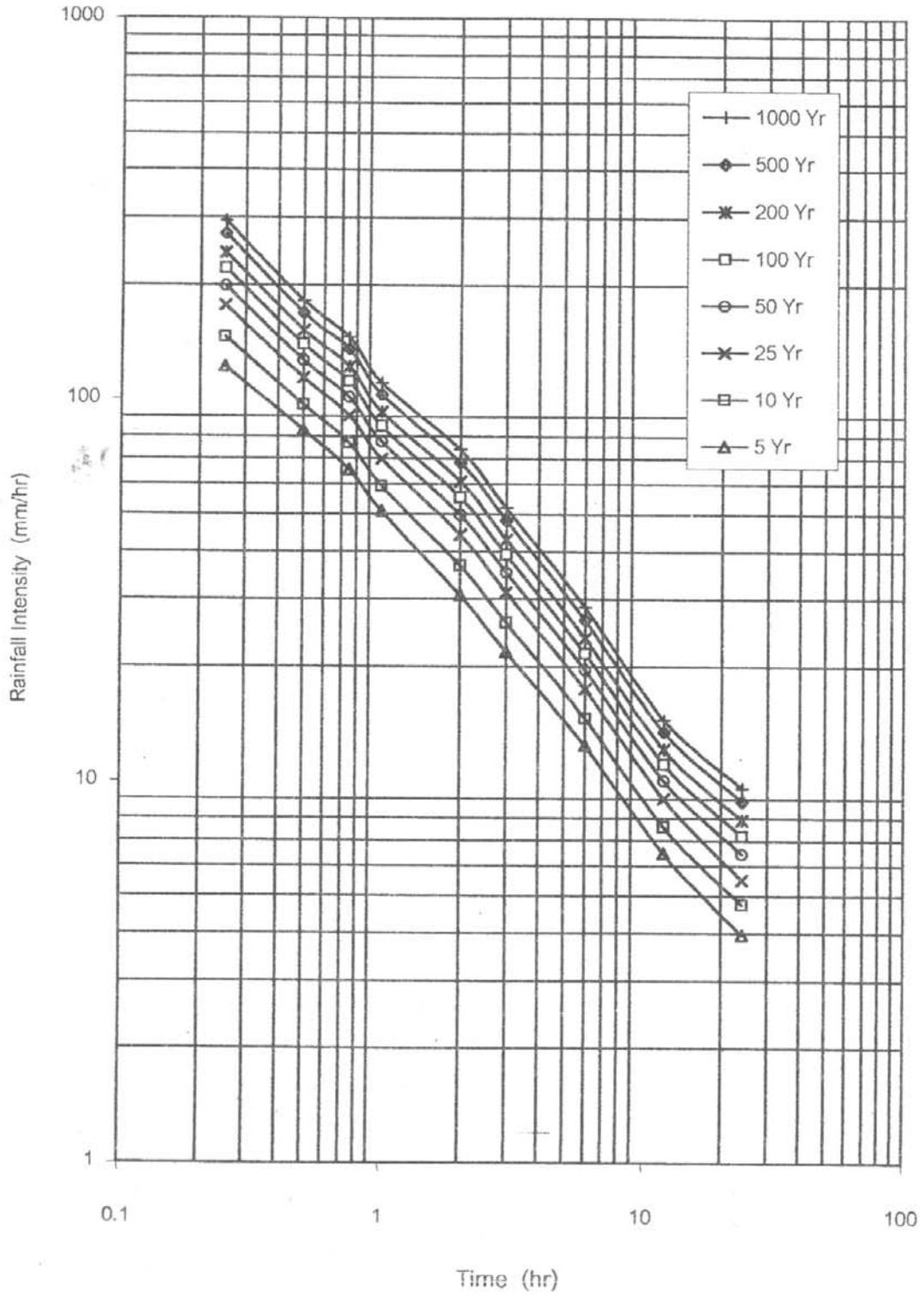


Frequency Analysis of Maximum Rainfall for Each Period at A.Ban Rai C.Uthai Thani(C.30)
(1984- 1994)

Time (hr)	Rainfall Amount (mm)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	21.4	30.5	36.5	44.0	49.7	55.2	60.8	68.1	73.7
0.5	31.3	41.6	48.4	57.0	63.4	69.8	76.1	84.4	90.7
0.75	36.5	49.1	57.5	68.1	75.9	83.7	91.5	101.7	109.5
1	38.5	51.0	59.2	69.7	77.4	85.1	92.8	102.9	110.5
2	43.4	61.5	73.4	88.6	99.8	110.9	122.0	136.6	147.7
3	46.8	65.7	78.2	94.0	105.8	117.4	129.0	144.9	155.9
6	54.3	74.6	88.1	105.1	117.7	130.2	142.7	159.1	171.6
12	57.7	77.9	91.3	108.2	120.8	133.3	145.7	162.1	174.5
24	66.8	95.2	113.9	132.7	155.3	172.7	190.2	213.1	230.5

Time (hr)	Rainfall Intensity (mm/hr)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	85.7	121.9	145.9	176.2	198.6	221.0	243.2	272.5	294.7
0.5	62.6	83.2	96.8	114.1	126.8	139.5	152.1	168.8	181.4
0.75	48.6	65.5	76.7	90.8	101.2	111.6	122.0	135.6	145.9
1	38.5	51.0	59.2	69.7	77.4	85.1	92.8	102.9	110.5
2	21.7	30.7	36.7	44.3	49.9	55.5	61.0	68.3	73.9
3	15.6	21.9	26.1	31.3	35.3	39.1	43.0	48.3	52.0
6	9.0	12.4	14.7	17.5	19.6	21.7	23.8	26.5	28.6
12	4.8	6.5	7.6	9.0	10.1	11.1	12.1	13.5	14.5
24	2.8	4.0	4.7	5.5	6.5	7.2	7.9	8.9	9.6

Rainfall Intensity-Duration-Frequency Curve at A.Ban Rai C.Uthai Thani(C.30)
(1984 - 1994)



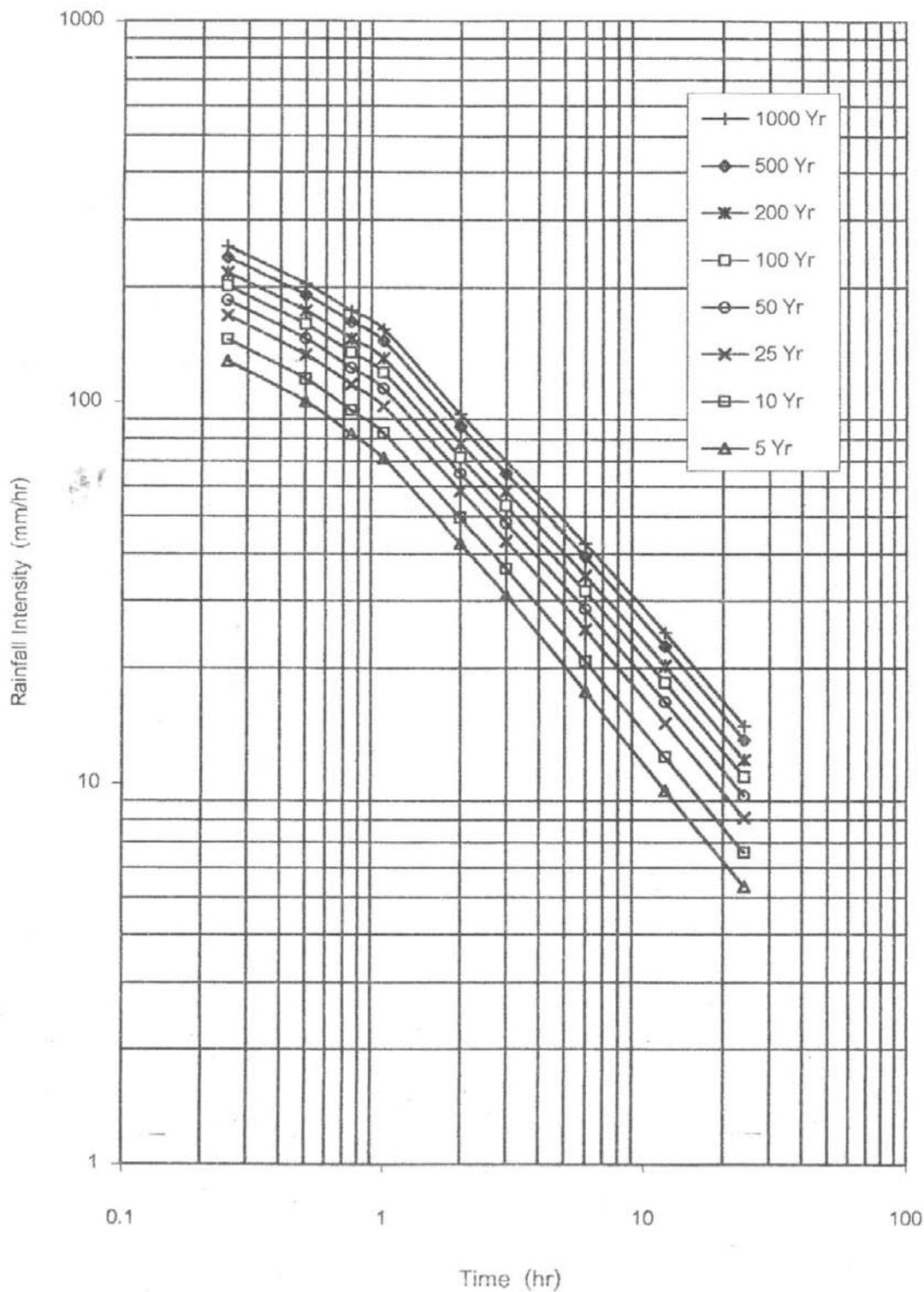
Frequency Analysis of Maximum Rainfall for Each Period at R.I.D Office Samsen(C.12)

(1950- 1994)

Time (hr)	Rainfall Amount (mm)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	25.4	32.1	36.5	42.1	46.3	50.5	54.6	60.0	64.1
0.5	39.4	50.3	57.5	66.6	73.3	80.0	86.7	95.5	102.1
0.75	47.4	61.8	71.3	83.3	92.3	101.1	110.0	121.6	130.4
1	53.7	71.3	82.9	97.7	108.6	119.4	130.2	144.5	155.2
2	64.1	85.2	99.2	116.8	129.9	142.9	155.8	172.9	185.8
3	69.0	93.3	109.5	129.8	145.0	160.0	174.9	194.7	209.6
6	72.7	104.4	125.3	151.9	171.5	191.0	210.5	236.2	255.5
12	76.5	114.8	140.1	172.2	195.9	219.5	243.0	274.0	297.5
24	85.1	129.0	158.1	194.7	222.0	249.1	276.0	311.6	338.4

Time (hr)	Rainfall Intensity (mm/hr)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	101.4	128.3	146.1	168.6	185.2	201.8	218.3	240.1	256.5
0.5	78.7	100.5	114.9	133.1	146.6	160.0	173.3	191.0	204.3
0.75	63.2	82.4	95.1	111.1	123.0	134.8	146.6	162.1	173.9
1	53.7	71.3	82.9	97.7	108.6	119.4	130.2	144.5	155.2
2	32.1	42.6	49.6	58.4	65.0	71.4	77.9	86.5	92.9
3	23.0	31.1	36.5	43.3	48.3	53.3	58.3	64.9	69.9
6	12.1	17.4	20.9	25.3	28.6	31.8	35.1	39.4	42.6
12	6.4	9.6	11.7	14.3	16.3	18.3	20.3	22.8	24.8
24	3.5	5.4	6.6	8.1	9.3	10.4	11.5	13.0	14.1

Rainfall Intensity-Duration-Frequency Curve at R.I.D Office Samsen (C.12)
 (1950 - 1994)



Frequency Analysis of Maximum Rainfall for Each Period at Suphan Buri

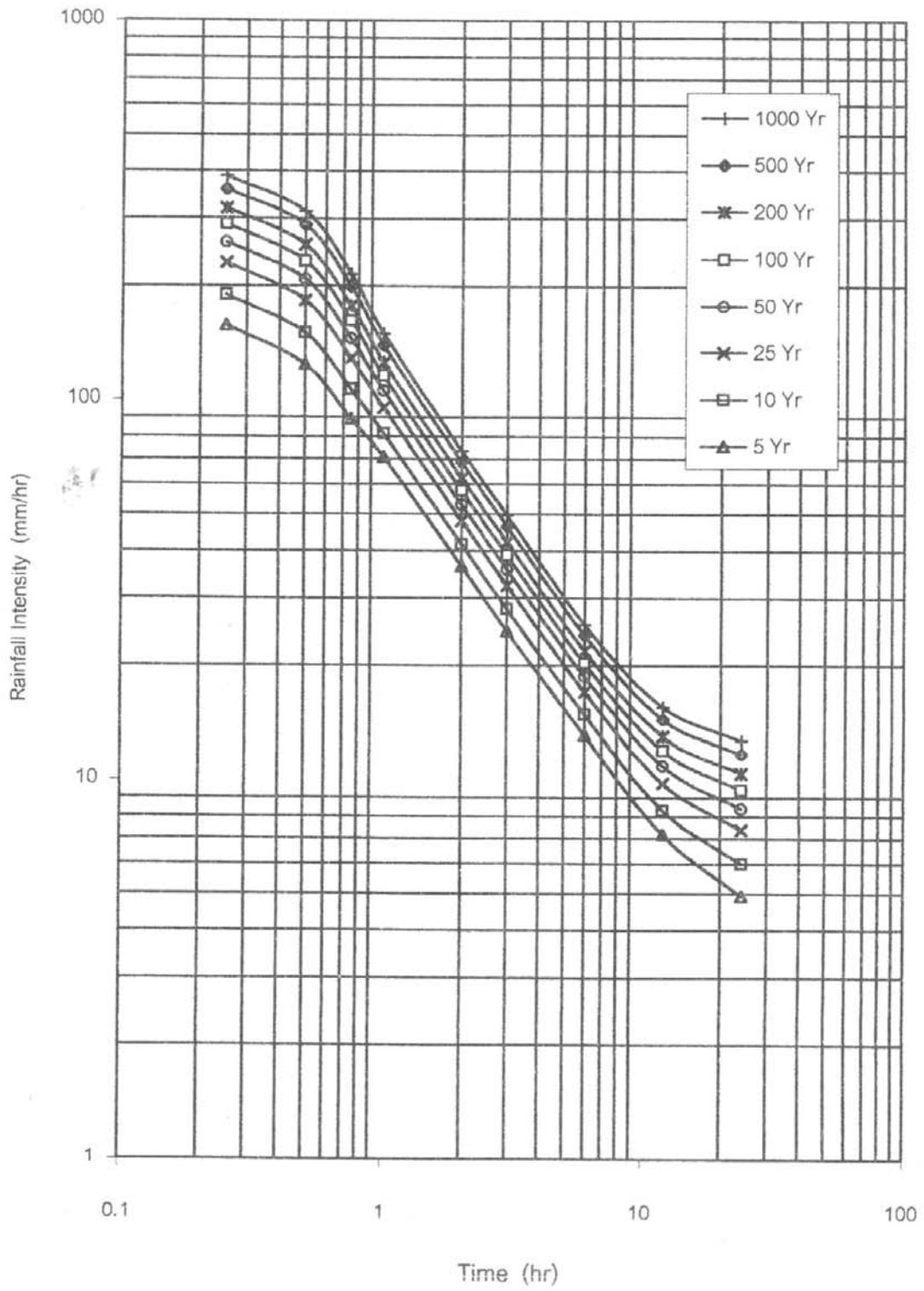
(1986 - 1998)

Time (hr)	Rainfall Amount (mm)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	27.3	39.4	47.4	57.5	65.0	72.4	79.8	89.6	97.0
0.5	42.2	62.0	75.2	91.7	104.0	116.3	128.4	144.5	156.6
0.75	47.1	67.0	80.1	96.7	109.0	121.2	133.4	149.4	161.5
1	54.3	70.7	81.6	95.4	105.6	115.7	125.8	139.1	149.2
2	57.7	73.1	83.3	96.2	105.8	115.3	124.8	137.2	146.7
3	58.1	73.8	84.3	97.4	107.2	116.9	126.6	139.3	149.0
6	63.1	78.8	89.2	102.3	112.1	121.8	131.4	144.1	153.8
12	65.1	86.1	100.0	117.5	130.6	143.5	156.4	173.4	186.2
24	79.5	118.6	144.5	177.2	201.5	225.6	249.6	281.2	305.1

Time (hr)	Rainfall Intensity (mm/hr)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	109.2	157.4	189.4	229.8	259.8	289.6	319.2	358.3	387.9
0.5	84.4	124.1	150.3	183.5	208.1	232.5	256.8	288.9	313.2
0.75	62.8	89.3	106.8	128.9	145.3	161.6	177.8	199.2	215.4
1	54.3	70.7	81.6	95.4	105.6	115.7	125.8	139.1	149.2
2	28.9	36.6	41.7	48.1	52.9	57.7	62.4	68.6	73.3
3	19.4	24.6	28.1	32.5	35.7	39.0	42.2	46.4	49.7
6	10.5	13.1	14.9	17.1	18.7	20.3	21.9	24.0	25.6
12	5.4	7.2	8.3	9.8	10.9	12.0	13.0	14.4	15.5
24	3.3	4.9	6.0	7.4	8.4	9.4	10.4	11.7	12.7

Rainfall Intensity-Duration-Frequency Curve at Suphan Buri

(1986 - 1998)

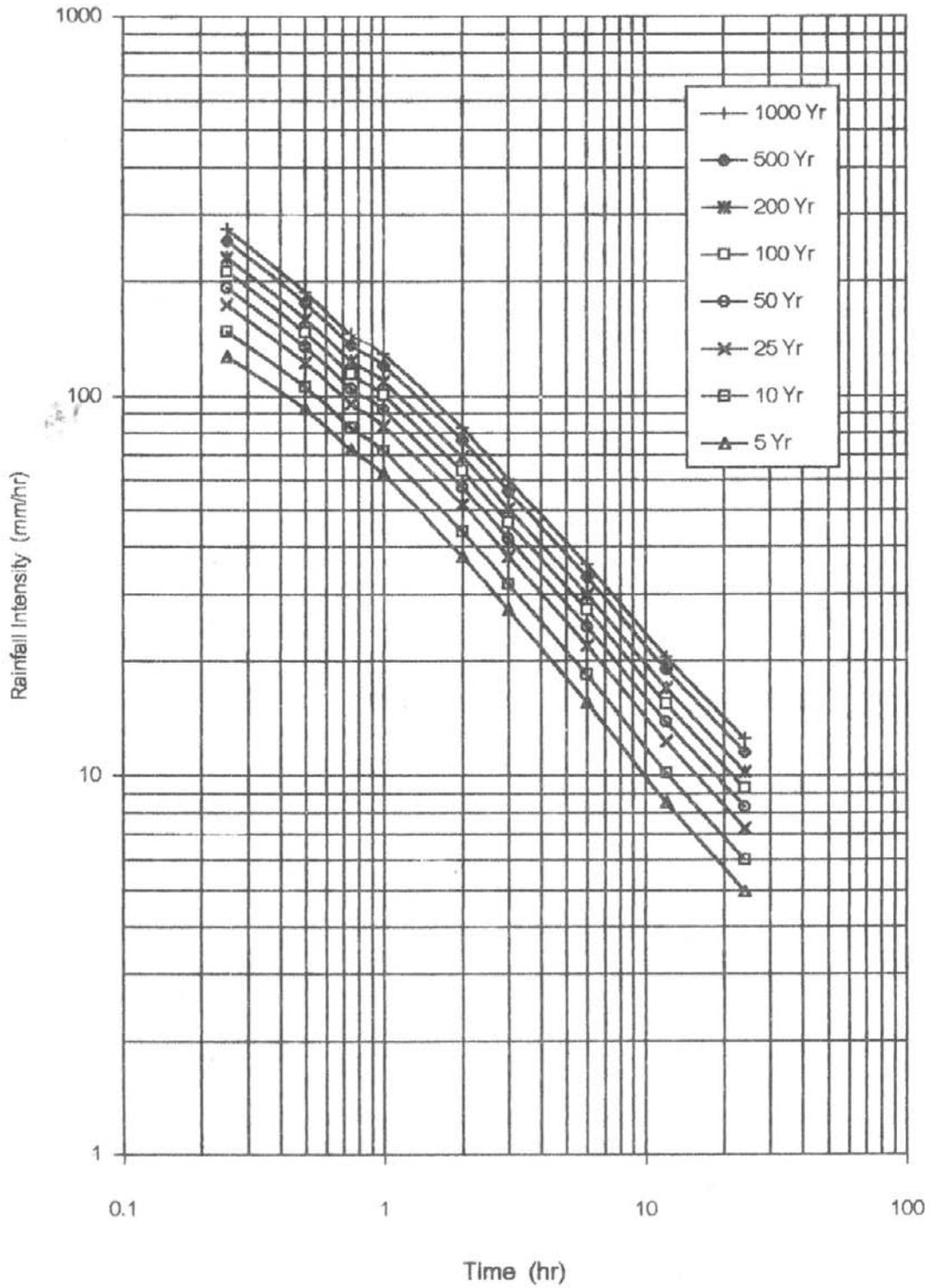


Average Value of Frequency Analysis of Maximum Rainfall for Each Period in Central Part

Time (hr)	Rainfall Amount (mm)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	24.1	31.9	37.0	43.5	48.3	53.2	57.9	64.1	68.9
0.5	36.3	46.3	52.9	61.3	67.5	73.7	79.8	87.9	94.0
0.75	42.6	54.2	61.9	71.5	78.8	85.9	93.0	102.4	109.5
1	48.4	62.4	71.7	83.5	92.2	100.8	109.4	120.8	129.3
2	56.8	75.6	88.0	103.6	115.2	126.8	138.3	153.4	164.9
3	61.8	81.9	95.7	113.1	126.1	138.9	151.7	168.7	181.3
6	68.2	93.7	110.6	132.0	147.9	163.6	179.4	200.0	215.7
12	71.9	102.2	122.3	147.6	166.4	185.1	203.7	228.3	246.9
24	81.0	119.0	144.2	175.0	199.6	223.0	246.3	277.1	300.4

Time (hr)	Rainfall Intensity (mm/hr)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	96.3	127.4	148.0	173.9	193.3	212.6	231.4	256.6	275.5
0.5	72.6	92.6	105.9	122.6	135.0	147.4	159.7	175.8	188.0
0.75	56.8	72.2	82.5	95.4	105.0	114.5	124.0	136.5	145.9
1	48.4	62.4	71.7	83.5	92.2	100.8	109.4	120.8	129.3
2	28.4	37.8	44.0	51.8	57.6	63.4	69.1	76.7	82.4
3	20.6	27.3	31.9	37.7	42.0	46.3	50.6	56.2	60.4
6	11.4	15.6	18.4	22.0	24.6	27.3	29.9	33.3	35.9
12	6.0	8.5	10.2	12.3	13.9	15.4	17.0	19.0	20.6
24	3.4	5.0	6.0	7.3	8.3	9.3	10.3	11.5	12.5

**Rainfall Intensity-Duration-Frequency Average Curve in
Central Part**



ตารางที่ 2. รายชื่อสถานีฝนที่ใช้ในการศึกษาของจังหวัดต่างๆในภาคตะวันออกเฉียง

รหัสสถานี	ชื่อสถานี	อำเภอ	จังหวัด	ละติจูด	ลองจิจูด	ช่วงเวลาข้อมูล	หน่วยงาน
03231	Kgt.18	สนามชัยเขต	ฉะเชิงเทรา	13° 28' 29"	102° 06' 56"	1961-1983,1986-1998	กรมชลประทาน
08013	อ.เมือง	เมือง	จันทบุรี	12° 36' 30"	102° 06' 56"	1986-1998	กรมอุตุนิยมวิทยา
09013	อ.เมือง	เมือง	ชลบุรี	13° 21' 36"	100° 59' 21"	1956-1983,1986-1998	กรมอุตุนิยมวิทยา
09083	อ.เกาะสีชัง	เกาะสีชัง	ชลบุรี	13° 09' 44"	100° 48' 36"	1960-1983,1986-1998	กรมชลประทาน
09133	สถานีตรวจอากาศ	บางละมุง	ชลบุรี	12° 55' 00"	100° 52' 00"	1986-1998	กรมชลประทาน
09171	KGT.19	พนัสนิคม	ชลบุรี	12° 55' 00"	100° 52' 00"	1954-1978,1986-1998	กรมชลประทาน
44013	อ.เมือง	เมือง	ปราจีนบุรี	14° 03' 00"	101° 22' 23"	1986-1998	กรมอุตุนิยมวิทยา
48121	Z.4	ปลวกแดง	ระยอง	12° 54' 40"	101° 17' 37"	1967-1988	กรมชลประทาน
48131	Z.5	แกลง	ระยอง	12° 53' 03"	101° 35' 58"	1970-1991	กรมชลประทาน
48141	Z.15	ปลวกแดง	ระยอง	12° 55' 41"	101° 19' 30"	1977-1991	กรมชลประทาน
48193	อ.เมือง	เมือง	ระยอง	12° 51' 38"	101° 45' 41"	1986-1998	กรมอุตุนิยมวิทยา
74032	อ.อรัญประเทศ	อรัญประเทศ	สระแก้ว	13° 41' 19"	102° 30' 21"	1961-1981,1986-1998	กรมชลประทาน

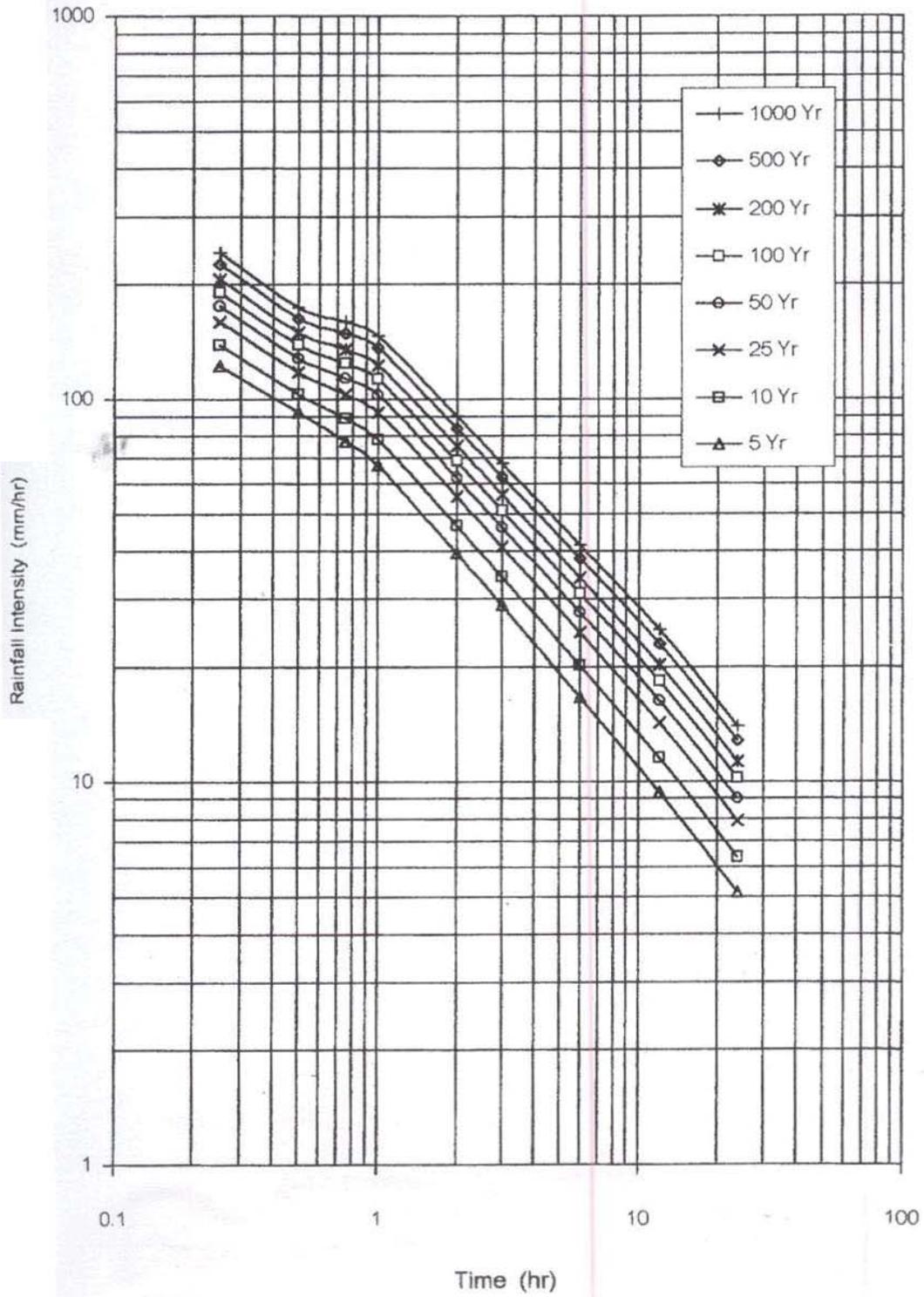
Frequency Analysis of Maximum Rainfall for Each Period at Kgt.18 C.Chachoengsao
(1969-1995)

Time (hr)	Rainfall Amount (mm)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	24.5	30.7	34.8	40.1	43.9	47.8	51.6	56.7	60.5
0.5	37.6	46.2	51.9	59.0	64.4	69.7	74.9	81.9	87.2
0.75	45.1	58.1	66.7	77.5	85.6	93.6	101.6	112.1	120.1
1	50.3	67.1	78.2	92.3	102.7	113.1	123.4	137.0	147.3
2	57.9	79.3	93.4	111.3	124.5	137.7	150.8	168.1	181.1
3	62.4	86.8	103.0	123.4	138.6	153.6	168.6	188.4	203.4
6	68.7	100.1	120.9	147.1	166.6	185.9	205.1	230.5	249.7
12	73.2	112.3	138.2	171.0	195.3	219.4	243.4	275.1	299.1
24	78.9	123.1	152.4	189.4	216.9	244.2	271.3	307.1	334.2

Time (hr)	Rainfall Intensity (mm/hr)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	97.9	122.8	139.4	160.3	175.8	191.1	206.4	226.7	242.0
0.5	75.1	92.3	103.7	118.1	128.7	139.3	149.9	163.8	174.3
0.75	60.1	77.4	88.9	103.4	114.1	124.8	135.4	149.5	160.1
1	50.3	67.1	78.2	92.3	102.7	113.1	123.4	137.0	147.3
2	29.0	39.6	46.7	55.6	62.3	68.8	75.4	84.0	90.6
3	20.8	28.9	34.3	41.1	46.2	51.2	56.2	62.8	67.8
6	11.5	16.7	20.1	24.5	27.8	31.0	34.2	38.4	41.6
12	6.1	9.4	11.5	14.2	16.3	18.3	20.3	22.9	24.9
24	3.3	5.1	6.4	7.9	9.0	10.2	11.3	12.8	13.9

Rainfall Intensity-Duration-Frequency Curve at Kgt.18 C.Chachoengsao

(1969-1995)



Frequency Analysis of Maximum Rainfall for Each Period at A.Muang C.Chantha Buri

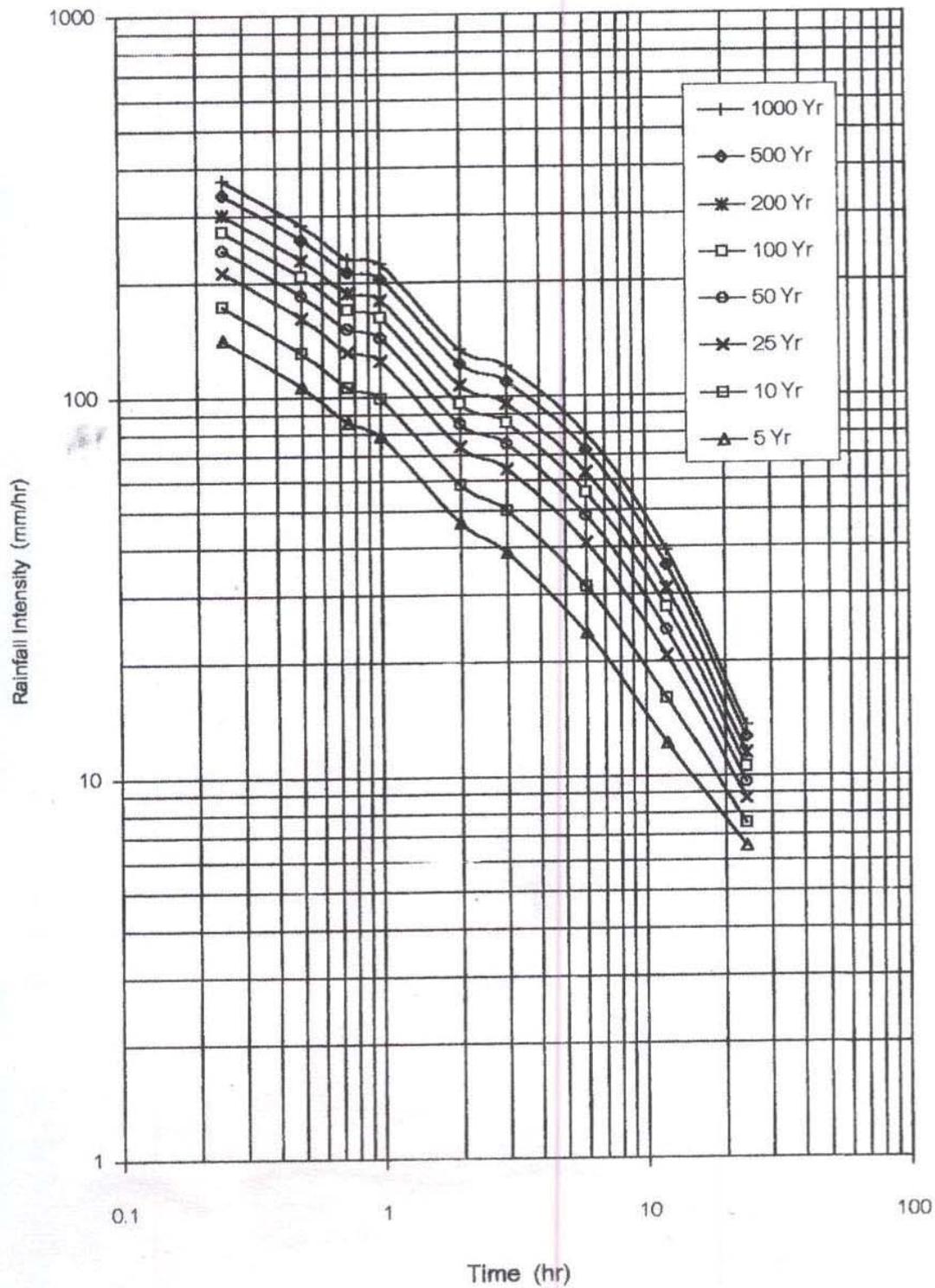
(1955-1968,1955-1998(24 hr.))

Time (hr)	Rainfall Amount (mm)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	23.4	35.4	43.3	53.4	60.8	68.2	75.6	85.3	92.6
0.5	34.9	53.3	65.5	80.9	92.3	103.7	115.0	129.9	141.2
0.75	41.4	64.3	79.5	98.7	113.0	127.1	141.2	159.8	173.8
1	48.7	79.0	99.0	124.3	143.1	161.7	180.3	204.8	223.3
2	56.9	93.2	117.2	147.5	170.1	192.4	214.7	244.1	266.3
3	65.1	116.4	150.3	193.2	225.0	256.6	288.1	329.6	361.0
6	72.4	142.5	189.0	247.6	291.1	334.3	377.4	434.1	477.0
12	77.9	146.0	191.1	248.1	290.3	332.3	374.1	429.2	470.9
24	121.8	156.9	180.1	209.5	231.3	252.9	274.4	302.9	324.4

Time (hr)	Rainfall Intensity (mm/hr)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	93.6	141.6	173.3	213.4	243.2	272.8	302.2	341.1	370.5
0.5	69.7	106.6	131.0	161.8	184.7	207.4	230.0	259.9	282.4
0.75	55.1	85.7	106.0	131.6	150.6	169.5	188.2	213.0	231.7
1	48.7	79.0	99.0	124.3	143.1	161.7	180.3	204.8	223.3
2	28.4	46.6	58.6	73.8	85.0	96.2	107.4	122.0	133.1
3	21.7	38.8	50.1	64.4	75.0	85.5	96.0	109.9	120.3
6	12.1	23.8	31.5	41.3	48.5	55.7	62.9	72.4	79.5
12	6.5	12.2	15.9	20.7	24.2	27.7	31.2	35.8	39.2
24	5.1	6.5	7.5	8.7	9.6	10.5	11.4	12.6	13.5

Rainfall Intensity-Duration-Frequency Curve at A.Muang C.Chantha Buri

(1955-1968,1955-1998(24 hr.))



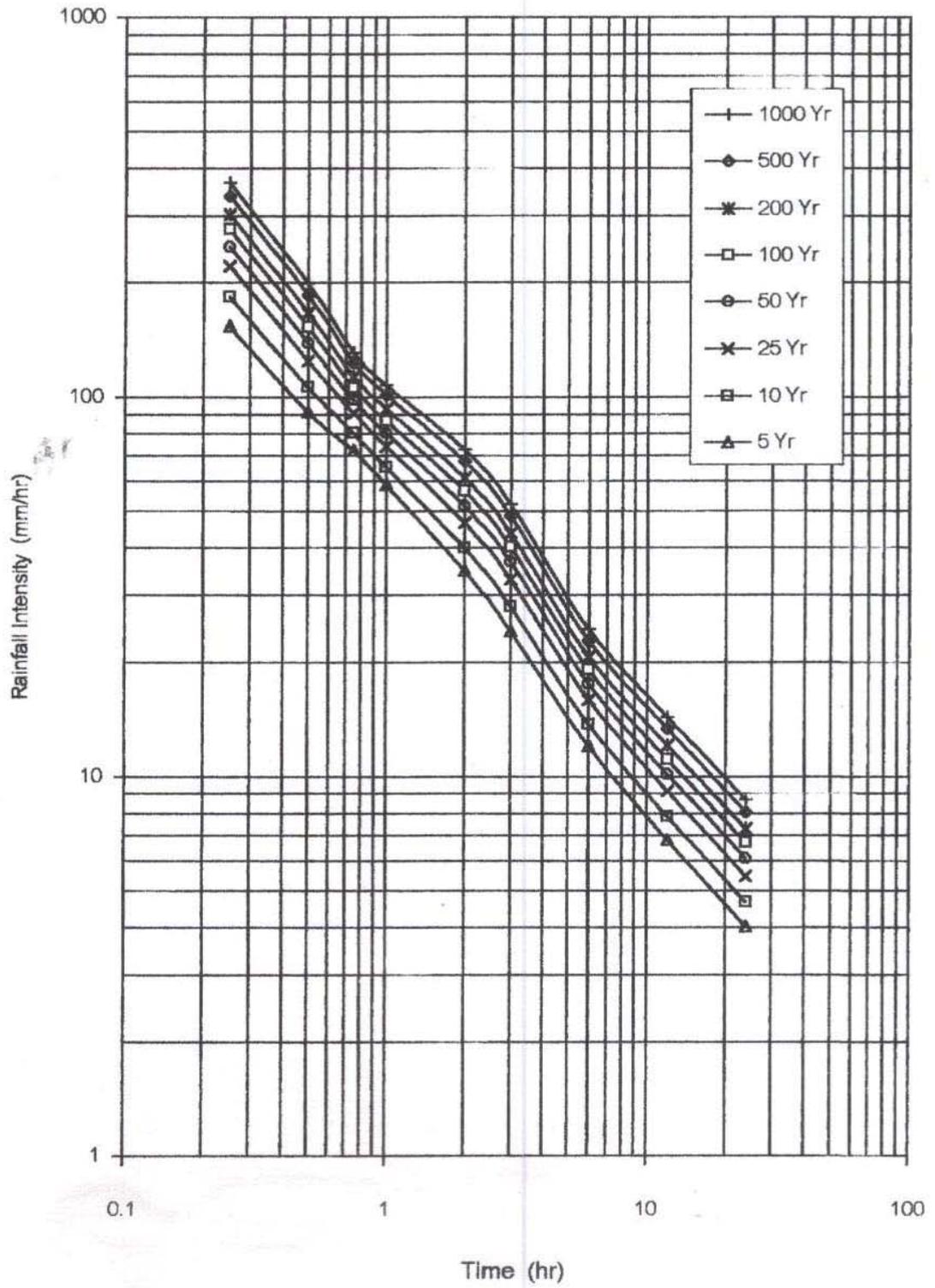
Frequency Analysis of Maximum Rainfall for Each Period at A.Muang C.Chon Buri

(1956-1983,1986-1998)

Time (hr)	Rainfall Amount (mm)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	27.5	38.6	46.0	55.4	62.3	69.2	76.0	85.0	91.9
0.5	34.6	45.9	53.4	62.8	69.8	76.8	83.7	92.9	99.8
0.75	45.0	54.3	60.5	68.3	74.1	79.8	85.5	93.1	98.8
1	48.4	58.7	65.5	74.2	80.6	86.9	93.3	101.6	108.0
2	53.8	69.7	80.3	93.6	103.5	113.3	123.1	135.9	145.7
3	54.9	72.6	84.4	99.2	110.2	121.1	132.0	146.3	157.2
6	56.7	72.3	82.5	95.5	105.2	114.8	124.3	136.9	146.4
12	62.6	81.5	94.0	109.8	121.6	133.2	144.8	160.2	171.7
24	73.0	96.4	112.0	131.6	146.1	160.6	175.0	194.0	208.4

Time (hr)	Rainfall Intensity (mm/hr)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	109.9	154.6	184.1	221.4	249.1	276.6	304.0	340.1	367.4
0.5	69.2	91.7	106.7	125.6	139.6	153.5	167.4	185.7	199.5
0.75	60.0	72.4	80.7	91.1	98.8	106.4	114.1	124.1	131.7
1	48.4	58.7	65.5	74.2	80.6	86.9	93.3	101.6	108.0
2	26.9	34.9	40.1	46.8	51.7	56.6	61.5	68.0	72.8
3	18.3	24.2	28.1	33.1	36.7	40.4	44.0	48.8	52.4
6	9.5	12.0	13.8	15.9	17.5	19.1	20.7	22.8	24.4
12	5.2	6.8	7.8	9.2	10.1	11.1	12.1	13.3	14.3
24	3.0	4.0	4.7	5.5	6.1	6.7	7.3	8.1	8.7

Rainfall Intensity-Duration-Frequency Curve at A.Muang C.Chon Buri
(1956-1983, 1986-1998)

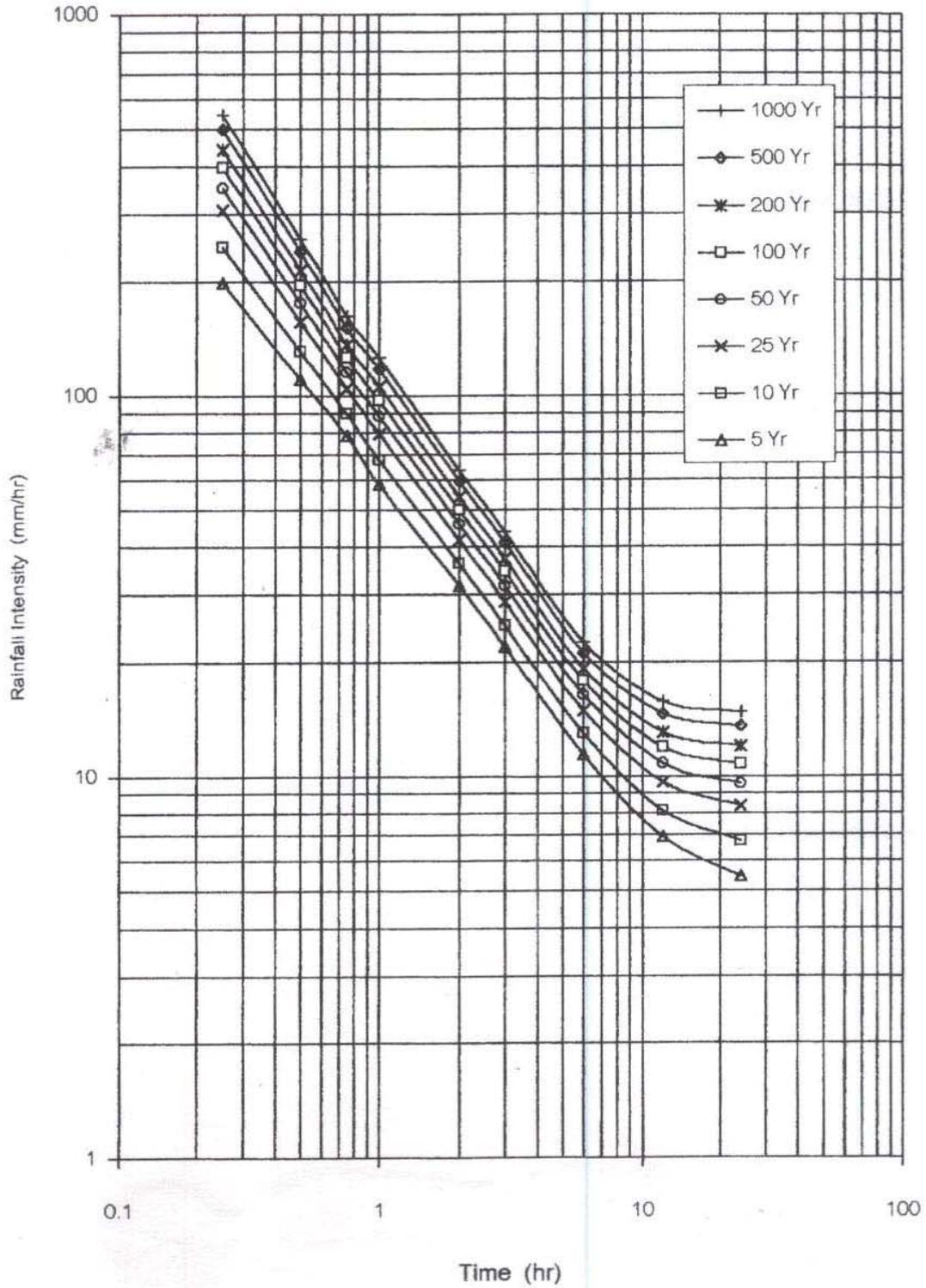


Frequency Analysis of Maximum Rainfall for Each Period at A.Ko Sichang C.Chon Buri
(1960-1983,1986-1998)

Time (hr)	Rainfall Amount (mm)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	31.5	49.7	61.7	77.0	88.3	99.5	110.6	125.4	136.5
0.5	40.1	55.5	65.8	78.7	88.3	97.8	107.3	119.8	129.3
0.75	45.8	59.0	67.7	78.7	86.9	95.1	103.1	113.8	121.9
1	44.1	58.4	67.9	79.8	88.7	97.5	106.3	117.9	126.7
2	50.1	63.5	72.4	83.6	91.9	100.2	108.4	119.3	127.5
3	51.9	65.8	74.9	86.5	95.1	103.6	112.1	123.3	131.8
6	54.2	68.3	77.6	89.4	98.2	106.8	115.5	126.9	135.5
12	61.0	83.0	97.6	116.0	129.6	143.2	156.7	174.5	187.9
24	83.9	130.7	161.7	200.8	229.8	258.7	287.4	325.3	353.9

Time (hr)	Rainfall Intensity (mm/hr)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	126.0	198.8	247.0	307.8	353.0	397.8	442.5	501.4	546.0
0.5	80.1	111.0	131.5	157.4	176.6	195.6	214.6	239.6	258.5
0.75	61.0	78.6	90.3	105.0	115.9	126.7	137.5	151.8	162.5
1	44.1	58.4	67.9	79.8	88.7	97.5	106.3	117.9	126.7
2	25.1	31.8	36.2	41.8	46.0	50.1	54.2	59.6	63.8
3	17.3	21.9	25.0	28.8	31.7	34.5	37.4	41.1	43.9
6	9.0	11.4	12.9	14.9	16.4	17.8	19.2	21.1	22.6
12	5.1	6.9	8.1	9.7	10.8	11.9	13.1	14.5	15.7
24	3.5	5.4	6.7	8.4	9.6	10.8	12.0	13.6	14.7

Rainfall Intensity-Duration-Frequency Curve at A.Ko Sichang C.Chon Buri
(1960-1983, 1986-1998)



Frequency Analysis of Maximum Rainfall for Each Period at Phatthaya Met.Obs. C.Chon Buri

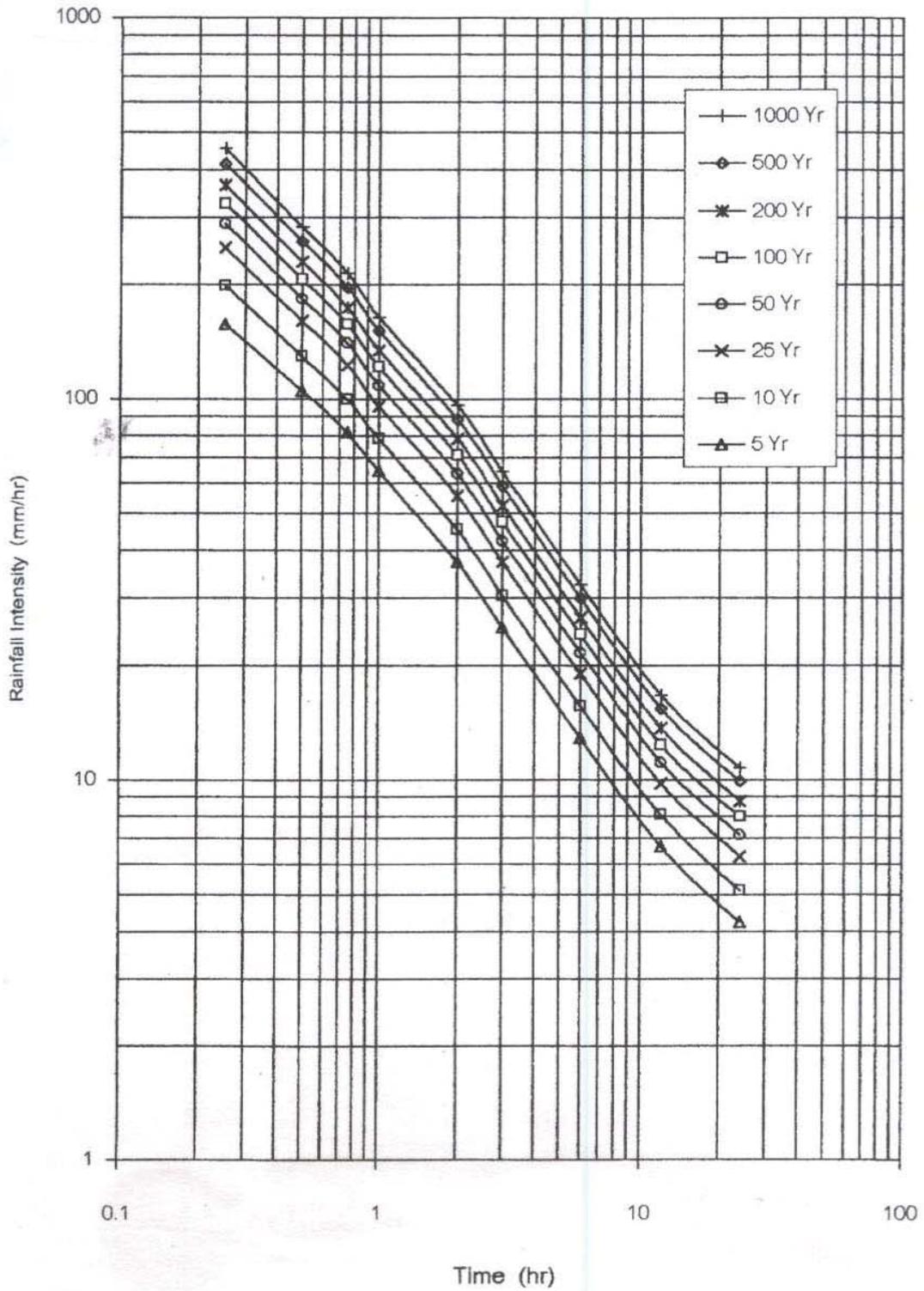
(1986-1998)

Time (hr)	Rainfall Amount (mm)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	24.0	39.5	49.7	62.7	72.3	81.8	91.3	103.9	113.4
0.5	34.5	53.0	65.2	80.7	92.2	103.6	114.9	129.9	141.2
0.75	40.7	61.5	75.2	92.6	105.5	118.3	131.0	147.9	160.6
1	44.0	64.9	78.7	96.1	109.1	121.9	134.7	151.6	164.4
2	49.9	74.7	91.1	111.8	127.2	142.4	157.6	177.7	192.8
3	50.9	75.5	91.8	112.3	127.6	142.7	157.8	177.7	192.7
6	52.3	77.2	93.6	114.4	129.8	145.1	160.3	180.5	195.7
12	55.1	80.0	96.6	117.5	133.0	148.4	163.7	183.9	199.2
24	68.9	101.7	123.3	150.7	171.0	191.2	211.3	237.8	257.9

Time (hr)	Rainfall Intensity (mm/hr)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	95.8	157.8	198.8	250.7	289.1	327.3	365.4	415.5	453.5
0.5	68.9	105.9	130.4	161.3	184.3	207.1	229.8	259.8	282.4
0.75	54.3	81.9	100.3	123.5	140.7	157.7	174.7	197.1	214.1
1	44.0	64.9	78.7	96.1	109.1	121.9	134.7	151.6	164.4
2	25.0	37.4	45.6	55.9	63.6	71.2	78.8	88.8	96.4
3	17.0	25.2	30.6	37.4	42.5	47.6	52.6	59.2	64.2
6	8.7	12.9	15.6	19.1	21.6	24.2	26.7	30.1	32.6
12	4.6	6.7	8.0	9.8	11.1	12.4	13.6	15.3	16.6
24	2.9	4.2	5.1	6.3	7.1	8.0	8.8	9.9	10.7

Rainfall Intensity-Duration-Frequency Curve at Phatthaya Met. Obs. C.Chon Buri

(1986-1998)



Frequency Analysis of Maximum Rainfall for Each Period at Kgt.19 C.Chon Buri

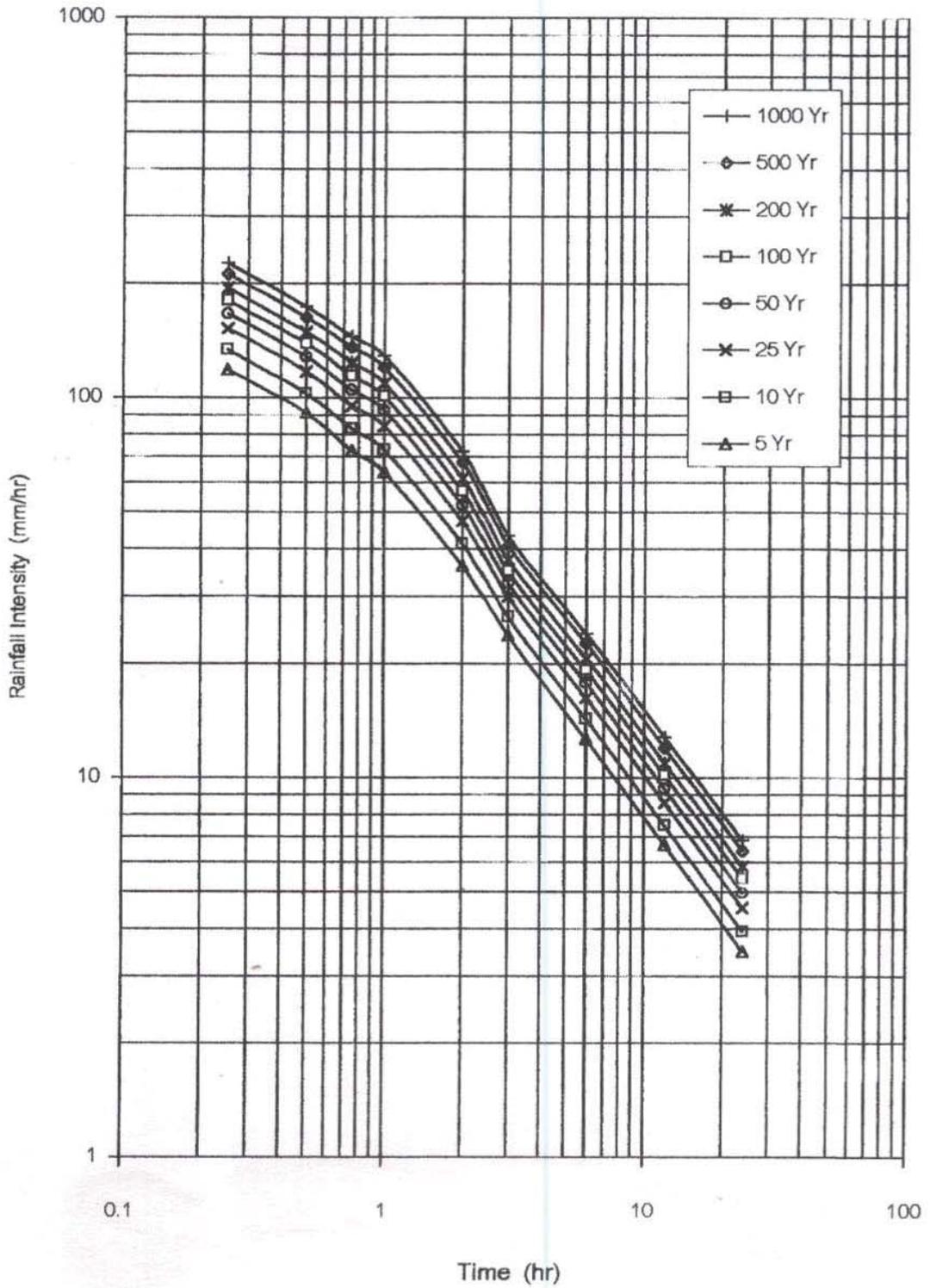
(1954-1978,1986-1998)

Time (hr)	Rainfall Amount (mm)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	24.1	29.8	33.5	38.2	41.7	45.2	48.7	53.2	56.7
0.5	37.1	45.8	51.5	58.8	64.2	69.5	74.8	81.9	87.2
0.75	43.3	54.7	62.2	71.8	78.8	85.9	92.9	102.1	109.1
1	50.5	64.1	73.1	84.5	93.0	101.4	109.7	120.7	129.0
2	57.5	72.6	82.6	95.3	104.7	114.0	123.3	135.6	144.8
3	59.0	71.4	79.6	90.0	97.7	105.3	112.9	122.9	130.5
6	61.4	75.8	85.4	97.4	106.3	115.2	124.0	135.7	144.5
12	64.5	79.9	90.1	102.9	112.5	122.0	131.4	143.9	153.3
24	66.3	83.3	94.5	108.8	119.3	129.8	140.2	154.0	164.4

Time (hr)	Rainfall Intensity (mm/hr)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	96.6	119.1	134.0	152.9	166.9	180.8	194.6	212.8	226.6
0.5	74.2	91.5	103.0	117.6	128.3	139.0	149.7	163.7	174.4
0.75	57.7	72.9	82.9	95.7	105.1	114.5	123.8	136.1	145.5
1	50.5	64.1	73.1	84.5	93.0	101.4	109.7	120.7	129.0
2	28.7	36.3	41.3	47.6	52.3	57.0	61.6	67.8	72.4
3	19.7	23.8	26.5	30.0	32.6	35.1	37.6	41.0	43.5
6	10.2	12.6	14.2	16.2	17.7	19.2	20.7	22.6	24.1
12	5.4	6.7	7.5	8.6	9.4	10.2	11.0	12.0	12.8
24	2.8	3.5	3.9	4.5	5.0	5.4	5.8	6.4	6.9

Rainfall Intensity-Duration-Frequency Curve at Kgt.19 C.Chon Buri

(1954-1978,1986-1998)



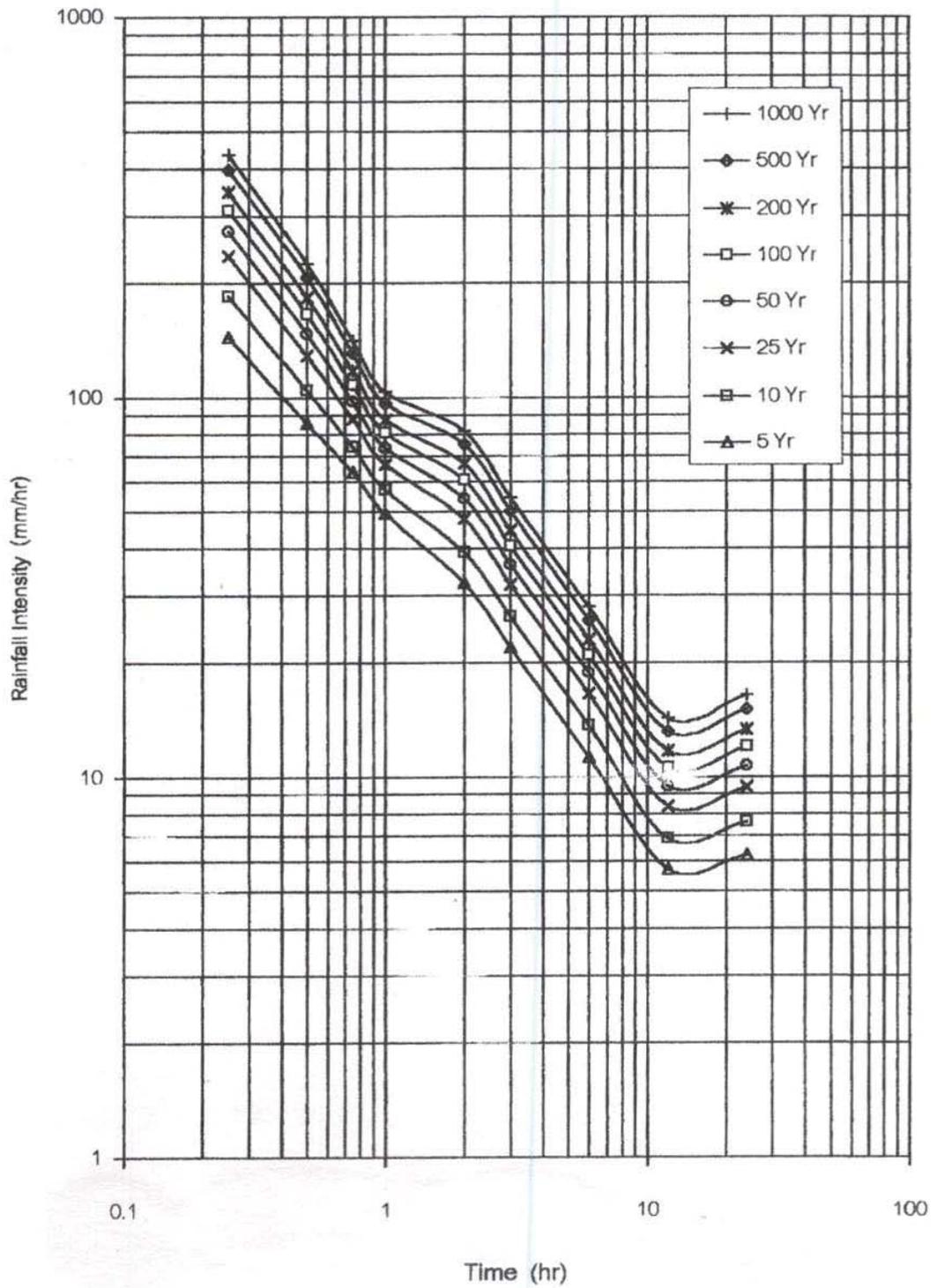
Frequency Analysis of Maximum Rainfall for Each Period at A.Muang C.Prachin Buri
(1986-1998)

Time (hr)	Rainfall Amount (mm)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	21.1	36.2	46.3	59.0	68.4	77.8	87.1	99.4	108.6
0.5	28.4	43.0	52.6	64.8	73.9	82.9	91.8	103.6	112.6
0.75	35.5	47.8	55.9	66.1	73.7	81.3	88.8	98.7	106.2
1	38.3	49.7	57.2	66.7	73.8	80.8	87.8	97.0	104.0
2	44.3	65.0	78.7	96.0	108.8	121.6	134.3	151.0	163.7
3	45.3	65.8	79.4	96.6	109.3	121.9	134.5	151.1	163.6
6	46.7	67.9	81.8	99.5	112.6	125.6	138.6	155.7	168.6
12	46.9	68.4	82.6	100.5	113.8	127.1	140.2	157.6	170.8
24	97.8	148.9	182.7	225.4	257.1	288.6	319.9	361.3	392.5

Time (hr)	Rainfall Intensity (mm/hr)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	84.2	144.9	185.1	235.9	273.6	311.0	348.2	397.4	434.6
0.5	56.8	86.0	105.3	129.7	147.8	165.7	183.6	207.3	225.1
0.75	47.4	63.7	74.5	88.2	98.3	108.3	118.3	131.6	141.5
1	38.3	49.7	57.2	66.7	73.8	80.8	87.8	97.0	104.0
2	22.1	32.5	39.3	48.0	54.4	60.8	67.1	75.5	81.8
3	15.1	21.9	26.5	32.2	36.4	40.6	44.8	50.4	54.5
6	7.8	11.3	13.6	16.6	18.8	20.9	23.1	25.9	28.1
12	3.9	5.7	6.9	8.4	9.5	10.6	11.7	13.1	14.2
24	4.1	6.2	7.6	9.4	10.7	12.0	13.3	15.1	16.4

Rainfall Intensity-Duration-Frequency Curve at A.Muang C.Prachin Buri

(1986-1998)

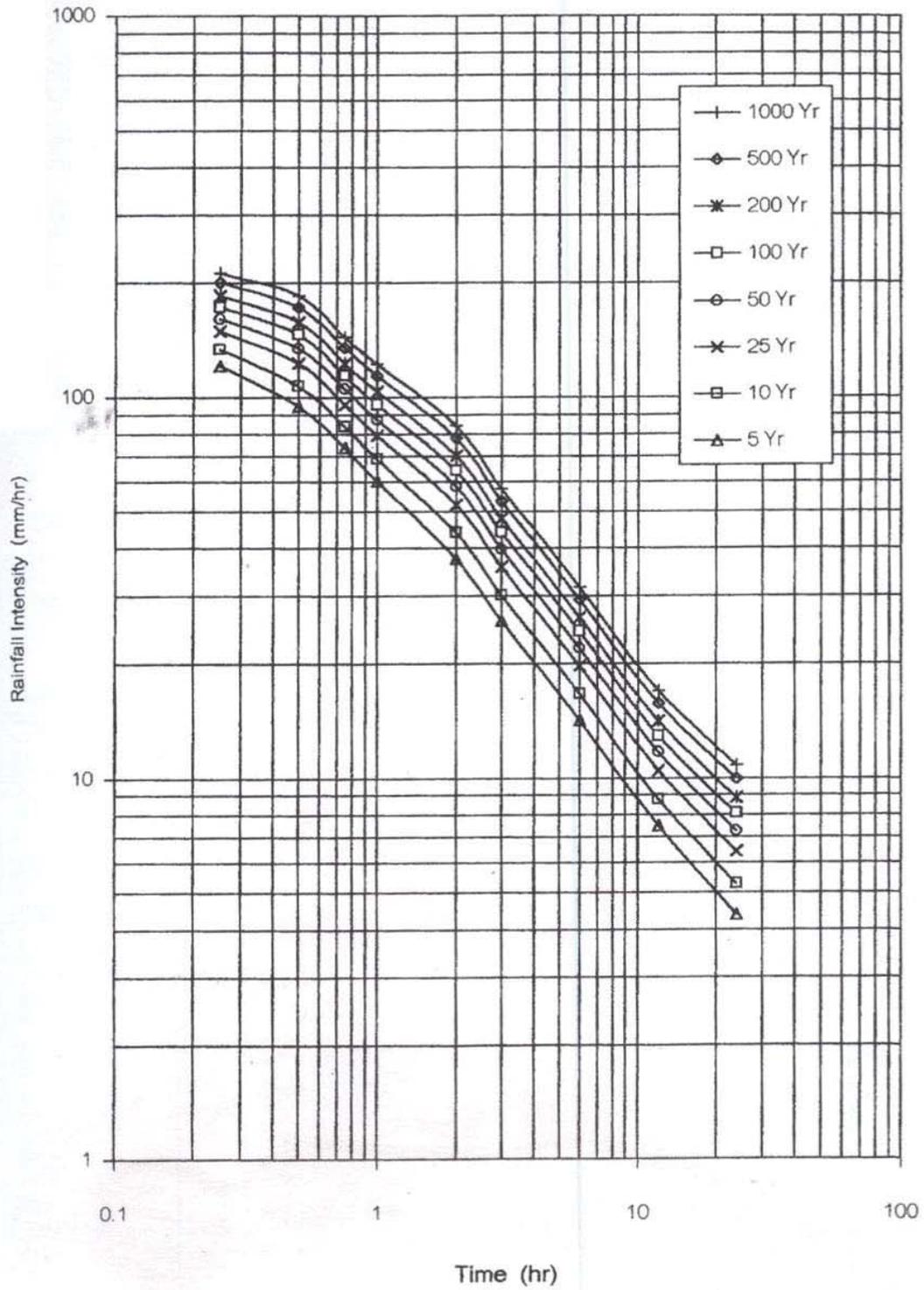


Frequency Analysis of Maximum Rainfall for Each Period at Z.4 A.Pluak Daeng C.Rayong
(1967-1988)

Time (hr)	Rainfall Amount (mm)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	25.5	30.3	33.5	37.5	40.5	43.4	46.3	50.2	53.2
0.5	38.0	47.5	53.8	61.7	67.6	73.4	79.2	86.9	92.7
0.75	44.4	55.5	62.9	72.2	79.1	85.9	92.7	101.7	108.5
1	47.2	60.2	68.9	79.8	87.9	95.9	103.9	114.5	122.4
2	55.7	75.3	88.3	104.7	116.8	128.9	140.9	156.8	168.7
3	57.8	77.7	90.9	107.5	119.9	132.1	144.3	160.4	172.6
6	63.3	85.3	99.8	118.2	131.9	145.5	159.0	176.8	190.3
12	66.1	89.9	105.6	125.5	140.3	155.0	169.6	188.9	203.4
24	72.8	105.2	126.6	153.7	173.8	193.7	213.6	239.8	259.6

Time (hr)	Rainfall Intensity (mm/hr)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	102.1	121.3	134.0	150.0	161.8	173.6	185.4	200.9	212.6
0.5	76.0	94.9	107.5	123.4	135.1	146.8	158.5	173.8	185.5
0.75	59.2	74.0	83.8	96.2	105.4	114.5	123.6	135.6	144.7
1	47.2	60.2	68.9	79.8	87.9	95.9	103.9	114.5	122.4
2	27.9	37.7	44.1	52.3	58.4	64.4	70.5	78.4	84.4
3	19.3	25.9	30.3	35.8	40.0	44.0	48.1	53.5	57.5
6	10.5	14.2	16.6	19.7	22.0	24.2	26.5	29.5	31.7
12	5.5	7.5	8.8	10.5	11.7	12.9	14.1	15.7	17.0
24	3.0	4.4	5.3	6.4	7.2	8.1	8.9	10.0	10.8

Rainfall Intensity-Duration-Frequency Curve at Z.4 ,Pluak Dang C.Rayong
(1967-1988)



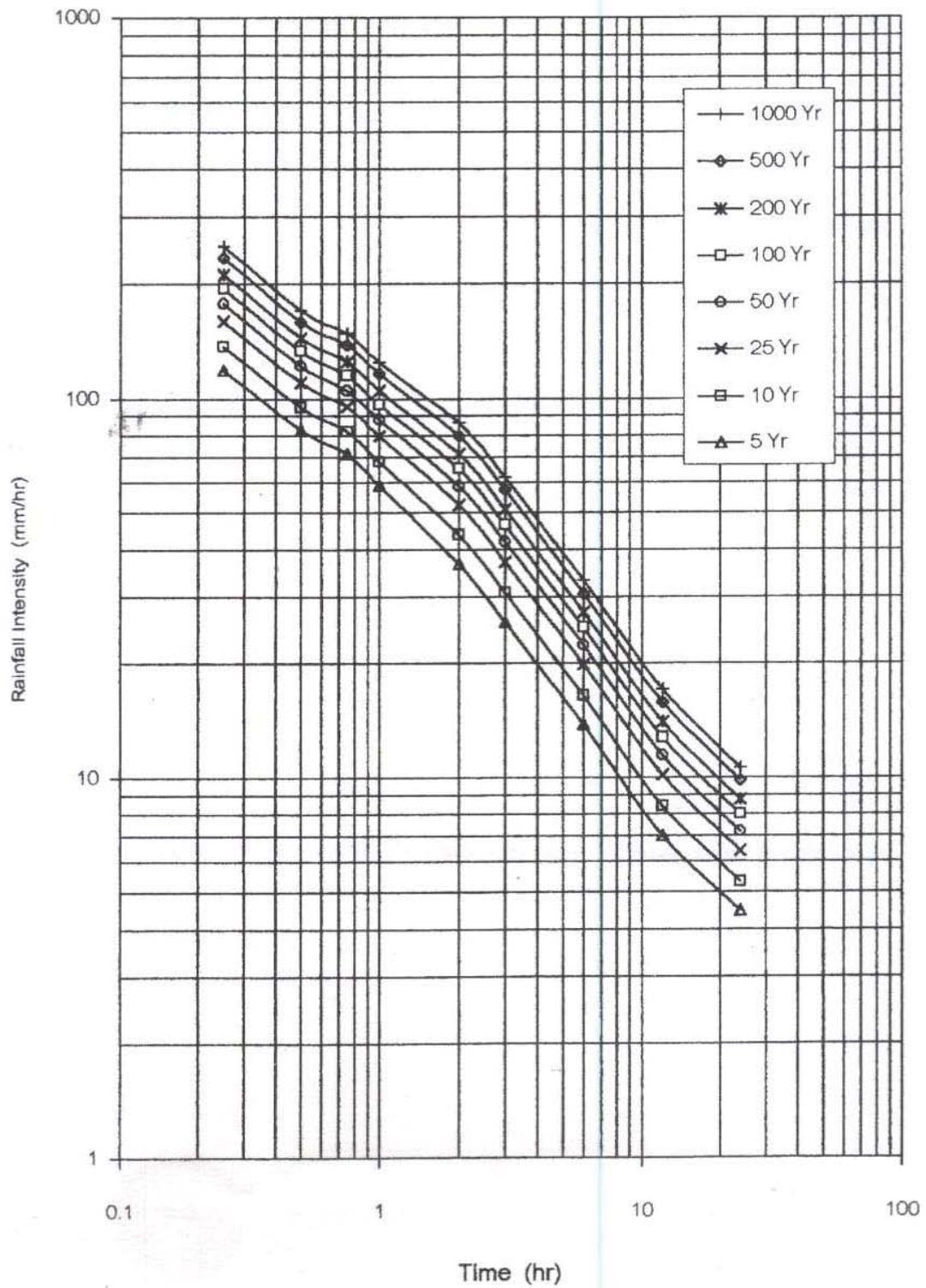
Frequency Analysis of Maximum Rainfall for Each Period at Z.5 A.Klaeng C.Rayong
(1970-1991)

Time (hr)	Rainfall Amount (mm)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	22.7	29.7	34.3	40.2	44.5	48.8	53.1	58.8	63.1
0.5	32.3	41.5	47.6	55.3	61.1	66.7	72.4	79.9	85.5
0.75	41.3	53.4	61.5	71.6	79.1	86.6	94.1	103.9	111.3
1	44.9	58.8	68.0	79.7	88.3	96.8	105.4	116.6	125.1
2	52.8	73.6	87.3	104.7	117.5	130.3	143.0	159.8	172.5
3	54.5	77.3	92.3	111.4	125.5	139.5	153.4	171.9	185.8
6	58.2	82.6	98.7	119.2	134.3	149.3	164.3	184.1	199.0
12	59.0	84.1	100.8	121.8	137.5	153.0	168.4	188.8	204.2
24	76.3	107.3	127.8	153.7	172.9	192.0	211.0	236.1	255.1

Time (hr)	Rainfall Intensity (mm/hr)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	90.7	118.7	137.3	160.7	178.1	195.3	212.5	235.2	252.3
0.5	64.6	83.0	95.2	110.7	122.1	133.5	144.8	159.7	171.0
0.75	55.0	71.2	81.9	95.5	105.5	115.5	125.4	138.5	148.4
1	44.9	58.8	68.0	79.7	88.3	96.8	105.4	116.6	125.1
2	26.4	36.8	43.7	52.3	58.8	65.2	71.5	79.9	86.3
3	18.2	25.8	30.8	37.1	41.8	46.5	51.1	57.3	61.9
6	9.7	13.8	16.5	19.9	22.4	24.9	27.4	30.7	33.2
12	4.9	7.0	8.4	10.2	11.5	12.7	14.0	15.7	17.0
24	3.2	4.5	5.3	6.4	7.2	8.0	8.8	9.8	10.6

Rainfall Intensity-Duration-Frequency Curve at Z.5 A.Klaeng C.Rayong

(1970-1991)

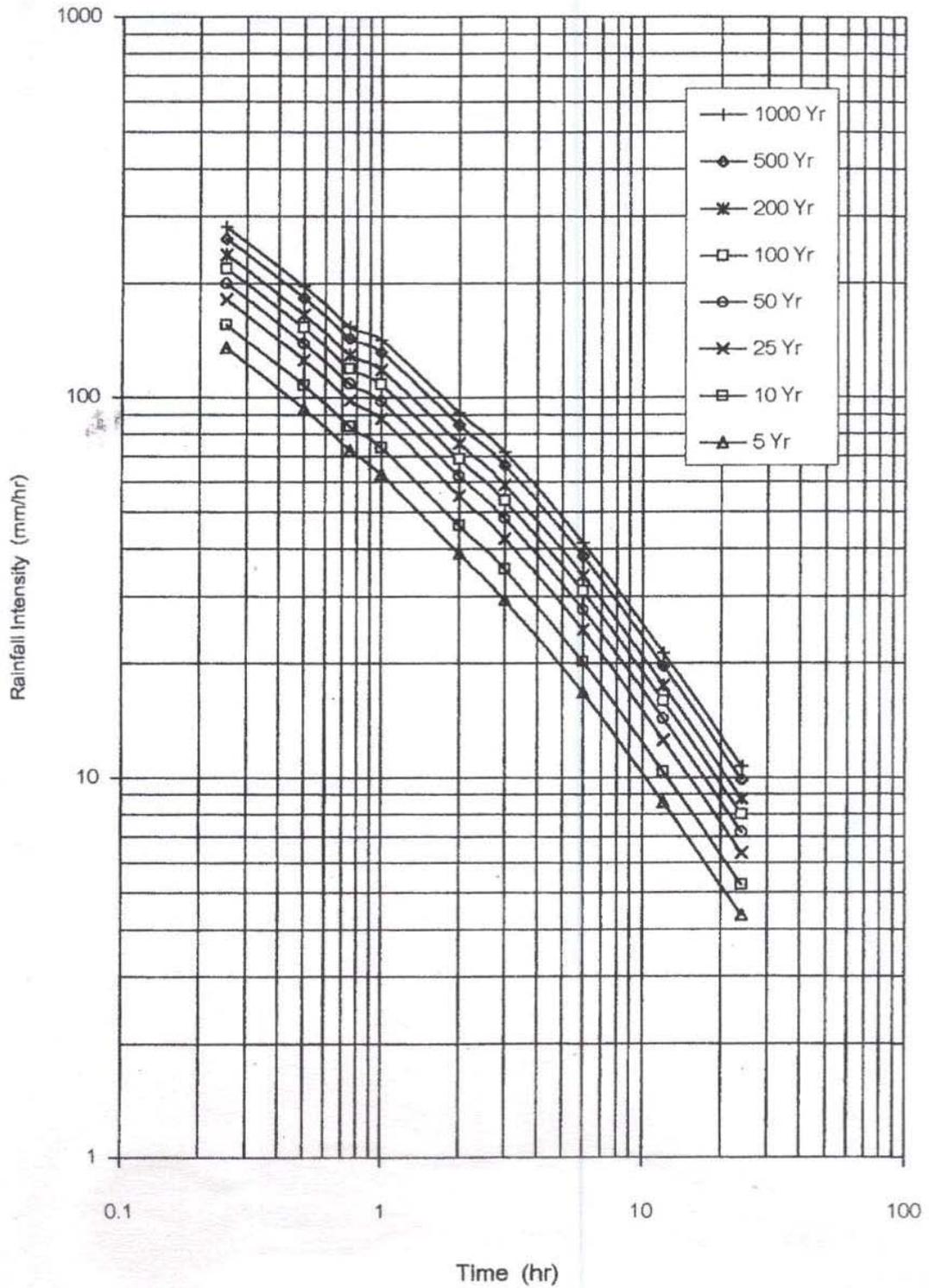


Frequency Analysis of Maximum Rainfall for Each Period at Z.15 A.Pluak Daeng C.Rayong
(1977-1991)

Time (hr)	Rainfall Amount (mm)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	26.2	33.8	38.9	45.4	50.1	54.9	59.6	65.8	70.5
0.5	35.9	46.8	54.0	63.1	69.8	76.6	83.2	92.0	98.7
0.75	41.8	54.6	63.1	73.9	81.8	89.7	97.6	108.0	115.8
1	46.3	63.0	74.0	88.0	98.3	108.6	118.8	132.3	142.5
2	55.9	78.0	92.6	111.1	124.8	138.3	151.9	169.8	183.3
3	61.8	88.5	106.1	128.4	145.0	161.4	177.8	199.4	215.7
6	68.8	100.2	121.0	147.3	166.8	186.2	205.5	230.9	250.2
12	71.3	103.2	124.3	151.0	170.8	190.5	210.0	235.9	255.4
24	72.6	104.4	125.5	152.1	171.9	191.5	211.1	236.8	256.3

Time (hr)	Rainfall Intensity (mm/hr)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	104.6	135.4	155.7	181.4	200.5	219.5	238.4	263.2	282.1
0.5	71.8	93.5	108.0	126.2	139.7	153.1	166.5	184.1	197.4
0.75	55.7	72.8	84.2	98.5	109.1	119.6	130.1	144.0	154.4
1	46.3	63.0	74.0	88.0	98.3	108.6	118.8	132.3	142.5
2	28.0	39.0	46.3	55.5	62.4	69.2	75.9	84.9	91.6
3	20.6	29.5	35.4	42.8	48.3	53.8	59.3	66.5	71.9
6	11.5	16.7	20.2	24.6	27.8	31.0	34.2	38.5	41.7
12	5.9	8.6	10.4	12.6	14.2	15.9	17.5	19.7	21.3
24	3.0	4.4	5.2	6.3	7.2	8.0	8.8	9.9	10.7

Rainfall Intensity-Duration-Frequency Curve at Z.15 A.Pluak Daeng C.Rayong
(1977-1991)



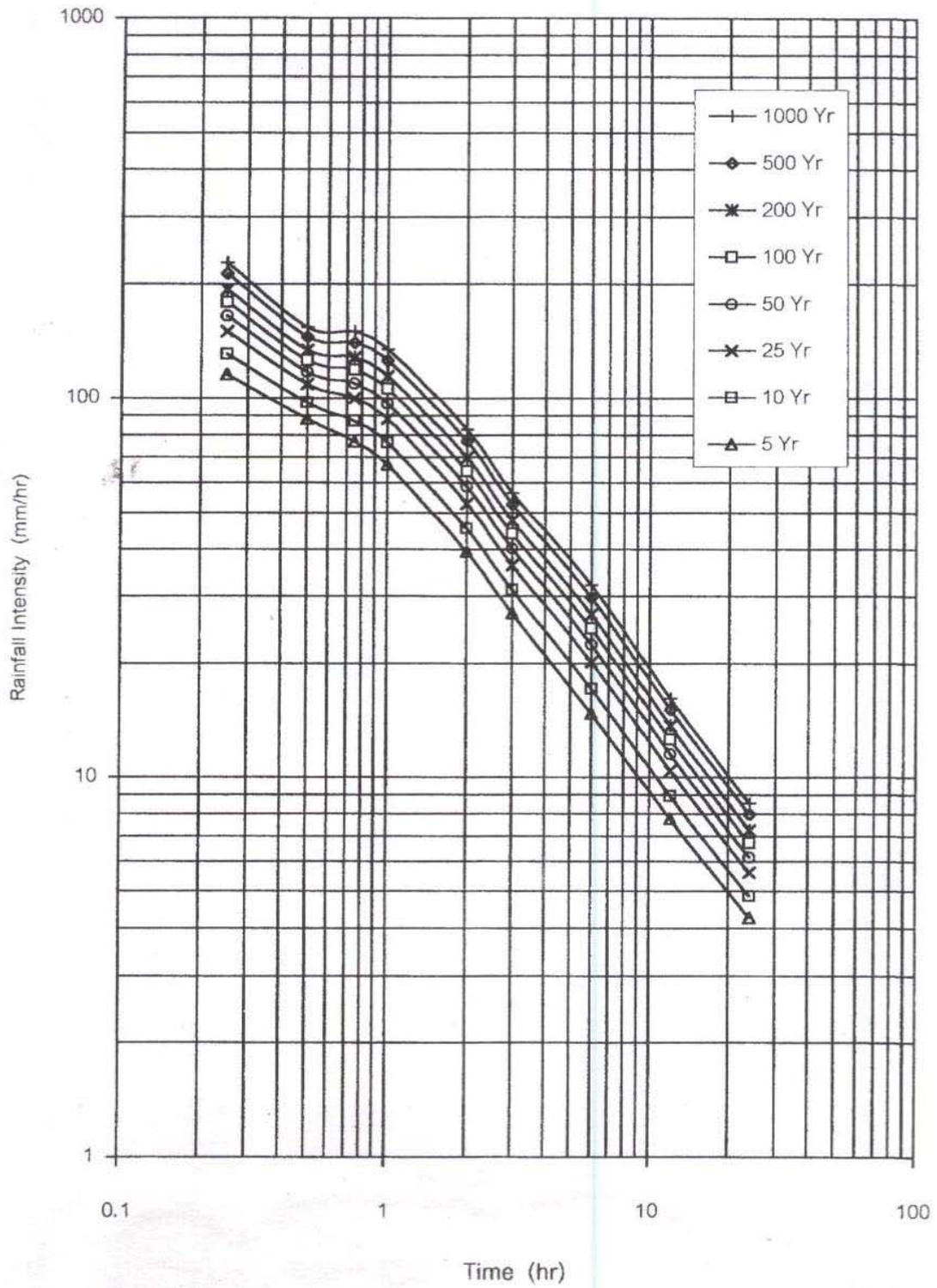
Frequency Analysis of Maximum Rainfall for Each Period at Rayong Met. Observation
(1986-1998)

Time (hr)	Rainfall Amount (mm)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	23.0	28.9	32.7	37.6	41.3	44.9	48.5	53.2	56.8
0.5	37.3	44.2	48.7	54.5	58.8	63.0	67.3	72.9	77.1
0.75	46.3	57.8	65.4	75.0	82.1	89.2	96.3	105.5	112.6
1	52.7	66.9	76.4	88.3	97.1	105.9	114.7	126.2	134.9
2	60.7	78.8	90.9	106.1	117.3	128.5	139.7	154.4	165.5
3	62.9	81.4	93.6	109.0	120.5	131.9	143.2	158.2	169.5
6	66.5	88.4	102.8	121.1	134.7	148.1	161.5	179.2	192.6
12	72.3	93.4	107.3	125.0	138.0	151.0	163.9	181.0	193.9
24	81.0	102.5	116.7	134.7	148.1	161.4	174.6	192.0	205.2

Time (hr)	Rainfall Intensity (mm/hr)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	92.0	115.4	131.0	150.5	165.1	179.5	193.9	212.8	227.2
0.5	74.6	88.4	97.5	109.0	117.6	126.1	134.6	145.7	154.2
0.75	61.8	77.1	87.2	100.0	109.5	118.9	128.3	140.7	150.1
1	52.7	66.9	76.4	88.3	97.1	105.9	114.7	126.2	134.9
2	30.3	39.4	45.4	53.0	58.7	64.3	69.8	77.2	82.8
3	21.0	27.1	31.2	36.3	40.2	44.0	47.7	52.7	56.5
6	11.1	14.7	17.1	20.2	22.4	24.7	26.9	29.9	32.1
12	6.0	7.8	8.9	10.4	11.5	12.6	13.7	15.1	16.2
24	3.4	4.3	4.9	5.6	6.2	6.7	7.3	8.0	8.5

Rainfall Intensity-Duration-Frequency Curve at Rayong Met.Observation

(1986-1998)

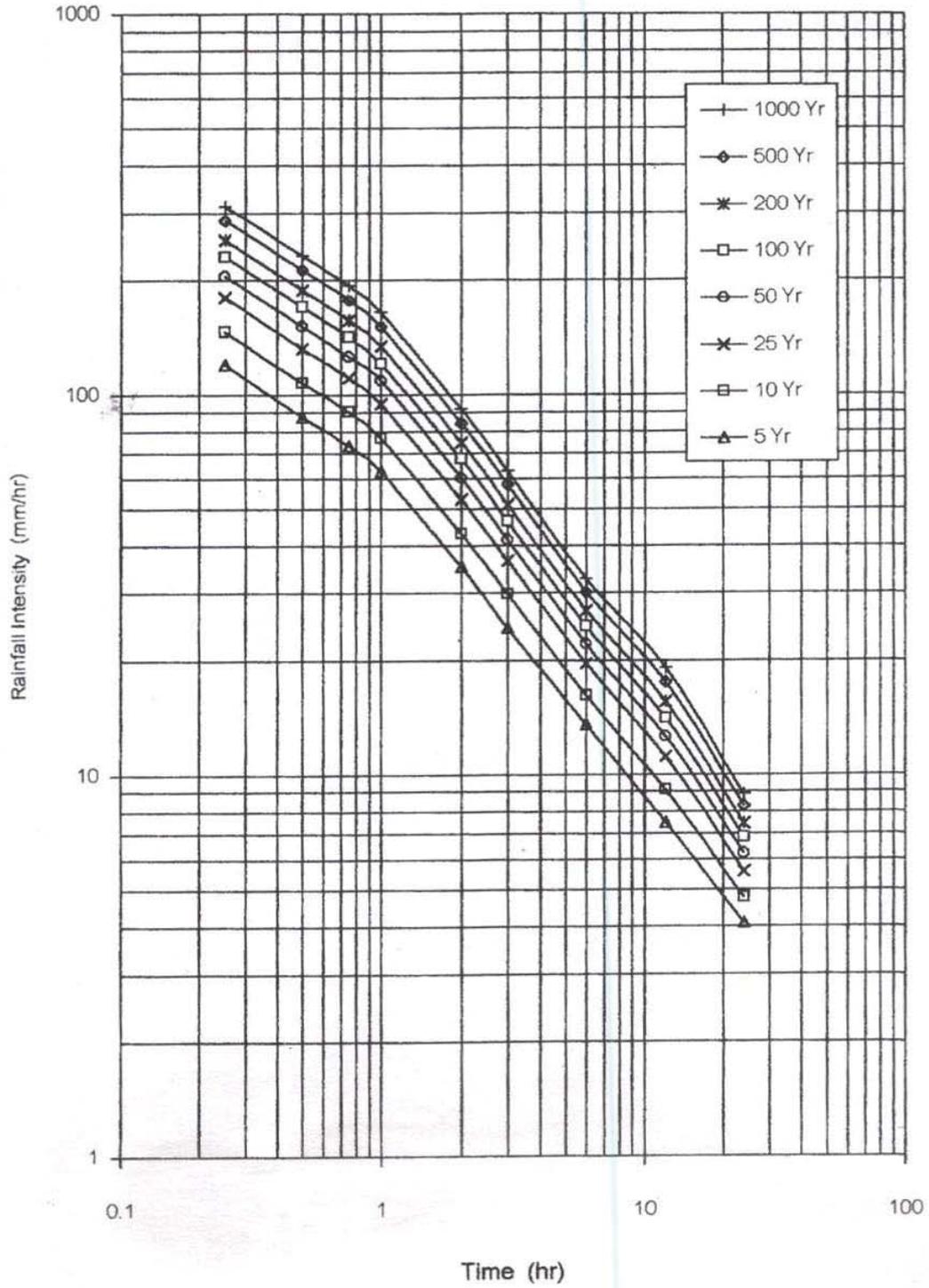


Frequency Analysis of Maximum Rainfall for Each Period at A.Aranya Pathet C.Sa Kaeo
(1961-1981,1986-1998)

Time (hr)	Rainfall Amount (mm)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	20.1	30.2	36.8	45.2	51.5	57.7	63.9	72.0	78.2
0.5	28.7	43.8	53.8	66.5	75.9	85.2	94.5	106.8	116.0
0.75	36.4	55.3	67.7	83.5	95.2	106.8	118.3	133.6	145.1
1	41.8	63.2	77.3	95.2	109.4	121.6	134.7	152.0	165.1
2	46.7	70.5	86.2	106.1	120.9	135.5	150.1	169.3	183.9
3	49.8	72.9	89.9	110.0	125.0	139.9	154.7	174.2	189.0
6	57.4	81.5	97.4	117.5	132.4	147.3	162.0	181.5	196.2
12	60.9	90.0	109.3	133.6	151.7	169.6	187.5	211.1	228.9
24	74.0	98.2	114.2	134.4	149.4	164.4	179.2	198.8	213.6

Time (hr)	Rainfall Intensity (mm/hr)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	80.4	120.6	147.3	181.0	205.9	230.8	255.4	288.0	312.7
0.5	57.4	87.6	107.7	133.0	151.8	170.4	189.0	213.5	232.0
0.75	48.6	73.7	90.3	111.3	126.9	142.4	157.8	178.1	193.5
1	41.8	63.2	77.3	95.2	109.4	121.6	134.7	152.0	165.1
2	23.4	35.2	43.1	53.1	60.4	67.8	75.0	84.7	91.9
3	16.6	24.3	30.0	36.7	41.7	46.6	51.6	58.1	63.0
6	9.6	13.6	16.2	19.6	22.1	24.5	27.0	30.3	32.7
12	5.1	7.5	9.1	11.1	12.6	14.1	15.6	17.6	19.1
24	3.1	4.1	4.8	5.6	6.2	6.8	7.5	8.3	8.9

Rainfall Intensity-Duration-Frequency Curve at A.Aranya Pathet C.Sa Kaeo
(1961-1981,1986-1998)

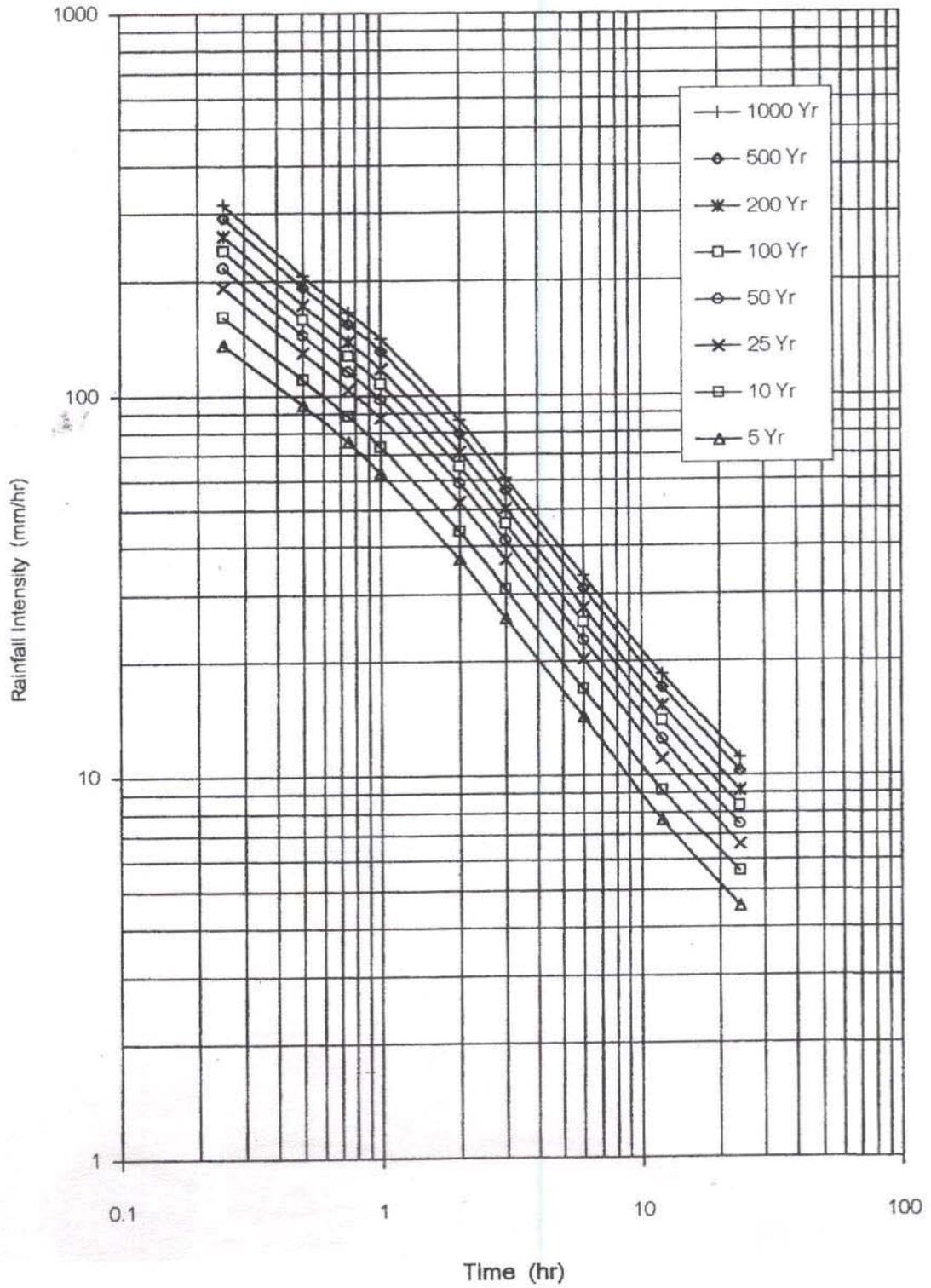


Average Value of Frequency Analysis of Maximum Rainfall for Each Period in Eastern Part

Time (hr)	Rainfall Amount (mm)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	24.7	34.1	40.3	48.2	54.1	59.9	65.6	73.3	79.0
0.5	35.6	47.3	55.1	64.9	72.3	79.5	86.7	96.3	103.5
0.75	42.7	56.9	66.3	78.1	86.9	95.7	104.3	115.8	124.5
1	46.4	62.8	73.7	87.4	97.7	107.7	117.7	131.0	141.1
2	53.7	74.2	87.7	104.9	117.6	130.2	142.8	159.4	171.9
3	56.5	78.2	92.8	111.1	124.7	138.1	151.5	169.2	182.6
6	61.2	85.5	101.5	121.8	136.8	151.8	166.7	186.3	201.2
12	64.9	92.0	110.0	132.7	149.5	166.3	182.9	204.9	221.5
24	76.1	109.1	134.8	158.7	179.2	199.6	219.9	246.7	267.0

Time (hr)	Rainfall Intensity (mm/hr)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	98.8	136.4	161.2	192.8	216.2	239.4	262.4	293.0	316.1
0.5	71.1	94.6	110.2	129.9	144.5	159.0	173.4	192.5	206.9
0.75	57.0	75.9	88.4	104.2	115.9	127.5	139.1	154.4	166.0
1	46.4	62.8	73.7	87.4	97.7	107.7	117.7	131.0	141.1
2	26.9	37.1	43.9	52.5	58.8	65.1	71.4	79.7	86.0
3	18.8	26.1	30.9	37.0	41.6	46.0	50.5	56.4	60.9
6	10.2	14.2	16.9	20.3	22.8	25.3	27.8	31.1	33.5
12	5.4	7.7	9.2	11.1	12.5	13.9	15.2	17.1	18.5
24	3.2	4.5	5.6	6.6	7.5	8.3	9.2	10.3	11.1

Rainfall Intensity-Duration-Frequency Average Curve of
Eastern Part



ส่วนที่ 1.

ความสัมพันธ์ระหว่างความเข้มข้น-ช่วงเวลา-ความถี่ฝน

ของปริมาณฝนสูงสุดในช่วงเวลา 24 ชั่วโมง

ตารางที่ 2. รายชื่อสถานีฝนที่ใช้ในการศึกษาของจังหวัดต่างๆในภาคตะวันออกเฉียงเหนือ

รหัสสถานี	ชื่อสถานี	อำเภอ	จังหวัด	ละติจูด	ลองจิจูด	ช่วงเวลาข้อมูล	หน่วยงาน
02052	อ.สตึก	สตึก	บุรีรัมย์	15° 17' 40"	103° 17' 45"	1976-1991	กรมอุตุนิยมวิทยา
14013	อ.เมือง	เมือง	ขอนแก่น	16° 25' 40"	102° 50' 17"	1964-1976,1980-1982,1986-1998	กรมอุตุนิยมวิทยา
14062	อ.น้ำพอง	น้ำพอง	ขอนแก่น	16° 42' 00"	102° 51' 34"	1971-1989	กรมอุตุนิยมวิทยา
18013	อ.เมือง	เมือง	เลย	17° 28' 58"	101° 43' 59"	1964-1974,1982-1987,1989-1998	กรมอุตุนิยมวิทยา
24012	อ.เมือง	เมือง	นครพนม	17° 24' 35"	104° 47' 00"	1986-1998	กรมอุตุนิยมวิทยา
25013	อ.เมือง	เมือง	นครราชสีมา	14° 58' 10"	102° 06' 13"	1964-1978,1986-1998	กรมอุตุนิยมวิทยา
49013	อ.เมือง	เมือง	ร้อยเอ็ด	16° 03' 06"	103° 39' 28"	1964-1978,1983-1996	กรมอุตุนิยมวิทยา
50013	อ.เมือง	เมือง	สกลนคร	17° 10' 06"	104° 09' 20"	1986 - 1998	กรมอุตุนิยมวิทยา
62013	อ.เมือง	เมือง	สุรินทร์	14° 52' 51"	103° 29' 56"	1964-1974๑1986-1998	กรมอุตุนิยมวิทยา
64012	อ.เมือง	เมือง	มุกดาหาร	16° 32' 09"	104° 43' 03"	1986-1998	กรมอุตุนิยมวิทยา
67013	อ.เมือง	เมือง	อุบลราชธานี	15° 13' 35"	104° 51' 42"	1986-1998	กรมอุตุนิยมวิทยา
67220	M.7	เมือง	อุบลราชธานี	15° 14' 17"	104° 51' 01"	1973-1988	กรมชลประทาน

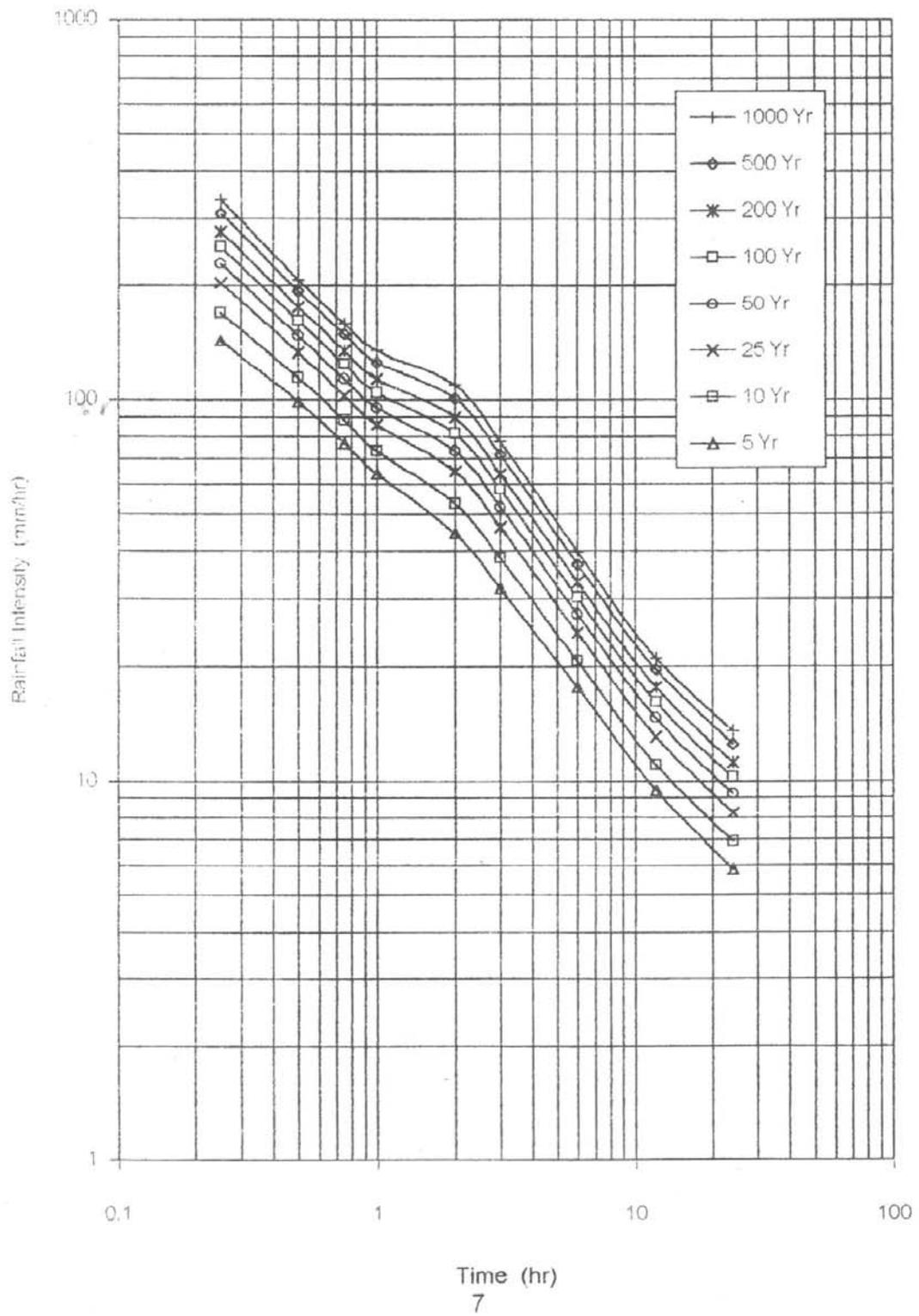
Frequency Analysis of Maximum Rainfall for Each Period at A.Satuk C.Buri Ram
(1976-1991)

Time (hr)	Rainfall Amount (mm)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	25.7	35.8	42.4	50.8	57.1	63.3	69.4	77.6	83.7
0.5	38.2	49.6	57.2	66.8	73.8	80.9	87.9	97.1	104.1
0.75	45.1	58.0	66.6	77.4	85.4	93.3	101.3	111.7	119.6
1	49.0	63.9	73.8	86.2	95.4	104.6	113.7	125.8	134.9
2	61.9	89.1	107.2	129.9	146.8	163.6	180.3	202.3	219.0
3	67.1	96.0	115.1	139.2	157.1	174.8	192.5	215.9	233.5
6	77.9	105.8	124.2	147.5	164.8	182.0	199.1	221.7	238.7
12	84.2	113.5	132.8	157.3	175.4	193.4	211.4	235.1	253.0
24	101.4	140.1	165.7	198.1	222.1	245.9	269.7	301.0	324.7

Time (hr)	Rainfall Intensity (mm/hr)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	102.9	143.1	169.7	203.4	228.3	253.1	277.8	310.3	334.9
0.5	76.4	99.3	114.4	133.5	147.7	161.8	175.8	194.3	208.3
0.75	60.1	77.3	88.7	103.1	113.8	124.5	135.0	149.0	159.5
1	49.0	63.9	73.8	86.2	95.4	104.6	113.7	125.8	134.9
2	31.0	44.6	53.6	65.0	73.4	81.8	90.1	101.2	109.5
3	22.4	32.0	38.4	46.4	52.4	58.3	64.2	72.0	77.8
6	13.0	17.6	20.7	24.6	27.5	30.3	33.2	36.9	39.8
12	7.0	9.5	11.1	13.1	14.6	16.1	17.6	19.6	21.1
24	4.2	5.8	6.9	8.3	9.3	10.2	11.2	12.5	13.5

Rainfall Intensity-Duration-Frequency Curve at A.Satuk C.Buriram

(1976-1991)



Frequency Analysis of Maximum Rainfall for Each Period at A.Muang C.Khon Kaen

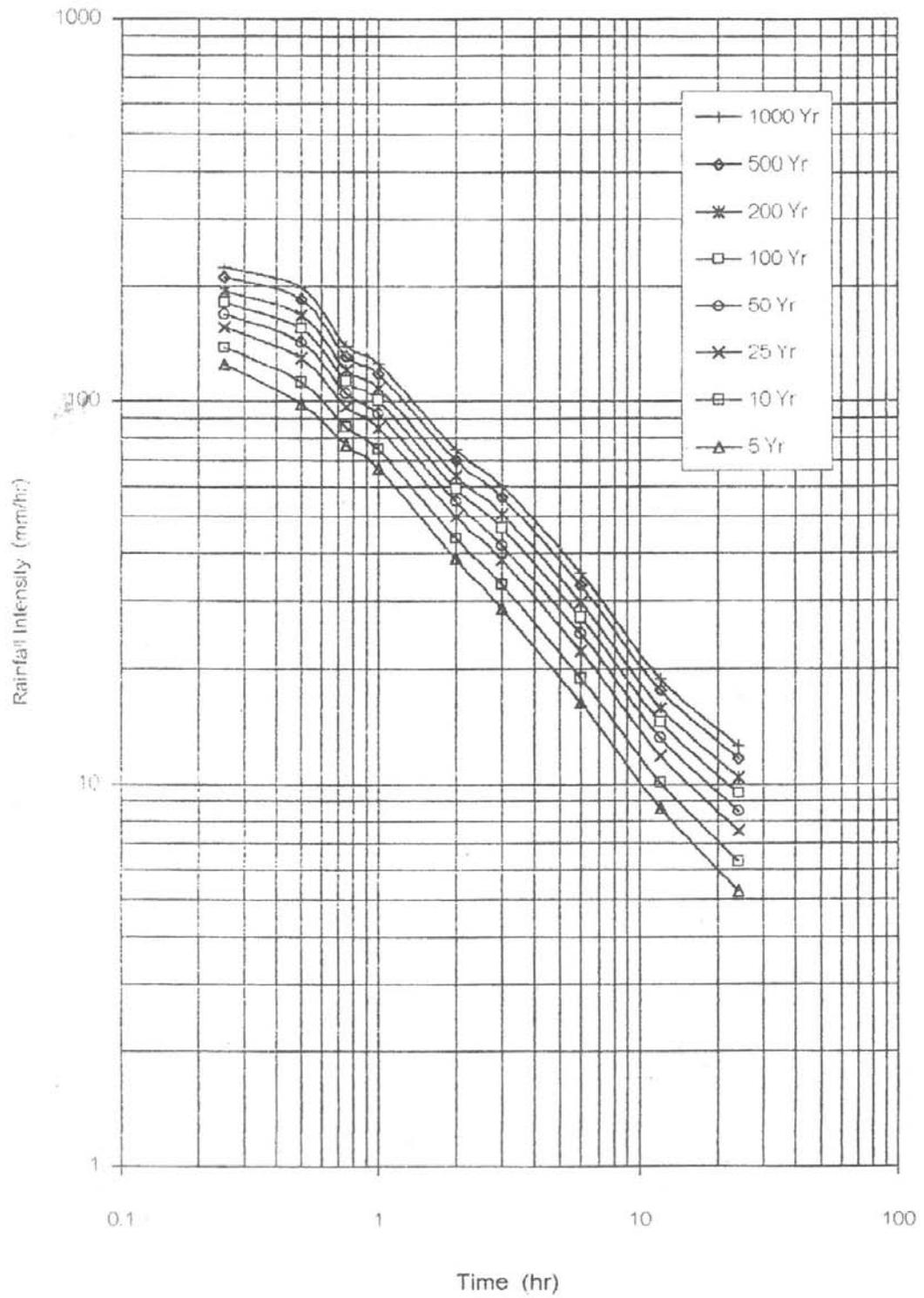
(1964-1976,1980-1982,1986-1998)

Time (hr)	Rainfall Amount (mm)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	26.1	31.3	34.8	39.1	42.3	45.5	48.7	52.9	56.1
0.5	38.6	49.2	56.2	65.0	71.6	78.1	84.6	93.1	99.6
0.75	48.1	57.9	64.4	72.6	78.7	84.8	90.8	98.8	104.8
1	54.8	67.1	75.3	85.5	93.2	100.7	108.3	118.2	125.8
2	62.3	77.5	87.6	100.3	109.8	119.1	128.5	140.8	150.1
3	66.7	86.5	99.6	116.1	126.4	140.5	152.7	168.7	180.8
6	73.2	97.5	113.7	134.0	149.1	164.1	179.1	198.8	213.7
12	78.3	103.9	120.9	142.3	158.3	174.1	189.8	210.6	226.3
24	89.4	126.2	150.6	181.4	204.3	227.0	249.6	279.4	301.9

Time (hr)	Rainfall Intensity (mm/hr)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	104.4	125.2	139.0	156.4	169.3	182.1	194.9	211.7	224.4
0.5	77.2	98.4	112.4	130.0	143.1	156.2	169.1	186.2	199.2
0.75	64.1	77.2	85.9	96.9	105.0	113.1	121.1	131.7	139.7
1	54.8	67.1	75.3	85.5	93.2	100.7	108.3	118.2	125.8
2	31.1	38.7	43.8	50.2	54.9	59.6	64.2	70.4	75.1
3	22.2	28.8	33.2	38.7	42.1	46.8	50.9	56.2	60.3
6	12.2	16.3	18.9	22.3	24.9	27.4	29.8	33.1	35.6
12	6.5	8.7	10.1	11.9	13.2	14.5	15.8	17.5	18.9
24	3.7	5.3	6.3	7.6	8.5	9.5	10.4	11.6	12.6

Rainfall Intensity-Duration-Frequency Curve at A.Muang C.Khon Kaen

(1964-1976,1980-1982,1986-1998)

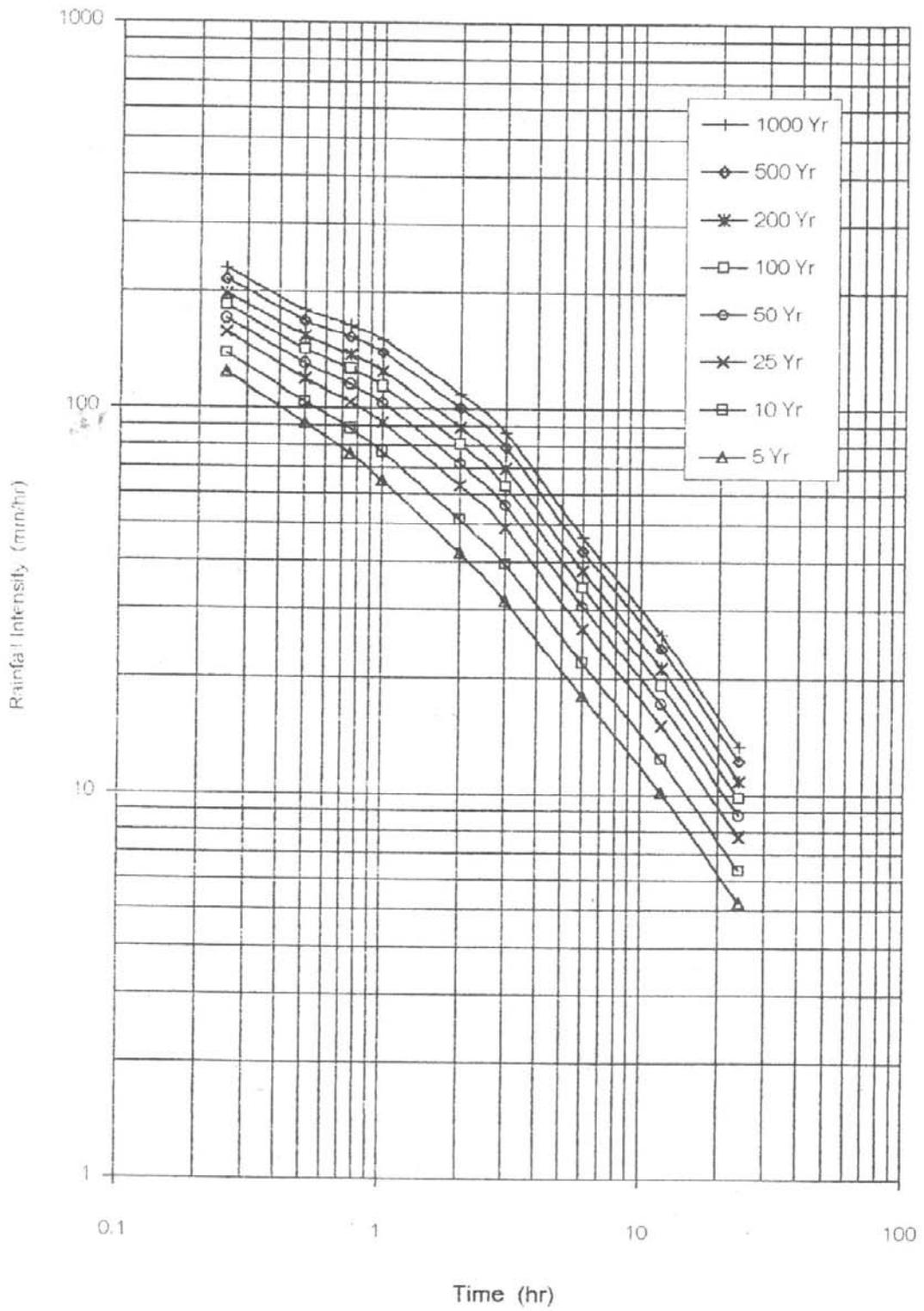


Frequency Analysis of Maximum Rainfall for Each Period at A.Nam Phong C.Khon Kaen
(1971-1989)

Time (hr)	Rainfall Amount (mm)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	25.5	31.1	34.7	39.3	42.8	46.2	49.6	54.0	57.4
0.5	36.5	45.8	52.0	59.8	65.5	71.3	77.0	84.5	90.2
0.75	43.4	57.2	66.4	78.0	86.6	95.1	103.6	114.8	123.3
1	47.2	65.1	77.0	92.0	103.2	114.2	125.2	139.8	150.8
2	56.1	84.3	103.0	126.7	144.2	161.6	179.0	201.8	219.1
3	60.8	95.3	118.1	147.0	168.3	189.6	210.7	238.6	259.7
6	72.4	108.1	131.8	161.7	183.9	205.9	227.8	256.7	278.6
12	82.2	121.9	148.1	181.3	206.0	230.4	254.8	287.0	311.3
24	85.5	125.9	152.7	186.5	211.5	236.4	261.2	293.9	318.6

Time (hr)	Rainfall Intensity (mm/hr)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	102.2	124.3	138.9	157.4	171.1	184.7	198.2	216.1	229.6
0.5	73.0	91.6	104.0	119.5	131.1	142.5	154.0	169.0	180.4
0.75	57.9	76.3	88.5	104.0	115.4	126.8	138.1	153.1	164.4
1	47.2	65.1	77.0	92.0	103.2	114.2	125.2	139.8	150.8
2	28.0	42.2	51.5	63.3	72.1	80.8	89.5	100.9	109.6
3	20.3	31.8	39.4	49.0	56.1	63.2	70.2	79.5	86.6
6	12.1	18.0	22.0	26.9	30.6	34.3	38.0	42.8	46.4
12	6.8	10.2	12.3	15.1	17.2	19.2	21.2	23.9	25.9
24	3.6	5.2	6.4	7.8	8.8	9.8	10.9	12.2	13.3

Rainfall Intensity-Duration-Frequency Curve at A.Nam Phong C.Khon Kaen
(1971-1989)



Frequency Analysis of Maximum Rainfall for Each Period at C.Loei

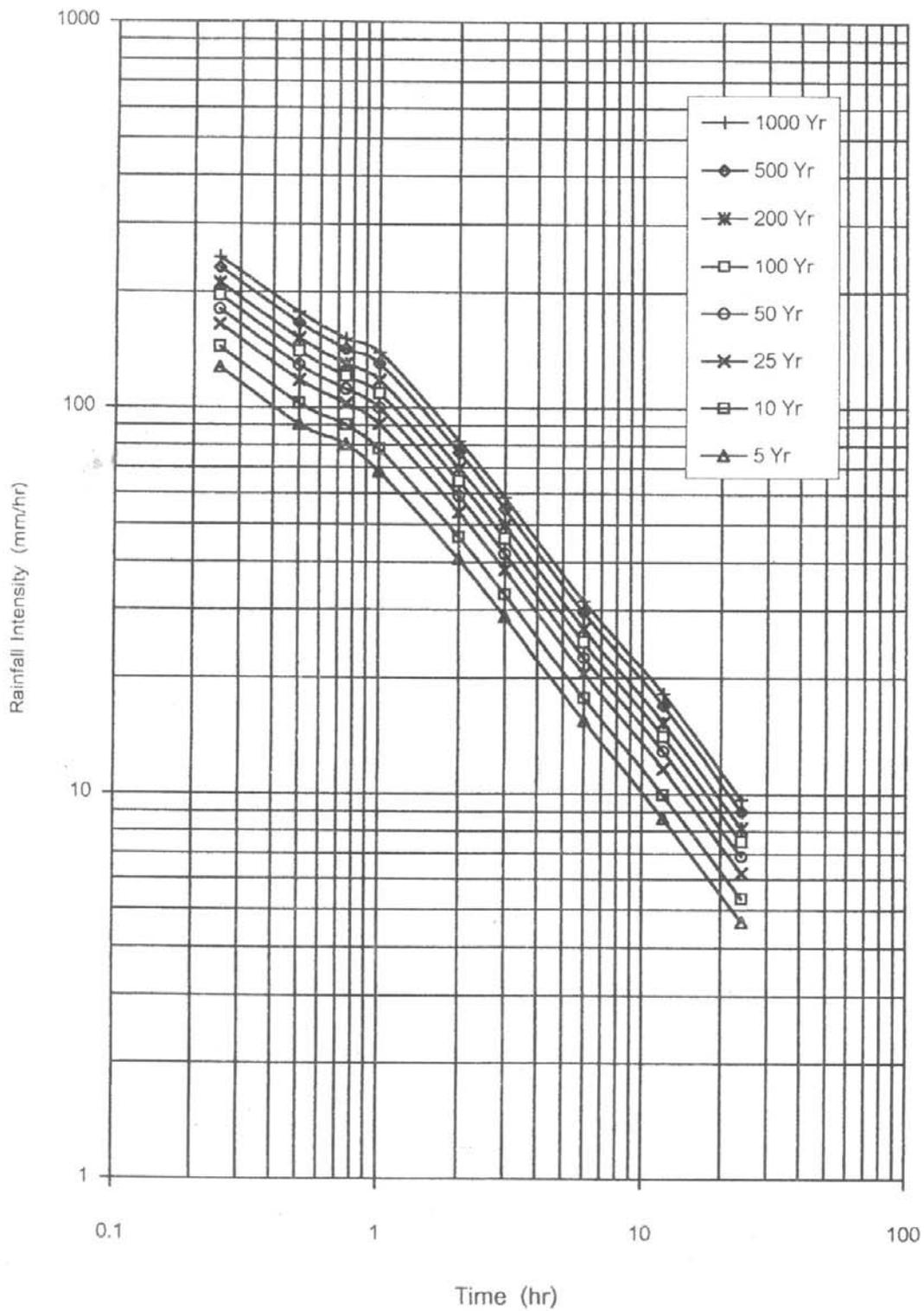
(1964-1974,1982-1987,1989-1998)

Time (hr)	Rainfall Amount (mm)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	25.7	31.9	36.0	41.3	45.1	49.0	52.8	57.9	61.7
0.5	36.2	45.4	51.4	59.0	64.7	70.3	75.9	83.3	88.9
0.75	49.2	60.3	67.7	77.0	83.9	90.8	97.6	106.6	113.4
1	53.6	68.5	78.4	90.8	100.0	109.2	118.3	130.4	139.5
2	64.1	81.5	93.0	107.5	118.3	129.0	139.6	153.7	164.3
3	67.7	86.5	98.9	114.6	126.2	137.8	149.3	164.5	176.0
6	72.8	93.1	106.5	123.5	136.1	148.6	161.1	177.5	190.0
12	79.7	103.7	119.7	139.8	154.7	169.5	184.3	203.8	218.5
24	86.8	111.9	128.6	149.6	165.2	180.7	196.2	216.5	231.9

Time (hr)	Rainfall Intensity (mm/hr)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	102.6	127.6	144.2	165.0	180.6	196.0	211.3	231.5	246.8
0.5	72.4	90.7	102.8	118.1	129.4	140.6	151.8	166.6	177.8
0.75	65.6	80.4	90.3	102.7	111.9	121.0	130.1	142.1	151.2
1	53.6	68.5	78.4	90.8	100.0	109.2	118.3	130.4	139.5
2	32.1	40.7	46.5	53.7	59.1	64.5	69.8	76.8	82.1
3	22.6	28.8	33.0	38.2	42.1	45.9	49.8	54.8	58.7
6	12.1	15.5	17.8	20.6	22.7	24.8	26.8	29.6	31.7
12	6.6	8.6	10.0	11.6	12.9	14.1	15.4	17.0	18.2
24	3.6	4.7	5.4	6.2	6.9	7.5	8.2	9.0	9.7

Rainfall Intensity-Duration-Frequency Curve at C.Loei

(1964-1974,1982-1987,1989-1998)

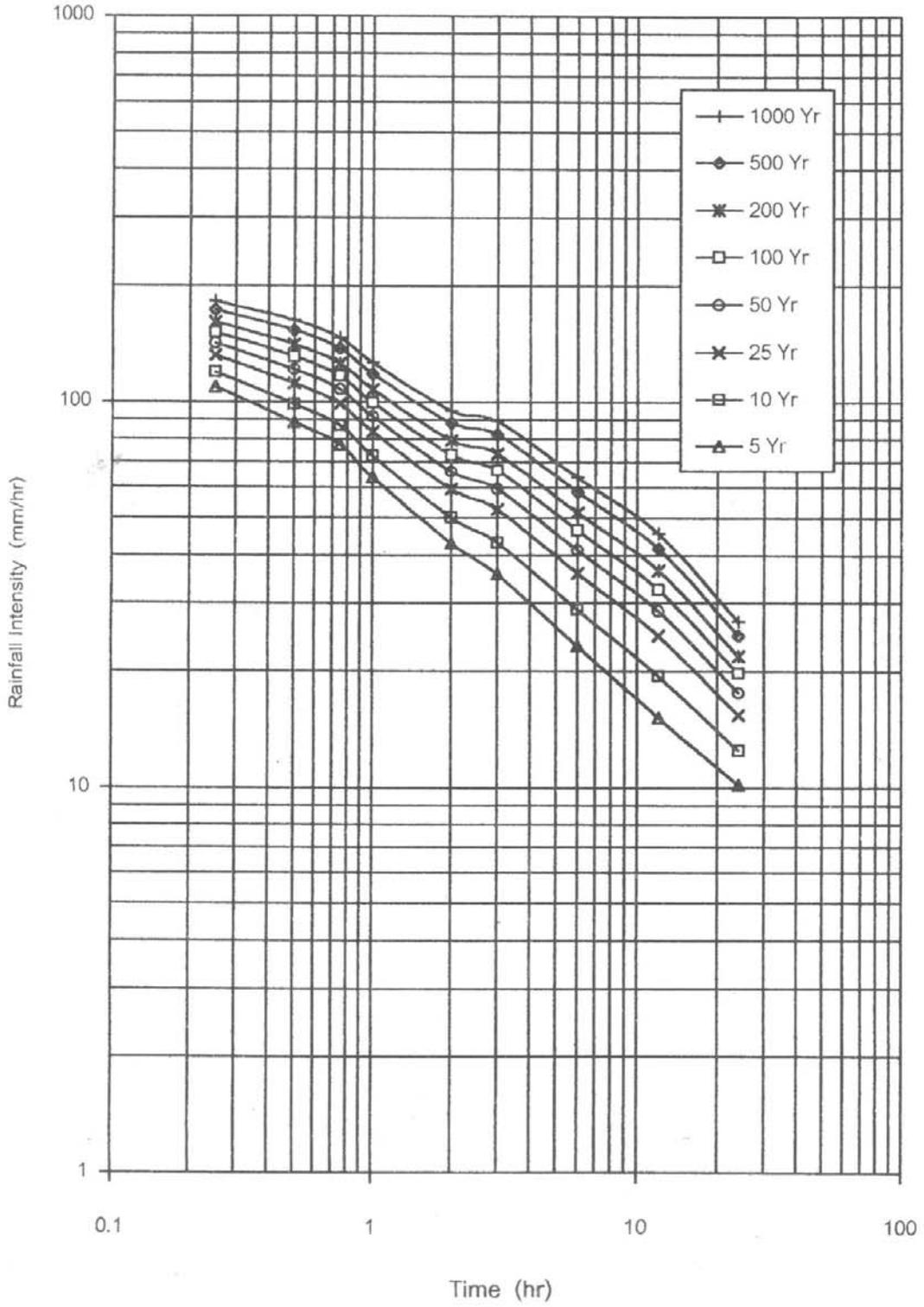


Frequency Analysis of Maximum Rainfall for Each Period at C.Nakhon Phanom
(1986-1998)

Time (hr)	Rainfall Amount (mm)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	23.6	27.4	29.9	33.1	35.5	37.8	40.1	43.2	45.5
0.5	36.5	44.3	49.5	56.0	60.8	65.6	70.4	76.7	81.5
0.75	47.2	58.1	65.3	74.4	81.2	87.9	94.6	103.4	110.0
1	50.6	63.8	72.5	83.6	91.8	99.9	108.0	118.7	126.8
2	64.1	85.9	100.4	118.7	132.2	145.7	159.1	176.7	190.1
3	73.5	107.1	129.4	157.6	178.5	199.2	219.9	247.1	267.7
6	88.8	139.6	173.2	215.7	247.3	278.6	309.8	350.9	382.0
12	106.4	182.6	233.0	296.8	344.1	391.0	437.8	499.5	546.1
24	160.6	244.5	299.9	370.1	422.2	473.8	525.3	593.2	644.5

Time (hr)	Rainfall Intensity (mm/hr)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	94.4	109.6	119.6	132.4	141.8	151.2	160.5	172.8	182.2
0.5	73.0	88.6	98.9	111.9	121.6	131.2	140.8	153.4	162.9
0.75	63.0	77.5	87.1	99.2	108.2	117.2	126.1	137.8	146.7
1	50.6	63.8	72.5	83.6	91.8	99.9	108.0	118.7	126.8
2	32.1	43.0	50.2	59.3	66.1	72.8	79.5	88.4	95.0
3	24.5	35.7	43.1	52.5	59.5	66.4	73.3	82.4	89.2
6	14.8	23.3	28.9	36.0	41.2	46.4	51.6	58.5	63.7
12	8.9	15.2	19.4	24.7	28.7	32.6	36.5	41.6	45.5
24	6.7	10.2	12.5	15.4	17.6	19.7	21.9	24.7	26.9

Rainfall Intensity-Duration-Frequency Curve at C. Nakhon Phanom
(1986-1998)



Frequency Analysis of Maximum Rainfall for Each Period at C.Nakhon Ratchsima

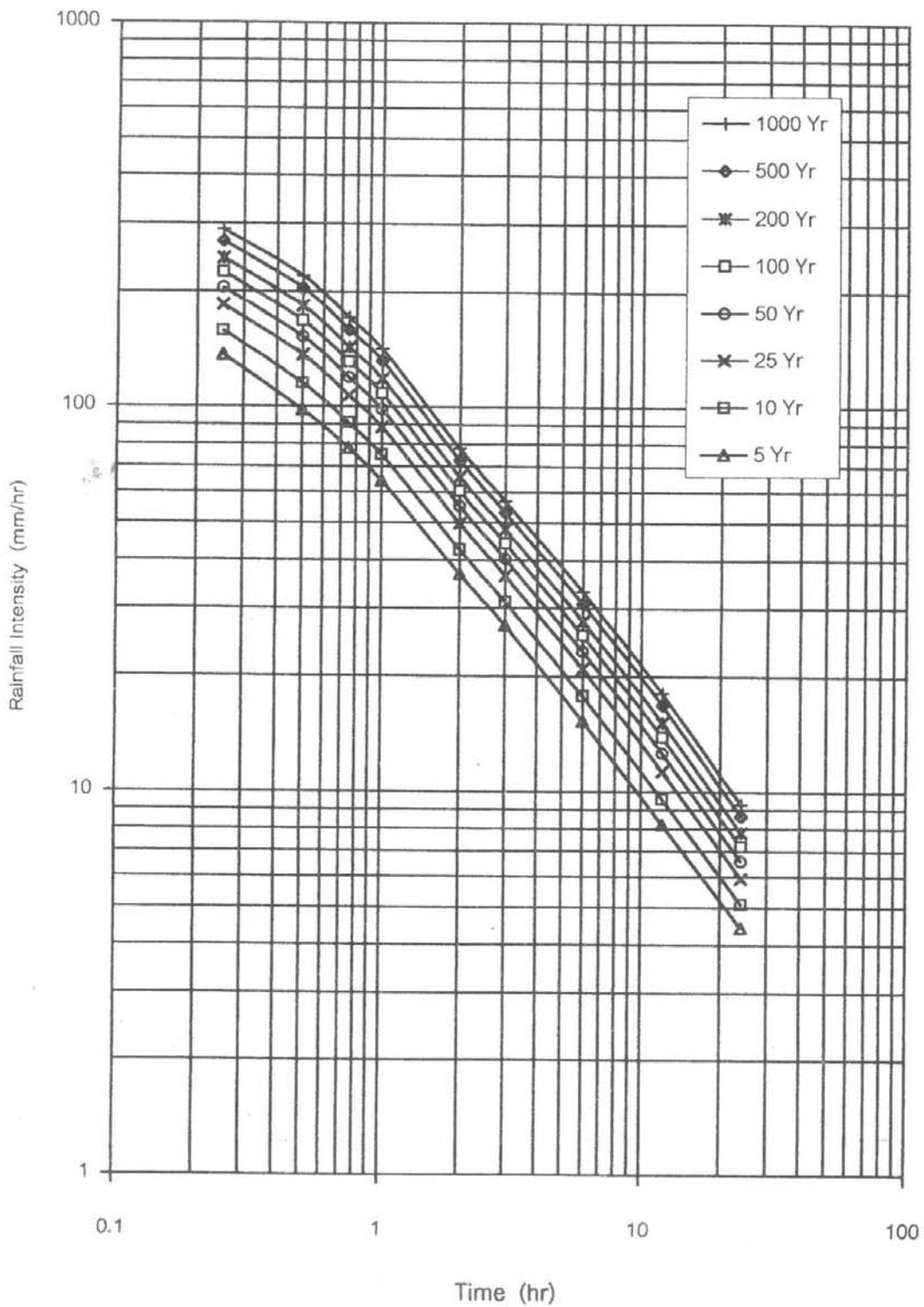
(1954-1978,1986-1998)

Time (hr)	Rainfall Amount (mm)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	26.1	34.1	39.4	46.1	51.1	56.0	61.0	67.4	72.3
0.5	36.5	49.2	57.6	68.2	76.1	83.9	91.7	101.9	109.7
0.75	44.1	58.6	68.2	80.4	89.4	98.4	107.3	119.1	128.0
1	48.0	64.3	75.0	88.5	98.6	108.6	118.5	131.6	141.6
2	56.6	73.8	85.2	99.6	110.3	120.9	131.5	145.4	155.9
3	62.7	81.4	93.8	109.5	121.1	132.6	144.1	159.2	170.7
6	69.3	91.7	106.6	125.4	139.3	153.2	166.9	185.1	198.9
12	73.8	98.6	115.0	135.8	151.2	166.5	181.7	201.8	217.0
24	82.0	106.4	122.5	142.9	158.0	173.1	188.0	207.8	222.7

Time (hr)	Rainfall Intensity (mm/hr)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	104.5	136.5	157.8	184.5	204.4	224.1	243.8	269.7	289.3
0.5	72.9	98.3	115.1	136.4	152.1	167.7	183.3	203.9	219.4
0.75	58.7	78.1	91.0	107.2	119.2	131.1	143.0	158.7	170.6
1	48.0	64.3	75.0	88.5	98.6	108.6	118.5	131.6	141.6
2	28.3	36.9	42.6	49.8	55.1	60.5	65.7	72.7	78.0
3	20.9	27.1	31.3	36.5	40.4	44.2	48.0	53.1	56.9
6	11.5	15.3	17.8	20.9	23.2	25.5	27.8	30.9	33.1
12	6.1	8.2	9.6	11.3	12.6	13.9	15.1	16.8	18.1
24	3.4	4.4	5.1	6.0	6.6	7.2	7.8	8.7	9.3

Rainfall Intensity-Duration-Frequency Curve at C.Nakhon Ratchsima

(1954-1978,1986-1998)

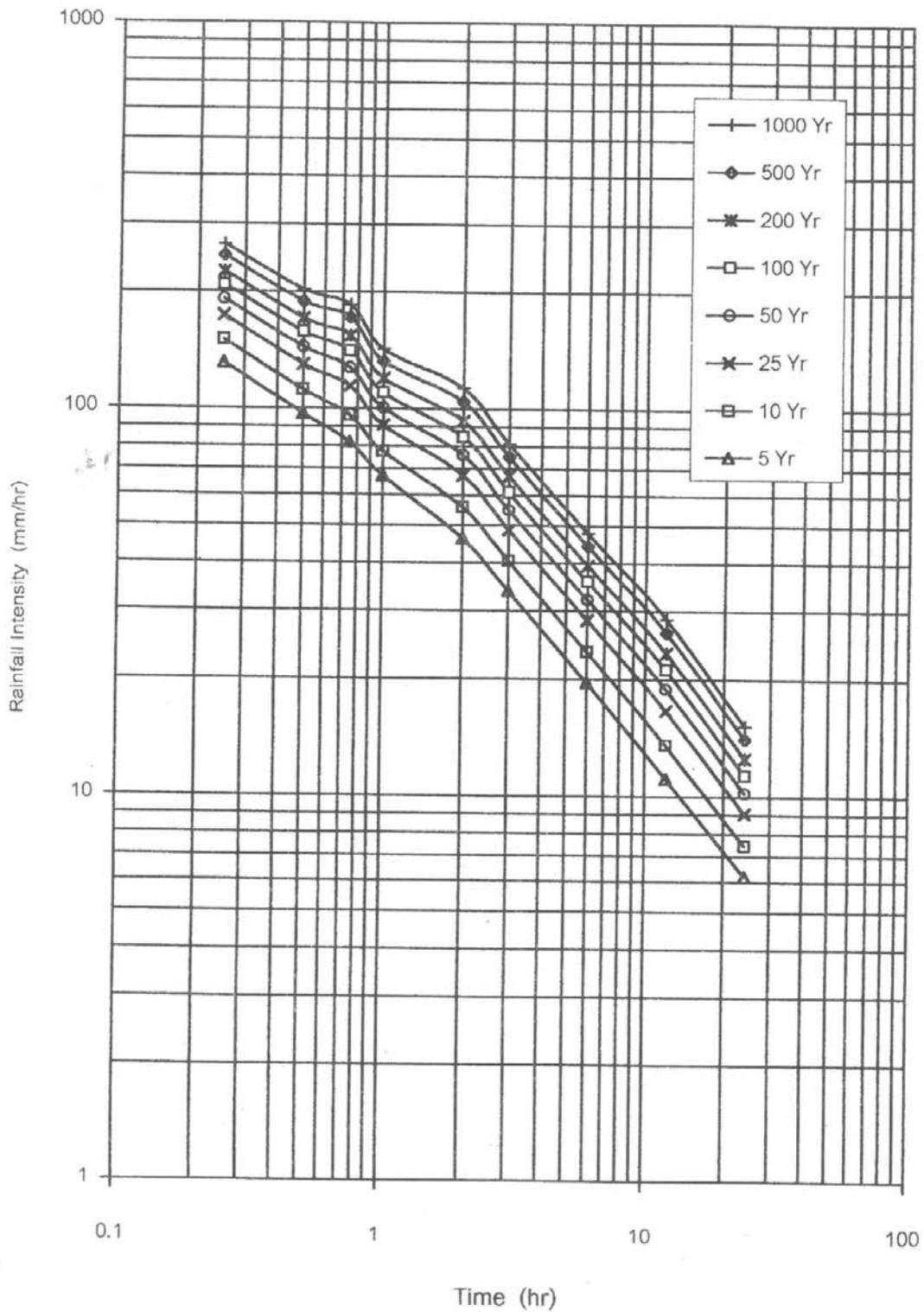


Frequency Analysis of Maximum Rainfall for Each Period at C.Roi Et
(1964-1978,1983-1998)

Time (hr)	Rainfall Amount (mm)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	25.8	32.9	37.6	43.4	47.8	52.1	56.5	62.2	66.5
0.5	37.7	48.7	56.0	65.2	72.0	78.8	85.5	94.4	101.1
0.75	45.4	61.6	72.3	85.8	95.9	105.9	115.8	128.9	138.8
1	51.4	67.2	77.6	90.8	100.6	110.3	120.0	132.8	142.4
2	64.6	92.7	111.3	134.8	152.2	169.5	186.8	209.5	226.7
3	71.7	101.6	121.3	146.2	164.7	183.1	201.4	225.6	243.8
6	82.2	117.8	141.3	171.0	193.0	214.9	236.7	265.5	287.2
12	89.3	133.5	162.7	199.6	227.0	254.2	281.3	317.0	344.1
24	103.8	149.0	179.0	216.8	244.9	272.8	300.6	337.2	364.9

Time (hr)	Rainfall Intensity (mm/hr)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	103.4	131.5	150.2	173.8	191.2	208.6	225.9	248.7	265.9
0.5	75.4	97.4	111.9	130.3	144.0	157.5	171.0	188.8	202.2
0.75	60.5	82.1	96.4	114.4	127.8	141.1	154.4	171.9	185.1
1	51.4	67.2	77.6	90.8	100.6	110.3	120.0	132.8	142.4
2	32.3	46.3	55.6	67.4	76.1	84.8	93.4	104.8	113.4
3	23.9	33.9	40.4	48.7	54.9	61.0	67.1	75.2	81.3
6	13.7	19.6	23.5	28.5	32.2	35.8	39.4	44.2	47.9
12	7.4	11.1	13.6	16.6	18.9	21.2	23.4	26.4	28.7
24	4.3	6.2	7.5	9.0	10.2	11.4	12.5	14.1	15.2

Rainfall Intensity-Duration-Frequency Curve at C.Roi Et
 (1964-1978,1983-1998)



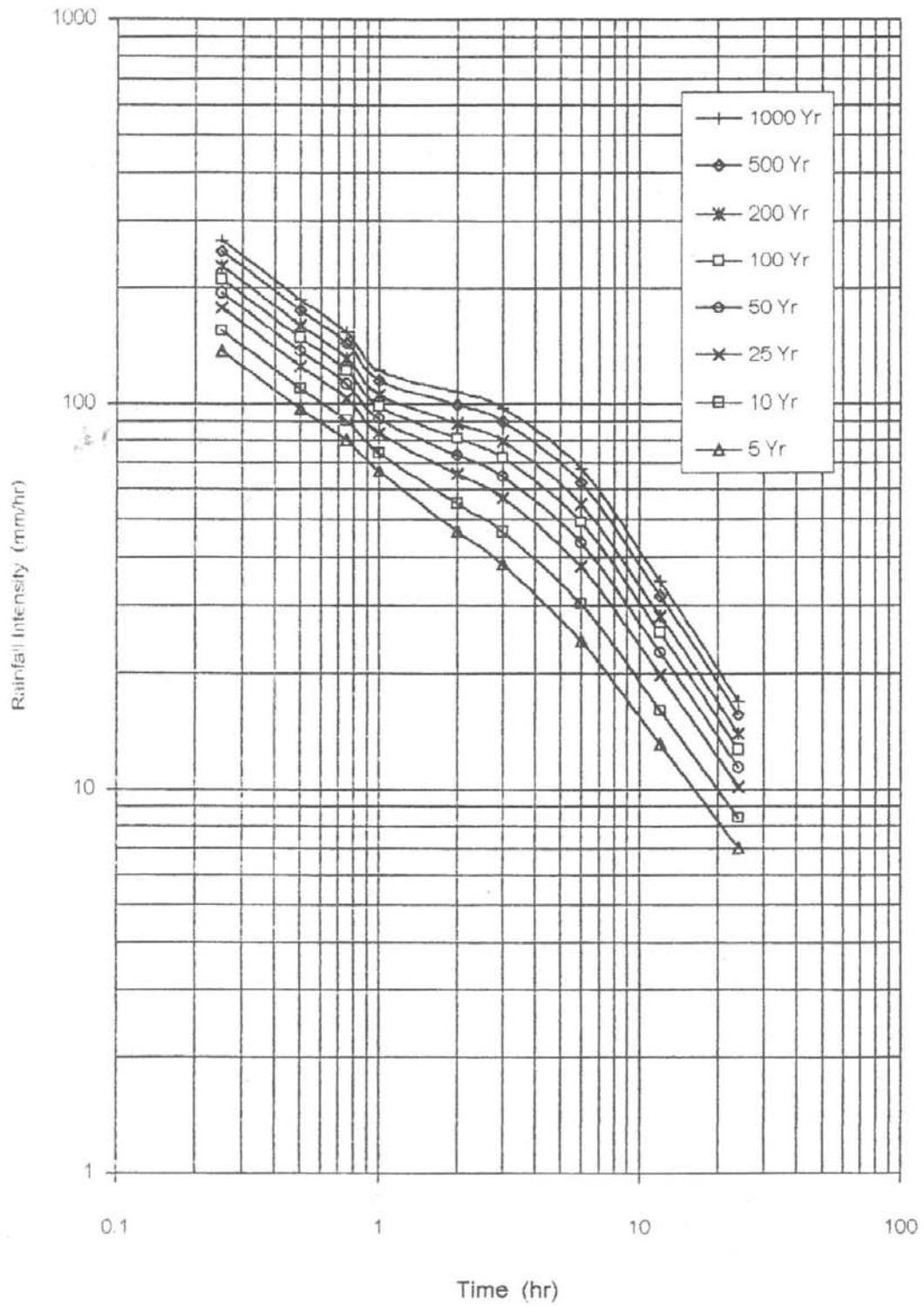
Frequency Analysis of Maximum Rainfall for Each Period at Sakon Nakhon

(1986-1998)

Time (hr)	Rainfall Amount (mm)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	27.5	34.3	38.8	44.5	48.7	52.9	57.0	62.5	66.7
0.5	39.0	48.5	54.7	62.6	68.5	74.3	80.1	87.7	93.5
0.75	48.8	60.3	67.9	77.5	84.6	91.6	98.7	107.9	115.0
1	55.1	66.7	74.4	84.1	91.3	98.5	105.7	115.1	122.2
2	68.2	93.5	110.3	131.5	147.2	162.8	178.4	198.9	214.4
3	77.7	115.1	139.8	171.0	194.2	217.2	240.1	270.4	293.2
6	90.8	145.6	181.9	227.8	261.8	295.6	329.3	373.7	407.2
12	102.8	157.0	192.9	238.2	271.9	305.3	338.5	382.4	415.6
24	118.9	168.6	201.5	243.1	273.9	304.6	335.1	375.3	405.7

Time (hr)	Rainfall Intensity (mm/hr)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	110.1	137.3	155.2	177.9	194.8	211.5	228.2	250.2	266.8
0.5	78.0	96.9	109.4	125.2	136.9	148.5	160.1	175.4	187.0
0.75	65.1	80.4	90.5	103.3	112.8	122.2	131.5	143.9	153.3
1	55.1	66.7	74.4	84.1	91.3	98.5	105.7	115.1	122.2
2	34.1	46.8	55.1	65.7	73.6	81.4	89.2	99.4	107.2
3	25.9	38.4	46.6	57.0	64.7	72.4	80.0	90.1	97.7
6	15.1	24.3	30.3	38.0	43.6	49.3	54.9	62.3	67.9
12	8.6	13.1	16.1	19.9	22.7	25.4	28.2	31.9	34.6
24	5.0	7.0	8.4	10.1	11.4	12.7	14.0	15.6	16.9

Rainfall Intensity-Duration-Frequency Curve at Sakon Nakhon
(1986-1998)



Frequency Analysis of Maximum Rainfall for Each Period at Surin

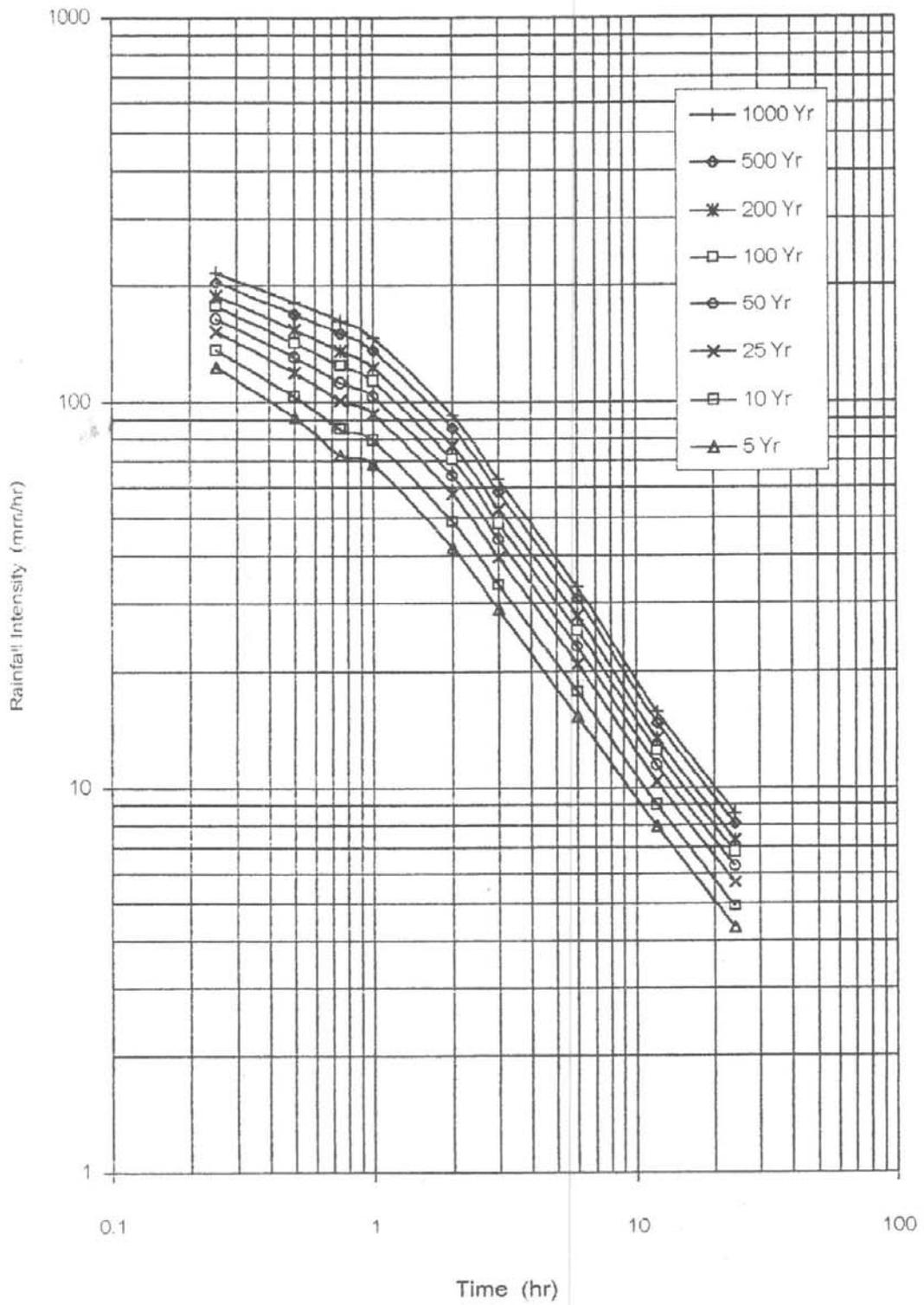
(1964-1974,1986-1998)

Time (hr)	Rainfall Amount (mm)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	26.0	30.8	34.1	38.2	41.2	44.2	47.2	51.1	54.1
0.5	36.3	45.7	51.9	59.7	65.5	71.3	77.0	84.6	90.3
0.75	40.5	54.6	64.0	75.8	84.6	93.4	102.0	113.5	122.2
1	52.9	69.1	79.9	93.5	103.6	113.6	123.6	136.7	146.7
2	63.3	84.3	98.2	115.7	128.8	141.7	154.6	171.6	184.5
3	65.4	86.8	100.9	118.8	132.1	145.3	158.5	175.8	188.9
6	69.1	91.6	106.5	125.3	139.3	153.2	167.0	185.2	199.0
12	75.7	95.3	108.2	124.5	136.6	148.7	160.6	176.4	188.4
24	82.4	103.9	118.2	136.2	149.6	162.9	176.1	193.5	206.7

Time (hr)	Rainfall Intensity (mm/hr)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	103.8	123.3	136.3	152.6	164.7	176.8	188.8	204.6	216.5
0.5	72.6	91.3	103.7	119.4	131.0	142.5	154.0	169.2	180.6
0.75	53.9	72.8	85.3	101.1	112.8	124.5	136.1	151.3	162.9
1	52.9	69.1	79.9	93.5	103.6	113.6	123.6	136.7	146.7
2	31.6	42.1	49.1	57.9	64.4	70.9	77.3	85.8	92.2
3	21.8	28.9	33.6	39.6	44.0	48.4	52.8	58.6	63.0
6	11.5	15.3	17.7	20.9	23.2	25.5	27.8	30.9	33.2
12	6.3	7.9	9.0	10.4	11.4	12.4	13.4	14.7	15.7
24	3.4	4.3	4.9	5.7	6.2	6.8	7.3	8.1	8.6

Rainfall Intensity-Duration-Frequency Curve at Surin

(1986-1998)



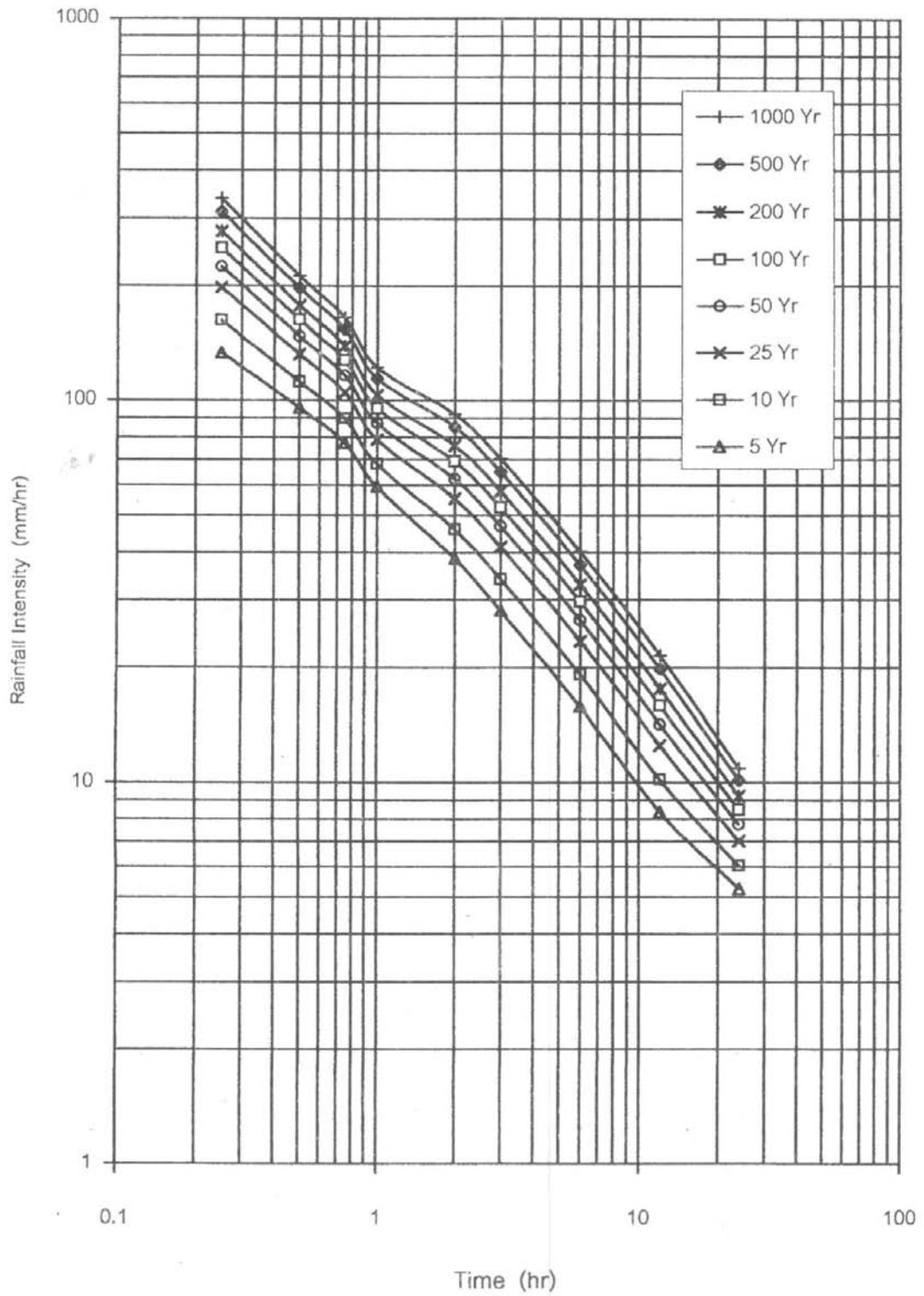
Frequency Analysis of Maximum Rainfall for Each Period at C.Mukdahan
(1986-1998)

Time (hr)	Rainfall Amount (mm)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	22.6	33.4	40.5	49.5	56.2	62.9	69.5	78.2	84.8
0.5	35.6	47.8	55.9	66.2	73.8	81.4	88.9	98.8	106.3
0.75	44.5	58.2	67.3	78.8	87.3	95.8	104.3	115.4	123.8
1	46.2	59.4	68.1	79.1	87.3	95.4	103.5	114.1	122.2
2	54.5	77.0	92.0	110.8	124.8	138.6	152.5	170.7	184.5
3	57.9	84.5	102.1	124.3	140.8	157.2	173.5	195.0	211.3
6	64.0	94.7	115.0	140.7	159.8	178.7	197.5	222.4	241.2
12	67.4	100.4	122.3	150.0	170.5	190.9	211.2	238.0	258.2
24	98.3	126.6	145.2	168.8	186.4	203.7	221.1	243.9	261.2

Time (hr)	Rainfall Intensity (mm/hr)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	90.4	133.6	162.1	198.1	224.8	251.4	277.8	312.7	339.1
0.5	71.1	95.6	111.9	132.4	147.6	162.7	177.8	197.6	212.6
0.75	59.3	77.6	89.7	105.1	116.5	127.7	139.0	153.8	165.1
1	46.2	59.4	68.1	79.1	87.3	95.4	103.5	114.1	122.2
2	27.3	38.5	46.0	55.4	62.4	69.3	76.2	85.4	92.2
3	19.3	28.2	34.0	41.4	46.9	52.4	57.8	65.0	70.4
6	10.7	15.8	19.2	23.4	26.6	29.8	32.9	37.1	40.2
12	5.6	8.4	10.2	12.5	14.2	15.9	17.6	19.8	21.5
24	4.1	5.3	6.1	7.0	7.8	8.5	9.2	10.2	10.9

Rainfall Intensity-Duration-Frequency Curve at C.Mukdahan

(1986-1998)



Frequency Analysis of Maximum Rainfall for Each Period at C.Ubon Ratchthani

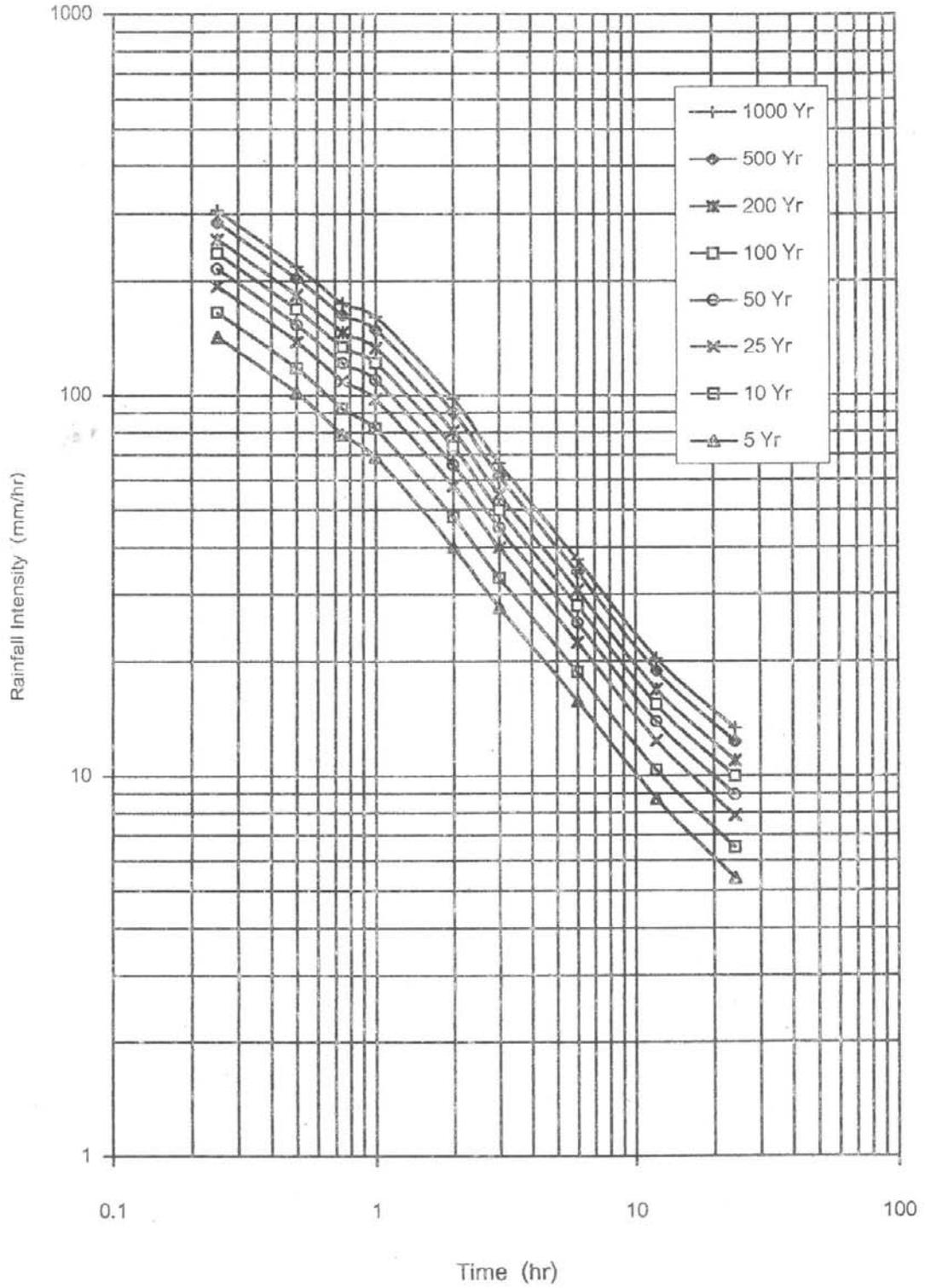
(1986-1998)

Time (hr)	Rainfall Amount (mm)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	26.9	35.5	41.2	48.4	53.8	59.1	64.4	71.3	76.6
0.5	38.7	50.8	58.9	69.1	76.6	84.1	91.6	101.4	108.9
0.75	44.1	59.2	69.2	81.8	91.2	100.5	109.7	122.0	131.2
1	49.7	69.0	81.7	97.8	109.8	121.7	133.5	149.1	160.9
2	55.4	79.8	96.0	116.4	131.5	146.5	161.5	181.3	196.2
3	58.9	83.3	99.4	119.8	135.0	150.0	165.0	184.7	199.6
6	67.5	94.4	112.3	134.8	151.5	168.1	184.7	206.5	223.0
12	75.4	104.7	124.1	148.7	166.9	184.9	202.9	226.6	244.6
24	89.6	129.5	156.0	189.4	214.2	238.8	263.3	295.7	320.1

Time (hr)	Rainfall Intensity (mm/hr)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	107.7	142.2	165.0	193.8	215.1	236.3	257.4	285.3	306.4
0.5	77.4	101.7	117.8	138.1	153.2	168.2	183.1	202.8	217.7
0.75	58.8	79.0	92.3	109.1	121.6	134.0	146.3	162.6	174.9
1	49.7	69.0	81.7	97.8	109.8	121.7	133.5	149.1	160.9
2	27.7	39.9	48.0	58.2	65.8	73.3	80.8	90.6	98.1
3	19.6	27.8	33.1	39.9	45.0	50.0	55.0	61.6	66.5
6	11.2	15.7	18.7	22.5	25.3	28.0	30.8	34.4	37.2
12	6.3	8.7	10.3	12.4	13.9	15.4	16.9	18.9	20.4
24	3.7	5.4	6.5	7.9	8.9	9.9	11.0	12.3	13.3

Rainfall Intensity-Duration-Frequency Curve at C.Ubon Ratchthani

(1986-1998)

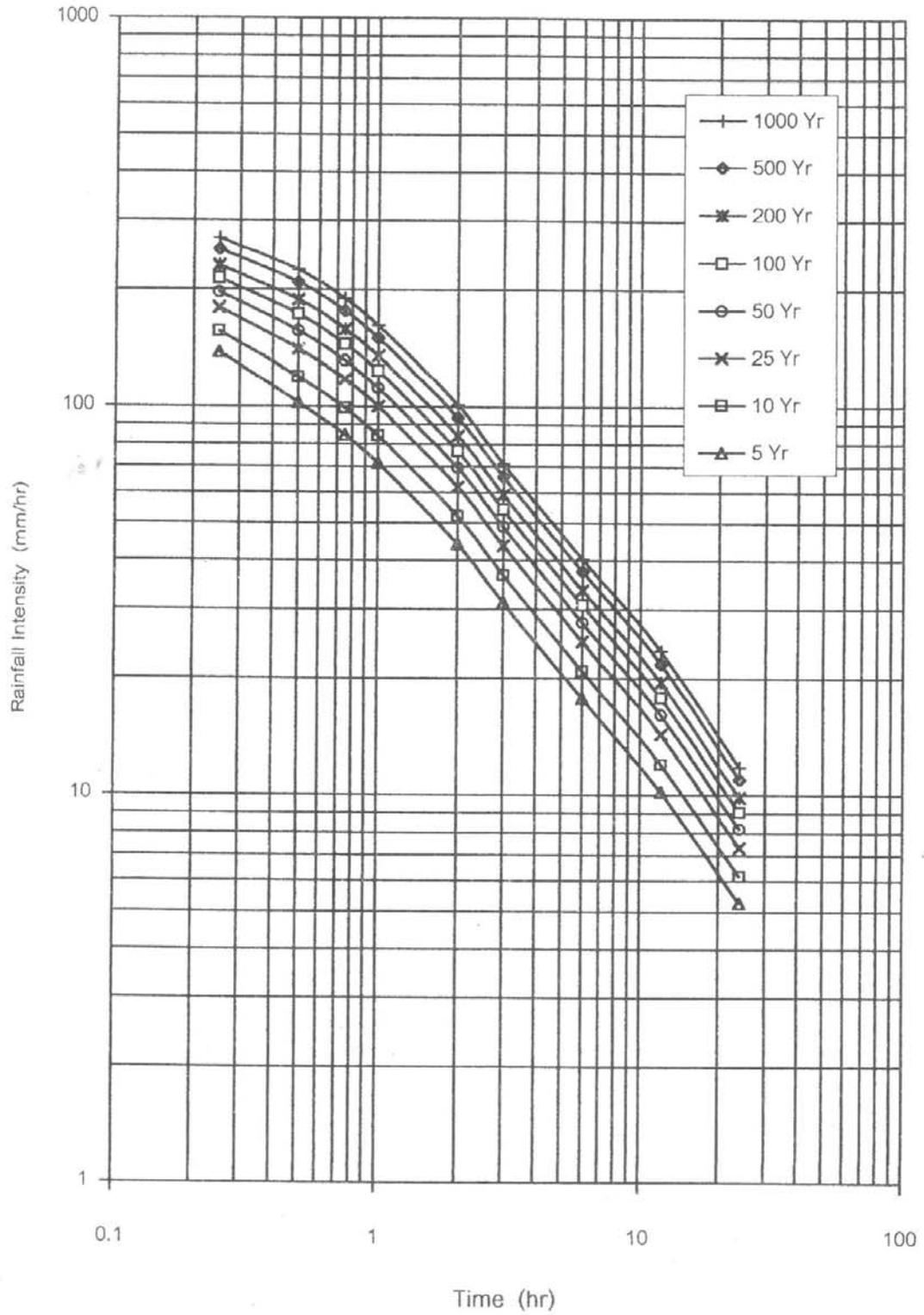


Frequency Analysis of Maximum Rainfall for Each Period at RID.Office 5 C.Ubon Ratchthani
(1973-1988)

Time (hr)	Rainfall Amount (mm)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	27.6	34.5	39.1	44.9	49.3	53.5	57.8	63.4	67.7
0.5	38.4	51.2	59.7	70.5	78.4	86.4	94.2	104.6	112.5
0.75	46.9	63.4	74.4	88.2	98.5	108.7	118.8	132.2	142.4
1	52.8	71.7	84.2	100.1	111.8	123.5	135.1	150.4	162.0
2	64.5	88.4	104.2	124.2	139.0	153.7	168.4	187.8	202.4
3	68.8	93.8	110.3	131.3	146.8	162.2	177.6	197.9	213.2
6	78.1	106.6	125.5	149.4	167.1	184.6	202.1	225.2	242.7
12	88.8	122.3	144.5	172.5	193.3	213.9	234.5	261.6	282.1
24	93.6	126.6	148.5	176.2	196.7	217.0	237.3	264.0	284.3

Time (hr)	Rainfall Intensity (mm/hr)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	110.3	138.1	156.5	179.7	197.0	214.1	231.2	253.7	270.7
0.5	76.7	102.4	119.4	140.9	156.9	172.7	188.5	209.3	225.0
0.75	62.5	84.6	99.2	117.6	131.3	144.9	158.5	176.3	189.8
1	52.8	71.7	84.2	100.1	111.8	123.5	135.1	150.4	162.0
2	32.2	44.2	52.1	62.1	69.5	76.9	84.2	93.9	101.2
3	22.9	31.3	36.8	43.8	48.9	54.1	59.2	66.0	71.1
6	13.0	17.8	20.9	24.9	27.8	30.8	33.7	37.5	40.4
12	7.4	10.2	12.0	14.4	16.1	17.8	19.5	21.8	23.5
24	3.9	5.3	6.2	7.3	8.2	9.0	9.9	11.0	11.8

Rainfall Intensity-Duration-Frequency Curve at RID. Office 5 C.Ubon Ratchthani
(1973-1988)

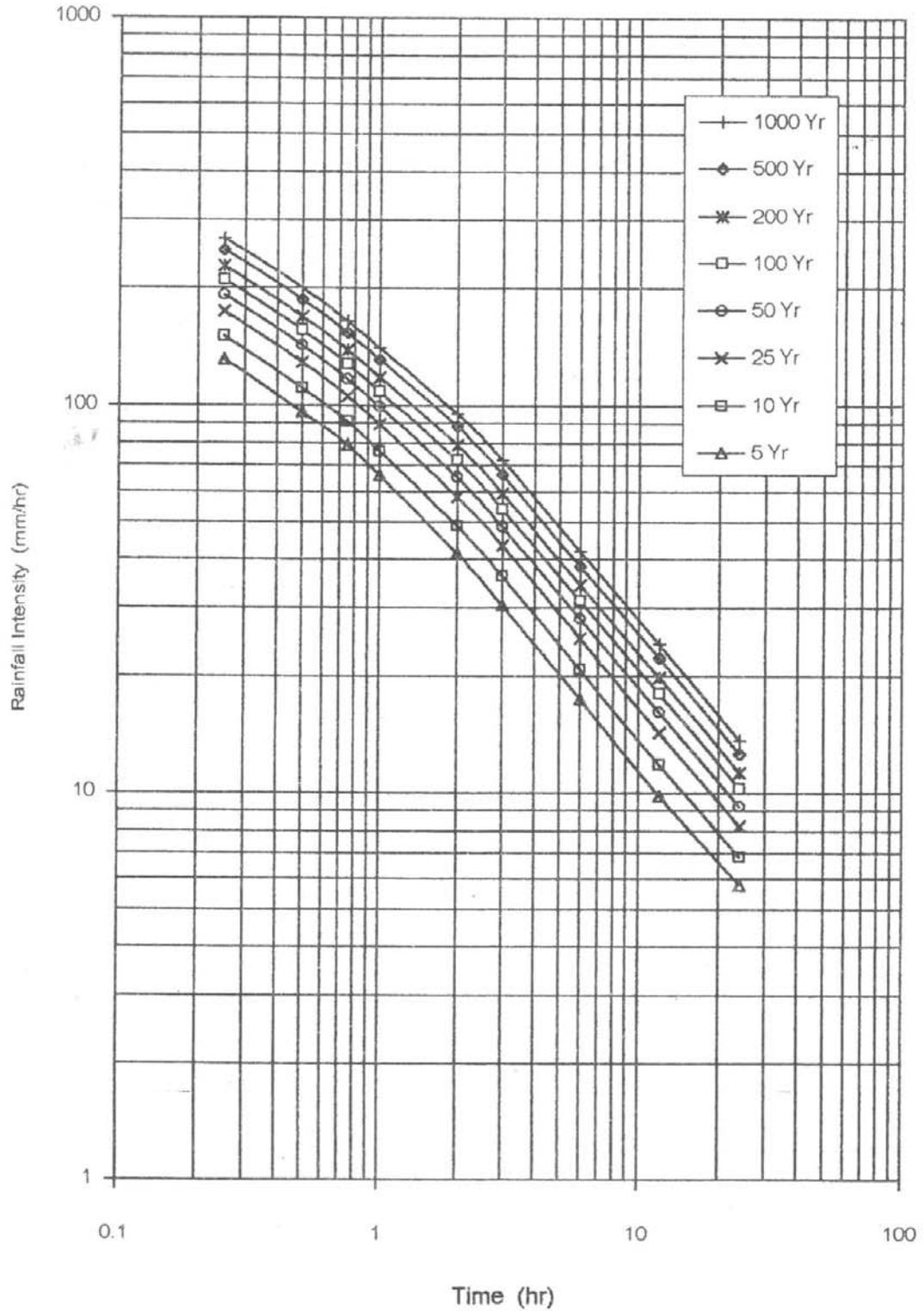


Average Value of Frequency Analysis of Maximum Rainfall for Each Period in Northeastern Part

Time (hr)	Rainfall Amount (mm)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	25.6	32.8	37.6	43.6	48.1	52.5	57.0	62.8	67.2
0.5	37.3	48.2	55.4	64.6	71.3	78.1	84.8	93.6	100.3
0.75	45.8	59.3	68.2	79.4	87.8	96.1	104.4	115.3	123.5
1	50.3	66.0	76.4	89.4	99.2	108.8	118.4	131.1	140.7
2	60.4	83.0	98.0	116.9	130.9	144.8	158.7	177.0	190.8
3	65.6	91.6	108.8	130.6	146.5	162.7	178.7	199.7	216.6
6	72.6	104.9	125.0	150.4	169.2	187.9	206.5	231.0	251.6
12	82.6	118.5	142.3	172.4	194.7	216.8	239.0	268.1	290.1
24	99.1	138.7	164.9	198.0	222.6	246.9	271.2	303.3	327.5

Time (hr)	Rainfall Intensity (mm/hr)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	102.2	131.2	150.2	174.4	192.4	210.2	227.9	251.2	268.9
0.5	74.6	96.4	110.9	129.2	142.7	156.2	169.5	187.2	200.6
0.75	61.1	79.0	90.9	105.9	117.1	128.2	139.2	153.7	164.7
1	50.3	66.0	76.4	89.4	99.2	108.8	118.4	131.1	140.7
2	30.2	41.5	49.0	58.4	65.5	72.4	79.4	88.5	95.4
3	21.9	30.5	36.3	43.5	48.8	54.2	59.6	66.6	72.2
6	12.1	17.5	20.8	25.1	28.2	31.3	34.4	38.5	41.9
12	6.9	9.9	11.9	14.4	16.2	18.1	19.9	22.3	24.2
24	4.1	5.8	6.9	8.2	9.3	10.3	11.3	12.6	13.6

**Rainfall Intensity-Duration-Frequency Average Curve of
Northeastern Part**



ตารางที่ 2. รายชื่อสถานีฝนที่ใช้ในการศึกษาของจังหวัดต่างๆในภาคตะวันตก

รหัสสถานี	ชื่อสถานี	อำเภอ	จังหวัด	ละติจูด	ลองจิจูด	ช่วงเวลาข้อมูล	หน่วยงาน
13013	อ.เมือง	เมือง	กาญจนบุรี	14° 00 08	99° 33 12	1959-1983,1986-1998	กรมอุตุนิยมวิทยา
13271	K.27	บ่อพลอย	กาญจนบุรี	14° 20 14	99° 29 22	1970-1988	กรมชลประทาน
13171	K.11	ท่าม่วง	กาญจนบุรี	13° 56 55	99° 38 42	1973-1993	กรมชลประทาน
37012	อ.เมือง	เมือง	เพชรบุรี	13° 06 34	99° 56 52	1977-1998	กรมอุตุนิยมวิทยา
45013	อ.เมือง	เมือง	ประจวบคีรีขันธ์	11° 48 25	99° 47 55	1962-1983,1986-1998	กรมชลประทาน

Frequency Analysis of Maximum Rainfall for Each Period at C. Kanchana Buri

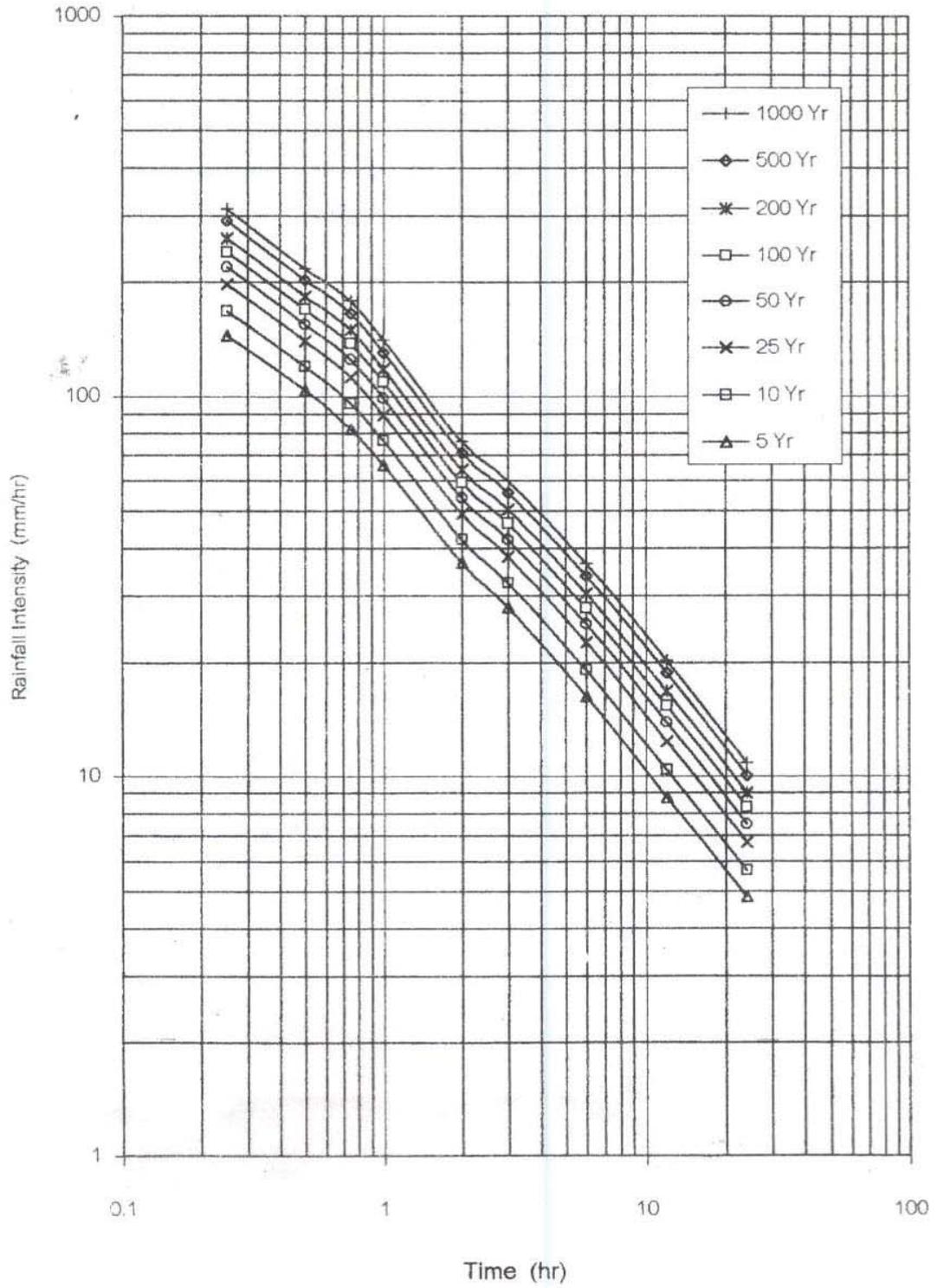
(1959 - 1983 , 1986 - 1998)

Time (hr)	Rainfall Amount (mm)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	27.3	36.2	42.0	49.4	54.9	60.4	65.8	73.0	78.4
0.5	40.0	52.0	59.9	70.0	77.4	84.8	92.2	101.9	109.2
0.75	46.6	61.8	71.8	84.5	93.9	103.3	112.6	124.9	134.2
1	50.7	66.3	76.6	89.6	99.3	108.9	118.4	131.1	140.6
2	57.2	73.7	84.6	98.5	108.7	118.9	129.1	142.4	152.6
3	63.8	84.0	97.5	114.4	127.0	139.4	151.8	168.2	180.6
6	72.2	97.8	114.7	136.1	152.0	167.8	183.5	204.3	219.9
12	76.5	105.3	124.4	148.5	166.4	184.2	201.8	225.2	242.8
24	86.0	116.1	136.0	161.2	179.8	198.4	216.8	241.2	259.6

Time (hr)	Rainfall Intensity (mm/hr)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	109.2	144.6	168.1	197.8	219.8	241.6	263.4	292.1	313.8
0.5	80.0	104.0	119.8	139.9	154.8	169.6	184.3	203.7	218.4
0.75	62.1	82.4	95.8	112.7	125.3	137.7	150.1	166.5	178.9
1	50.7	66.3	76.6	89.6	99.3	108.9	118.4	131.1	140.6
2	28.6	36.9	42.3	49.2	54.4	59.5	64.5	71.2	76.3
3	21.3	28.0	32.5	38.1	42.3	46.5	50.6	56.1	60.2
6	12.0	16.3	19.1	22.7	25.3	28.0	30.6	34.0	36.7
12	6.4	8.8	10.4	12.4	13.9	15.3	16.8	18.8	20.2
24	3.6	4.8	5.7	6.7	7.5	8.3	9.0	10.0	10.8

Rainfall Intensity-Duration-Frequency Curve at C. Kanchana Buri

(1959 - 1983 , 1986 - 1998)

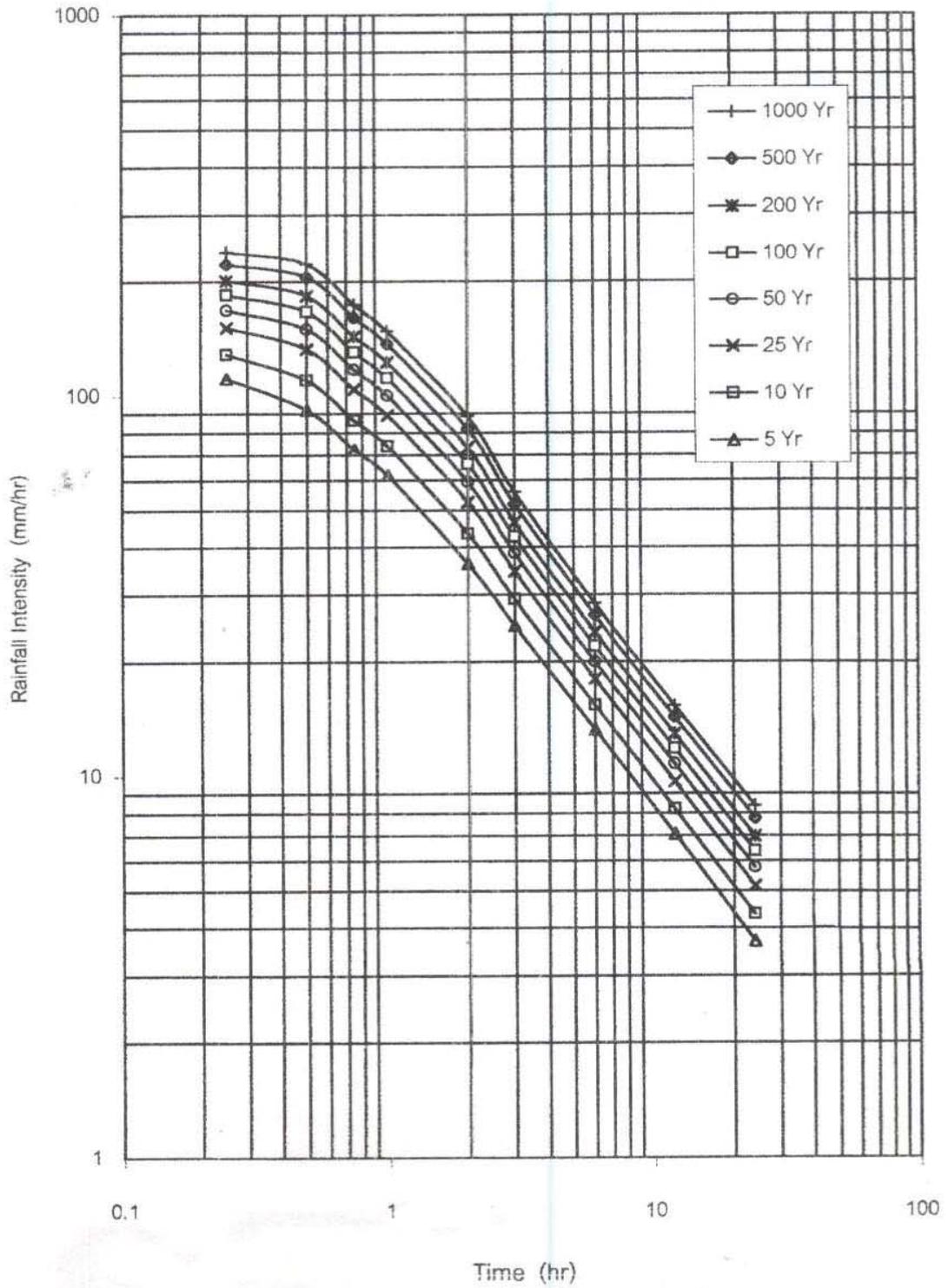


Frequency Analysis of Maximum Rainfall for Each Period at K.11,Tha Muang,Kanchana Buri
(1973 - 1993)

Time (hr)	Rainfall Amount (mm)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	21.0	27.8	32.2	37.9	42.0	46.2	50.3	55.8	59.9
0.5	32.3	46.0	55.0	66.5	75.0	83.4	91.8	102.9	111.3
0.75	38.3	54.2	64.8	78.1	88.0	97.9	107.7	120.6	130.3
1	43.8	61.9	73.9	89.1	100.3	111.5	122.6	137.3	148.4
2	50.4	72.4	87.0	105.4	119.0	132.5	146.0	163.8	177.3
3	55.3	74.8	87.7	103.9	116.0	128.0	139.9	155.6	167.5
6	59.9	79.2	92.0	108.1	120.1	131.9	143.7	159.4	171.1
12	63.8	84.6	98.4	115.8	128.7	141.5	154.2	171.0	183.7
24	65.2	88.7	104.2	123.8	138.4	152.9	167.3	186.3	200.6

Time (hr)	Rainfall Intensity (mm/hr)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	84.1	111.0	128.9	151.4	168.1	184.7	201.3	223.1	239.6
0.5	64.5	91.9	110.1	133.0	150.0	166.8	183.7	205.8	222.6
0.75	51.0	72.3	86.4	104.2	117.4	130.5	143.5	160.7	173.8
1	43.8	61.9	73.9	89.1	100.3	111.5	122.6	137.3	148.4
2	25.2	36.2	43.5	52.7	59.5	66.3	73.0	81.9	88.6
3	18.4	24.9	29.2	34.6	38.7	42.7	46.6	51.9	55.8
6	10.0	13.2	15.3	18.0	20.0	22.0	24.0	26.6	28.5
12	5.3	7.1	8.2	9.6	10.7	11.8	12.9	14.3	15.3
24	2.7	3.7	4.3	5.2	5.8	6.4	7.0	7.8	8.4

Rainfall Intensity-Duration-Frequency Curve at K.11.Thu Muang.Kanchana Buri
(1973 - 1993)



Frequency Analysis of Maximum Rainfall for Each Period at K.27 C.Kanchana Buri

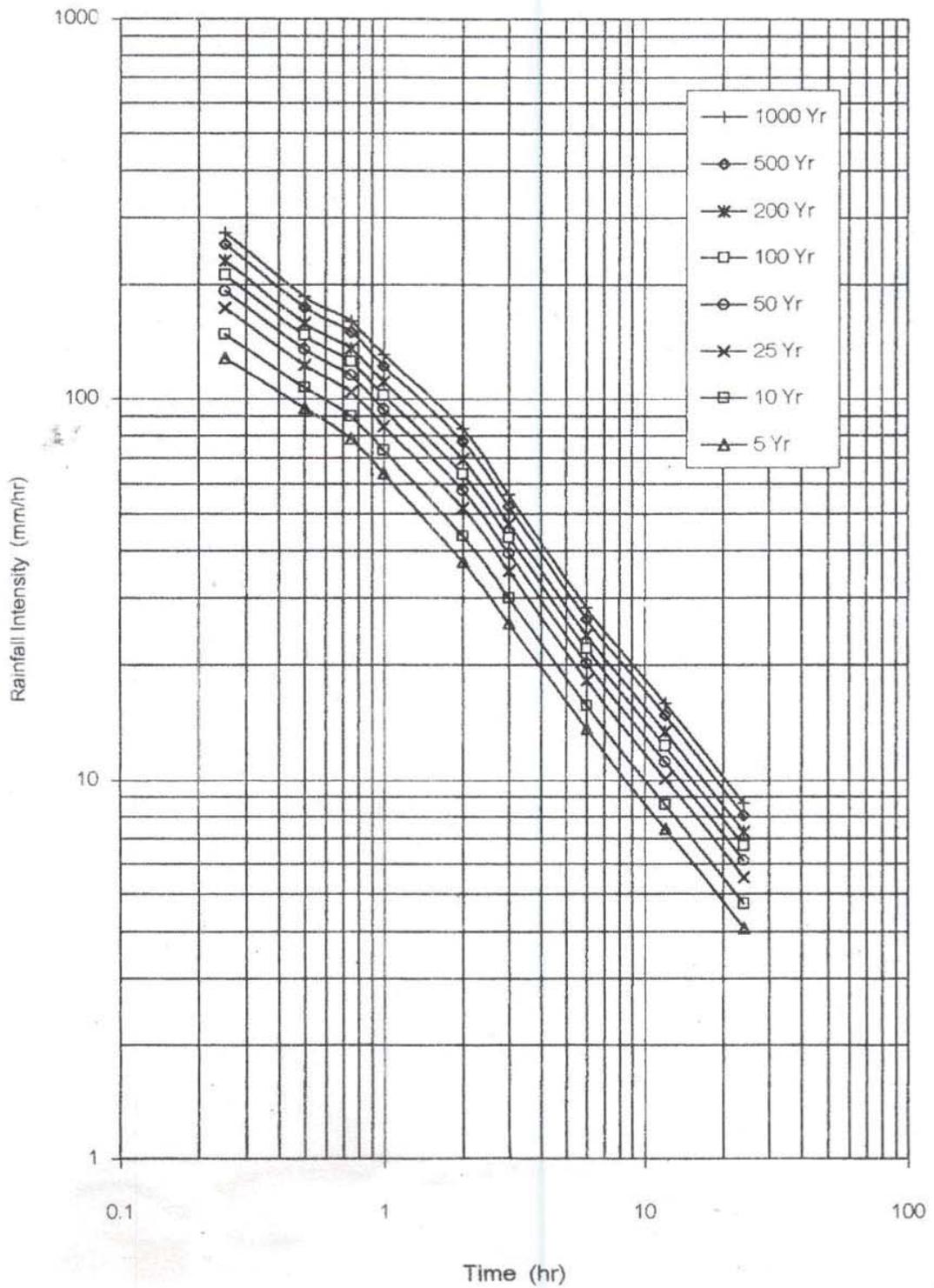
(1970 - 1988)

Time (hr)	Rainfall Amount (mm)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	24.6	32.2	37.2	43.6	48.3	53.0	57.7	63.8	68.5
0.5	37.5	47.2	53.6	61.8	67.8	73.8	79.7	87.6	93.5
0.75	46.2	59.1	67.7	78.6	86.6	94.6	102.5	113.0	120.9
1	50.0	64.1	73.4	85.1	93.9	102.5	111.2	122.5	131.1
2	55.5	74.8	87.6	103.8	115.8	127.7	139.6	155.3	167.1
3	58.2	77.4	90.2	106.3	118.2	130.0	141.8	157.4	169.2
6	62.9	81.5	93.8	109.4	121.0	132.5	143.9	159.0	170.4
12	67.7	89.0	103.2	121.0	134.2	147.3	160.4	177.6	190.7
24	74.6	97.8	113.1	132.4	146.8	161.0	175.2	194.0	208.1

Time (hr)	Rainfall Intensity (mm/hr)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	98.2	128.7	148.8	174.3	193.2	212.0	230.7	255.3	274.0
0.5	75.0	94.4	107.3	123.5	135.5	147.5	159.4	175.1	187.0
0.75	61.6	78.8	90.3	104.7	115.5	126.1	136.7	150.7	161.3
1	50.0	64.1	73.4	85.1	93.9	102.5	111.2	122.5	131.1
2	27.8	37.4	43.8	51.9	57.9	63.9	69.8	77.6	83.6
3	19.4	25.8	30.1	35.4	39.4	43.3	47.3	52.5	56.4
6	10.5	13.6	15.6	18.2	20.2	22.1	24.0	26.5	28.4
12	5.6	7.4	8.6	10.1	11.2	12.3	13.4	14.8	15.9
24	3.1	4.1	4.7	5.5	6.1	6.7	7.3	8.1	8.7

Rainfall Intensity-Duration-Frequency Curve at K.27 C.Kanchana Buri

(1970 - 1988)



Frequency Analysis of Maximum Rainfall for Each Period at C. Phetchburi

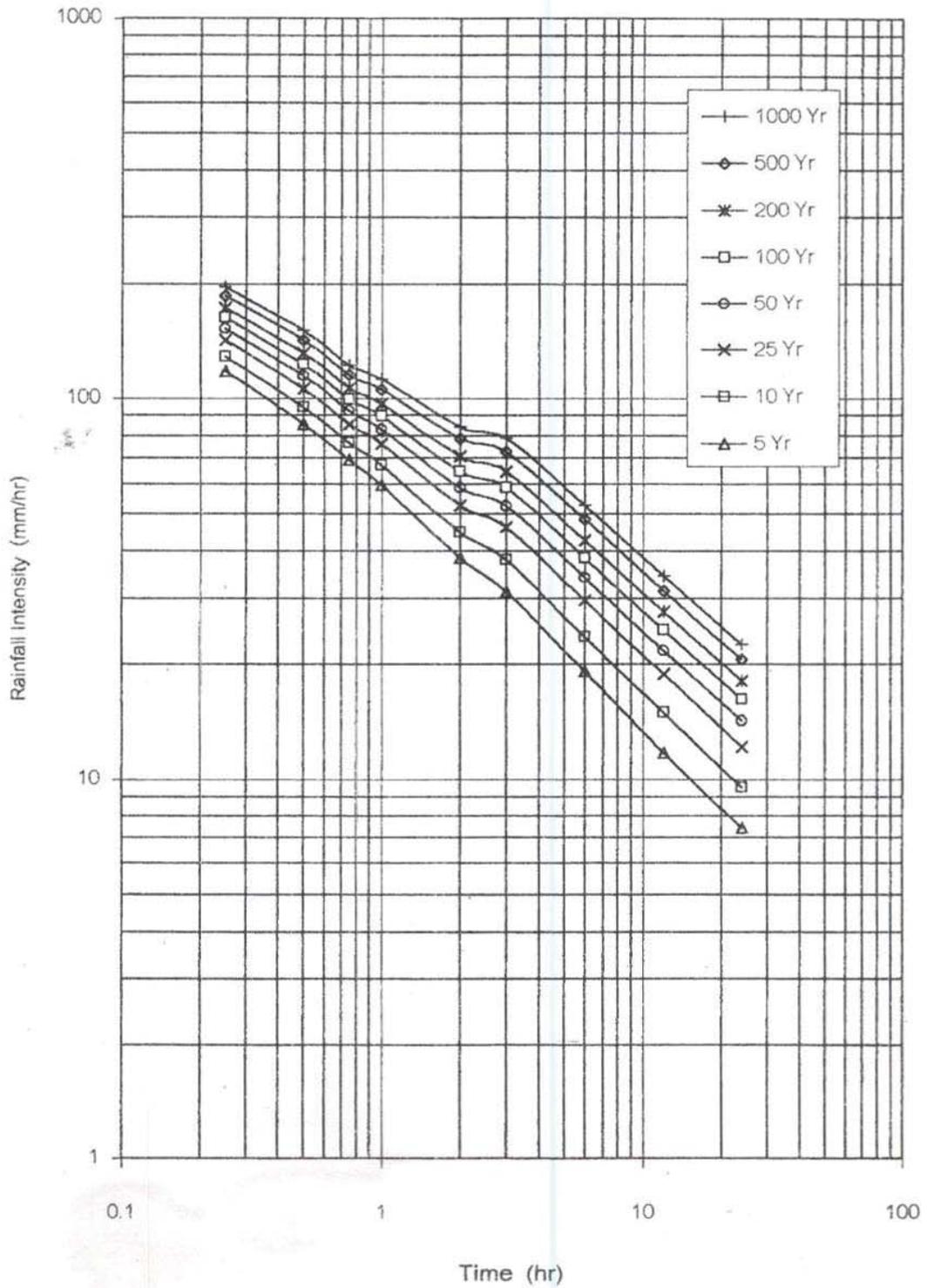
(1977 - 1998)

Time (hr)	Rainfall Amount (mm)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	25.2	29.4	32.1	35.7	38.3	40.8	43.4	46.8	49.4
0.5	35.8	42.7	47.2	53.0	57.2	61.4	65.7	71.2	75.4
0.75	43.5	51.8	57.3	64.3	69.5	74.6	79.7	86.4	91.5
1	48.6	59.6	66.9	76.1	83.0	89.7	96.5	105.4	112.2
2	57.3	76.5	89.3	105.5	117.4	129.3	141.1	156.8	168.6
3	64.4	94.1	113.8	138.7	157.1	175.4	193.7	217.8	236.0
6	72.7	114.8	142.6	177.8	203.9	229.8	255.6	289.7	315.4
12	83.8	140.9	178.7	226.5	262.0	297.1	332.2	378.4	413.4
24	102.2	178.8	229.4	293.5	341.0	388.1	435.1	497.1	543.9

Time (hr)	Rainfall Intensity (mm/hr)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	100.7	117.4	128.6	142.6	153.0	163.3	173.6	187.2	197.4
0.5	71.6	85.3	94.4	105.9	114.4	122.9	131.3	142.4	150.8
0.75	58.0	69.1	76.5	85.7	92.6	99.5	106.3	115.2	122.0
1	48.6	59.6	66.9	76.1	83.0	89.7	96.5	105.4	112.2
2	28.6	38.3	44.7	52.7	58.7	64.7	70.6	78.4	84.3
3	21.5	31.4	37.9	46.2	52.4	58.5	64.6	72.6	78.7
6	12.1	19.1	23.8	29.6	34.0	38.3	42.6	48.3	52.6
12	7.0	11.7	14.9	18.9	21.8	24.8	27.7	31.5	34.4
24	4.3	7.4	9.6	12.2	14.2	16.2	18.1	20.7	22.7

Rainfall Intensity-Duration-Frequency Curve at C. Phetchburi

(1977 - 1998)



Frequency Analysis of Maximum Rainfall for Each Period at C. Prachuap Khirikhan

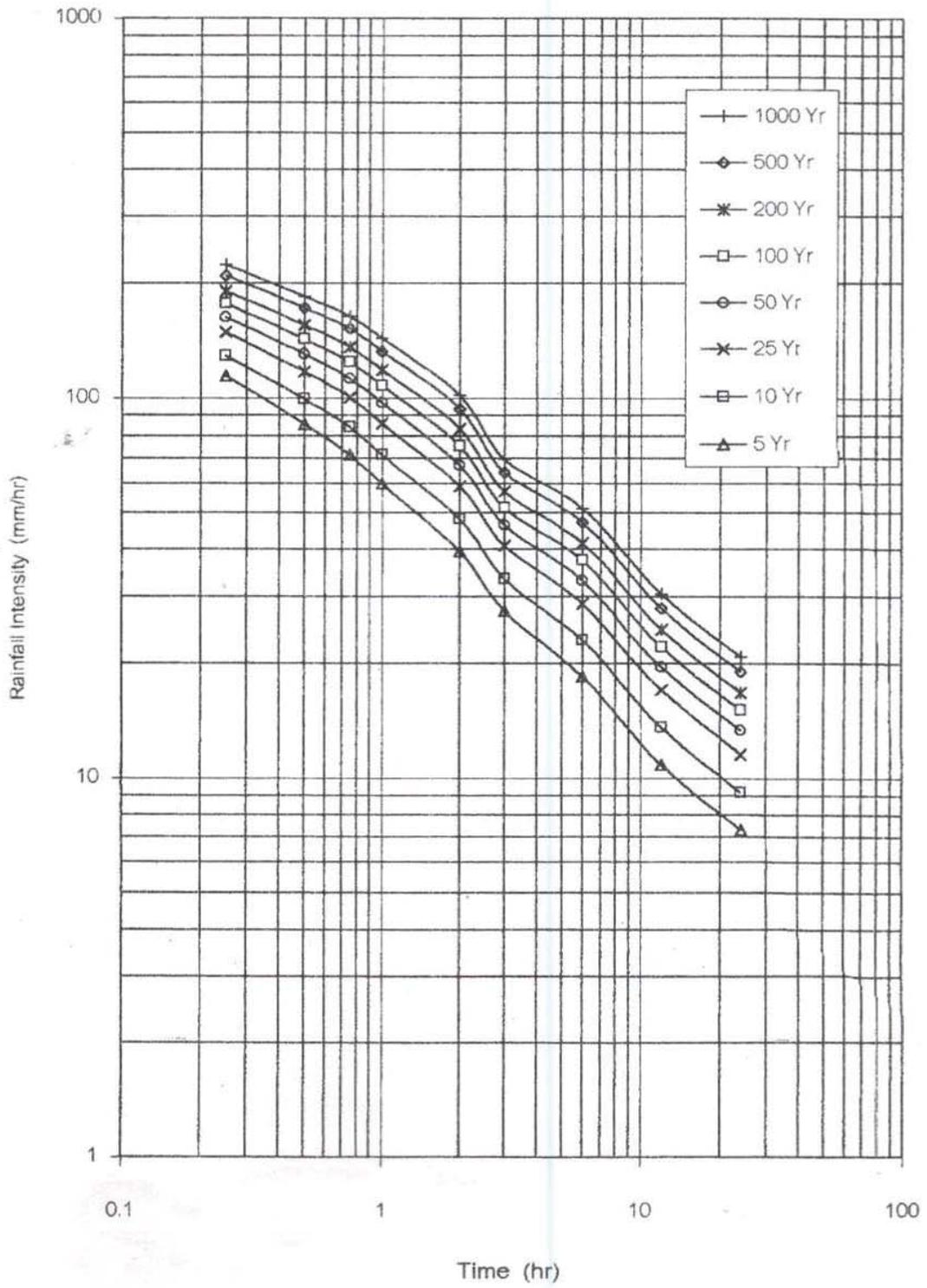
(1962 - 1983 , 1986 - 1998)

Time (hr)	Rainfall Amount (mm)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	22.7	28.5	32.3	37.1	40.7	44.3	47.8	52.5	56.1
0.5	32.4	42.8	49.8	58.5	65.0	71.4	77.8	86.3	92.7
0.75	39.0	53.5	63.1	75.3	84.3	93.3	102.2	114.0	122.9
1	42.5	60.0	71.6	86.2	97.0	107.8	118.5	132.6	143.3
2	52.7	78.8	96.1	117.9	134.1	150.2	166.2	187.3	203.3
3	56.3	82.8	100.3	122.4	138.8	155.1	171.3	192.7	208.9
6	69.7	111.0	138.3	172.8	198.4	223.8	249.2	282.6	307.8
12	81.0	130.3	163.0	204.3	234.9	265.3	295.5	335.5	365.7
24	107.3	175.4	220.4	277.4	319.7	361.6	403.4	458.5	500.2

Time (hr)	Rainfall Intensity (mm/hr)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	90.6	113.8	129.1	148.5	162.8	177.1	191.3	210.1	224.2
0.5	64.8	85.7	99.5	117.0	130.0	142.8	155.7	172.6	185.4
0.75	51.9	71.3	84.2	100.4	112.4	124.4	136.3	152.0	163.8
1	42.5	60.0	71.6	86.2	97.0	107.8	118.5	132.6	143.3
2	26.3	39.4	48.0	59.0	67.1	75.1	83.1	93.7	101.7
3	18.8	27.6	33.4	40.8	46.3	51.7	57.1	64.2	69.6
6	11.6	18.5	23.0	28.8	33.1	37.3	41.5	47.1	51.3
12	6.8	10.9	13.6	17.0	19.6	22.1	24.6	28.0	30.5
24	4.5	7.3	9.2	11.6	13.3	15.1	16.8	19.1	20.8

Rainfall Intensity-Duration-Frequency Curve at C. Prachuap Khirikhan

(1962 - 1983, 1986 - 1998)

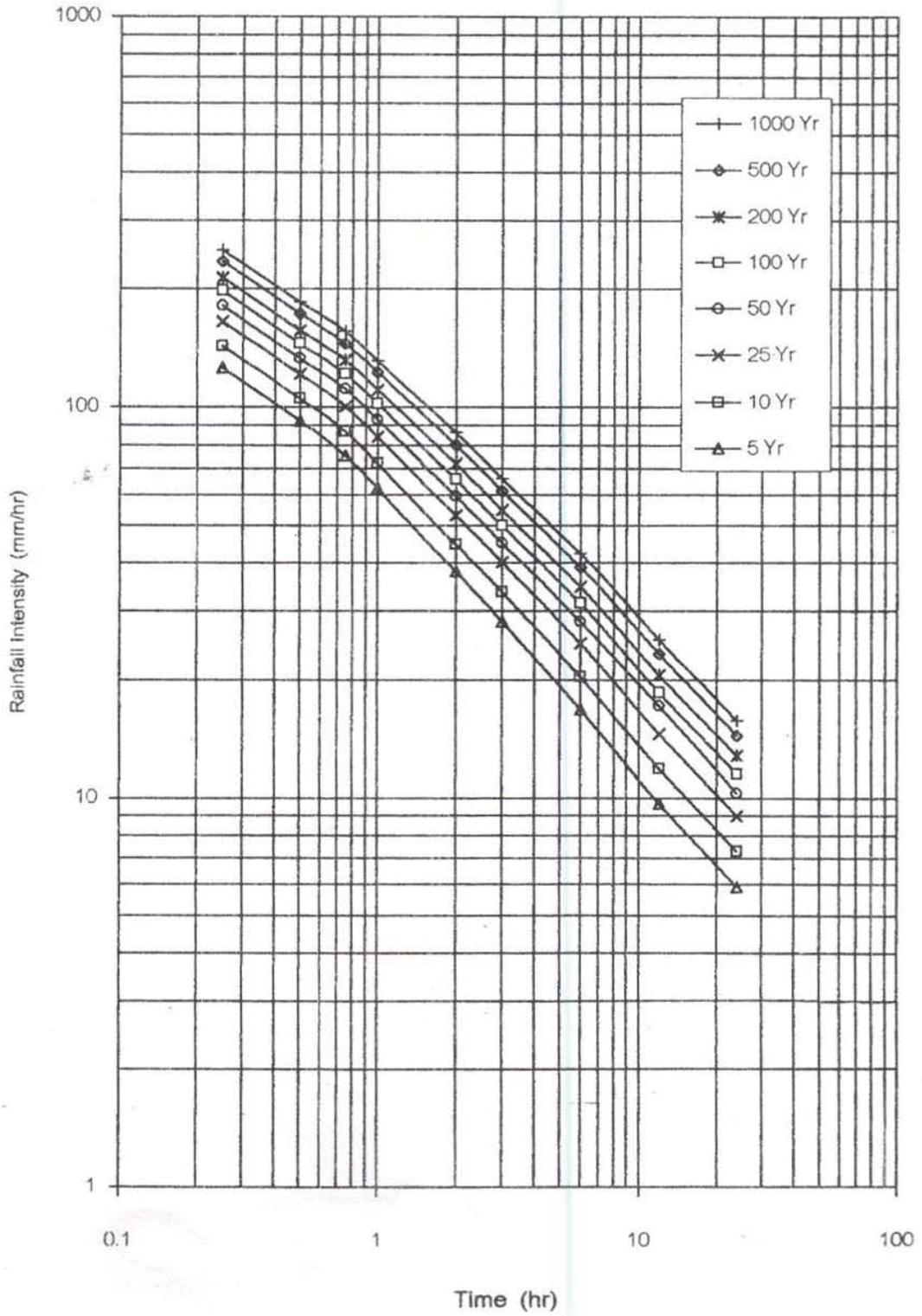


Average Value of Frequency Analysis of Maximum Rainfall for Each Period in Western Part

Time (hr)	Rainfall Amount (mm)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	25.0	31.6	35.9	41.5	45.6	49.6	53.7	59.0	63.1
0.5	36.4	46.2	52.6	60.8	66.9	72.9	78.9	86.8	92.7
0.75	43.8	56.6	65.0	75.7	83.6	91.5	99.3	109.6	117.4
1	48.0	62.5	72.1	84.3	93.3	102.2	111.2	122.9	131.8
2	55.7	76.0	89.4	106.4	119.0	131.5	144.0	160.5	172.9
3	60.7	84.6	100.5	120.5	135.3	150.0	164.7	184.0	198.7
6	69.4	101.3	122.4	149.0	168.8	188.5	208.1	233.9	253.4
12	77.3	116.4	142.3	175.1	206.9	223.5	247.5	279.2	303.2
24	92.5	142.0	174.7	216.1	246.8	277.3	307.6	347.4	378.0

Time (hr)	Rainfall Intensity (mm/hr)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	99.8	126.3	143.6	165.8	182.2	198.5	214.7	236.1	252.4
0.5	72.9	92.4	105.3	121.7	133.7	145.7	157.7	173.5	185.4
0.75	58.4	75.4	86.6	100.9	111.4	121.9	132.3	146.1	156.5
1	48.0	62.5	72.1	84.3	93.3	102.2	111.2	122.9	131.8
2	27.8	38.0	44.7	53.2	59.5	65.8	72.0	80.2	86.5
3	20.2	28.2	33.5	40.2	45.1	50.0	54.9	61.3	66.2
6	11.6	16.9	20.4	24.8	28.1	31.4	34.7	39.0	42.2
12	6.4	9.7	11.9	14.6	17.2	18.6	20.6	23.3	25.3
24	3.9	5.9	7.3	9.0	10.3	11.6	12.8	14.5	15.7

Rainfall Intensity-Duration-Frequency Average Curve of
Western Part



ตารางที่ 2. รายชื่อสถานีฝนที่ใช้ในการศึกษาของจังหวัดต่างๆในภาคใต้

รหัสสถานี	ชื่อสถานี	อำเภอ	จังหวัด	ละติจูด	ลองจิจูด	ช่วงเวลาข้อมูล	หน่วยงาน
10013	อ.เมือง	เมือง	ชุมพร	10° 29' 30"	99° 11' 04"	1954-1983, 1986-1998	กรมอุตุนิยมวิทยา
27013	อ.เมือง	เมือง	นครศรีธรรมราช	08° 24' 56"	99° 57' 57"	1964-1998	กรมอุตุนิยมวิทยา
27082	อ.ลานสกา	ลานสกา	นครศรีธรรมราช	08° 22' 08"	99° 48' 29"	1960-1969	กรมอุตุนิยมวิทยา
29012	อ.เมือง	เมือง	นราธิวาส	06° 25' 26"	101° 49' 35"	1976-1998	กรมอุตุนิยมวิทยา
33012	อ.เมือง	เมือง	ปัตตานี	06° 52' 00"	101° 15' 11"	1976-1998	กรมอุตุนิยมวิทยา
35012	อ.เมือง	เมือง	พัทลุง	07° 37' 02"	100° 04' 32"	1959-1989	กรมอุตุนิยมวิทยา
43013	อ.เมือง	เมือง	ภูเก็ต	07° 53' 18"	98° 23' 14"	1986-1998	กรมอุตุนิยมวิทยา
43033	สนามบินภูเก็ต	เมือง	ภูเก็ต	08° 06' 35"	98° 18' 45"	1964-1983, 1986-1998	กรมอุตุนิยมวิทยา
46013	อ.เมือง	เมือง	ระนอง	09° 57' 55"	98° 38' 12"	1964-1998	กรมอุตุนิยมวิทยา
55012	อ.เมือง	เมือง	สตูล	06° 37' 16"	100° 04' 09"	1979-1993	กรมอุตุนิยมวิทยา
59013	อ.เมือง	เมือง	สงขลา	07° 12' 21"	100° 35' 58"	1957-1980, 1986-1998	กรมอุตุนิยมวิทยา
65083	สนามบินตรัง	เมือง	ตรัง	07° 30' 33"	99° 37' 56"	1965-1969, 1986-1998	กรมอุตุนิยมวิทยา

Frequency Analysis of Maximum Rainfall for Each Period at C. Chumporn

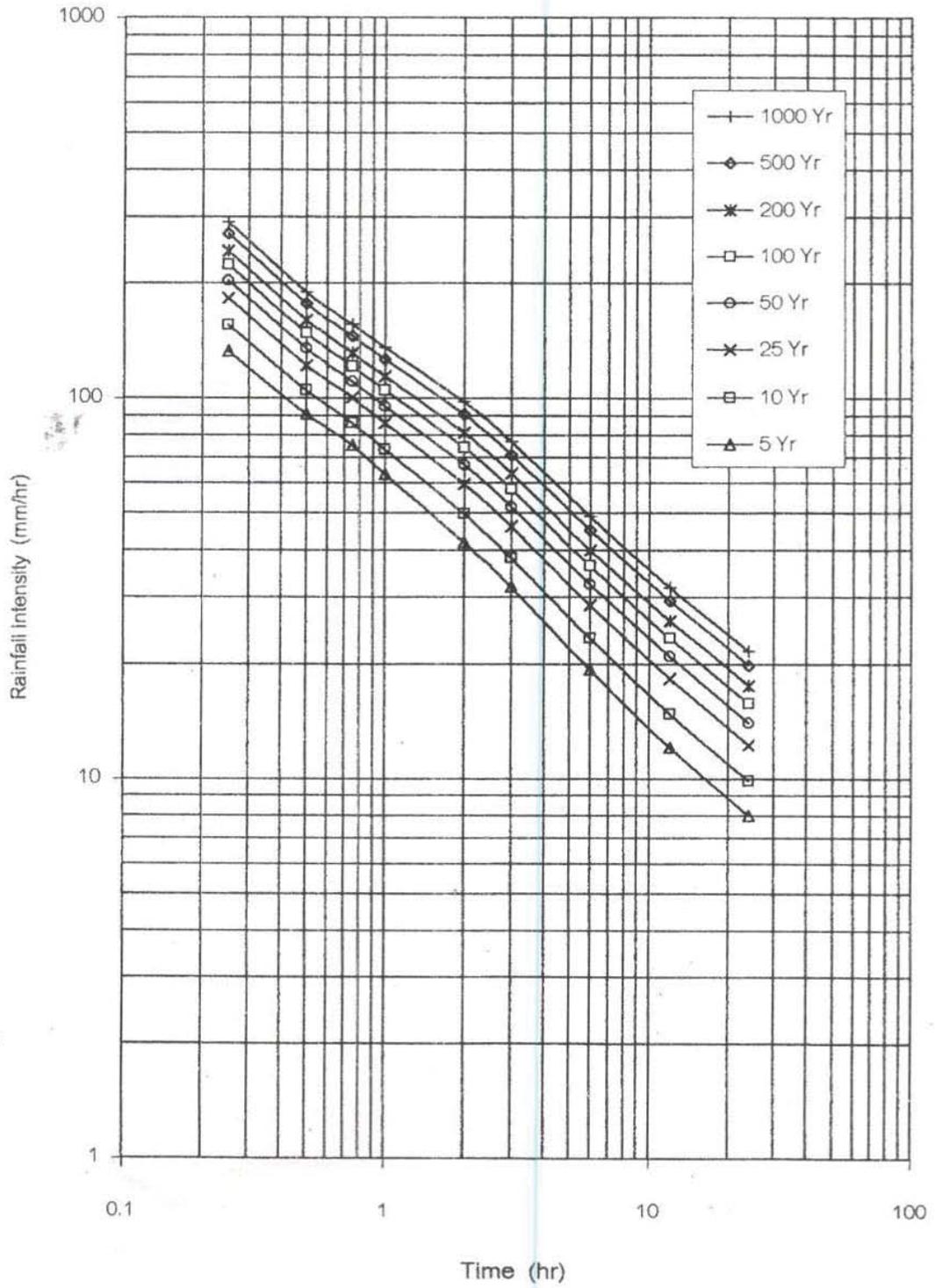
(1954 - 1983 , 1986 - 1998)

Time (hr)	Rainfall Amount (mm)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	24.9	33.2	38.7	45.6	50.8	55.9	61.0	67.7	72.8
0.5	35.3	45.6	52.4	61.0	67.4	73.7	80.1	88.4	94.7
0.75	43.9	56.5	64.9	75.5	83.3	91.1	98.8	109.1	116.8
1	48.4	63.5	73.5	86.2	95.6	104.9	114.2	126.4	135.7
2	60.6	84.2	99.8	119.5	134.1	148.6	163.1	182.2	196.6
3	67.5	95.9	114.7	138.5	156.1	173.6	191.1	214.1	231.5
6	78.2	115.7	140.5	171.8	195.0	218.1	241.1	271.4	294.3
12	95.1	145.1	178.1	219.9	250.9	281.6	312.3	352.7	383.2
24	123.5	191.9	237.2	294.4	336.9	379.0	421.0	476.4	518.3

Time (hr)	Rainfall Intensity (mm/hr)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	99.5	132.8	154.8	182.6	203.2	223.6	244.0	270.9	291.3
0.5	70.6	91.2	104.8	122.0	134.8	147.5	160.1	176.8	189.4
0.75	58.5	75.4	86.5	100.6	111.1	121.4	131.8	145.4	155.7
1	48.4	63.5	73.5	86.2	95.6	104.9	114.2	126.4	135.7
2	30.3	42.1	49.9	59.8	67.1	74.3	81.6	91.1	98.3
3	22.5	32.0	38.2	46.2	52.0	57.9	63.7	71.4	77.2
6	13.0	19.3	23.4	28.6	32.5	36.3	40.2	45.2	49.1
12	7.9	12.1	14.8	18.3	20.9	23.5	26.0	29.4	31.9
24	5.1	8.0	9.9	12.3	14.0	15.8	17.5	19.9	21.6

Rainfall Intensity-Duration-Frequency Curve at C.Chumporn

(1954-1983, 1986-1998)



Frequency Analysis of Maximum Rainfall for Each Period at C. Nakhon Si Thammarat

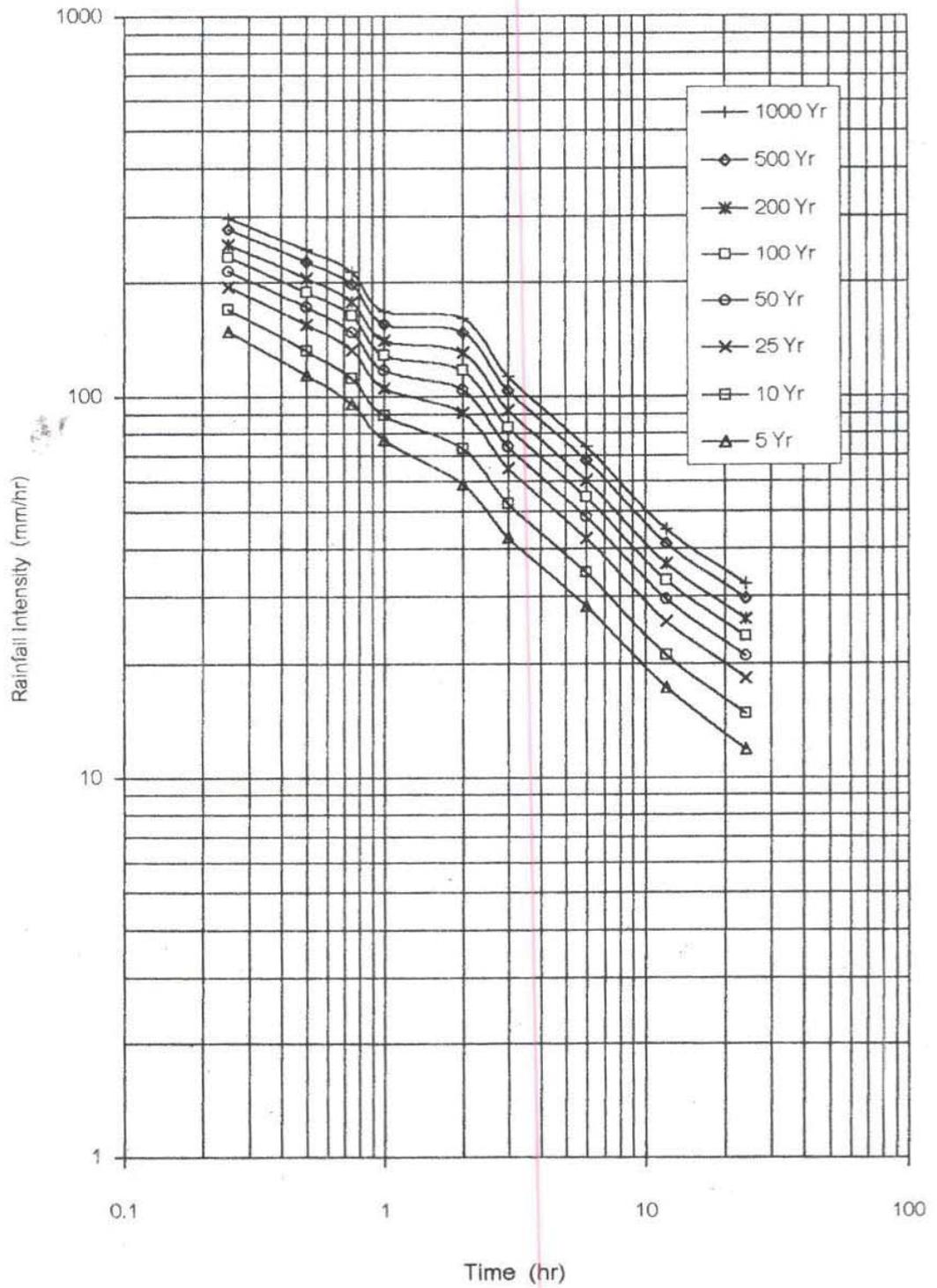
(1964 - 1998)

Time (hr)	Rainfall Amount (mm)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	29.3	37.2	42.3	48.9	53.7	58.5	63.3	69.6	74.4
0.5	43.4	57.1	66.2	77.6	86.1	94.5	102.9	114.0	122.4
0.75	53.6	72.1	84.2	99.6	111.1	122.4	133.7	148.6	159.9
1	58.2	77.2	89.7	105.6	117.3	129.0	140.6	155.9	167.5
2	75.4	118.2	146.5	182.3	208.9	235.3	261.6	296.2	322.4
3	84.6	128.8	158.1	195.0	222.4	249.6	276.8	312.5	339.6
6	113.1	170.4	208.4	256.3	291.9	327.3	362.5	408.9	444.0
12	137.0	206.8	253.0	311.3	354.6	397.6	440.4	496.9	539.6
24	180.9	284.2	352.6	439.1	503.2	566.8	630.3	713.9	777.2

Time (hr)	Rainfall Intensity (mm/hr)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	117.4	148.6	169.3	195.4	214.8	234.1	253.2	278.6	297.7
0.5	86.8	114.2	132.3	155.2	172.2	189.1	205.9	228.0	244.8
0.75	71.5	96.1	112.3	132.9	148.1	163.2	178.3	198.2	213.2
1	58.2	77.2	89.7	105.6	117.3	129.0	140.6	155.9	167.5
2	37.7	59.1	73.3	91.2	104.5	117.6	130.8	148.1	161.2
3	28.2	42.9	52.7	65.0	74.1	83.2	92.3	104.2	113.2
6	18.8	28.4	34.7	42.7	48.7	54.5	60.4	68.1	74.0
12	11.4	17.2	21.1	25.9	29.6	33.1	36.7	41.4	45.0
24	7.5	11.8	14.7	18.3	21.0	23.6	26.3	29.7	32.4

Rainfall Intensity-Duration-Frequency Curve at C. Nakhon Si Thammarat

(1964-1998)

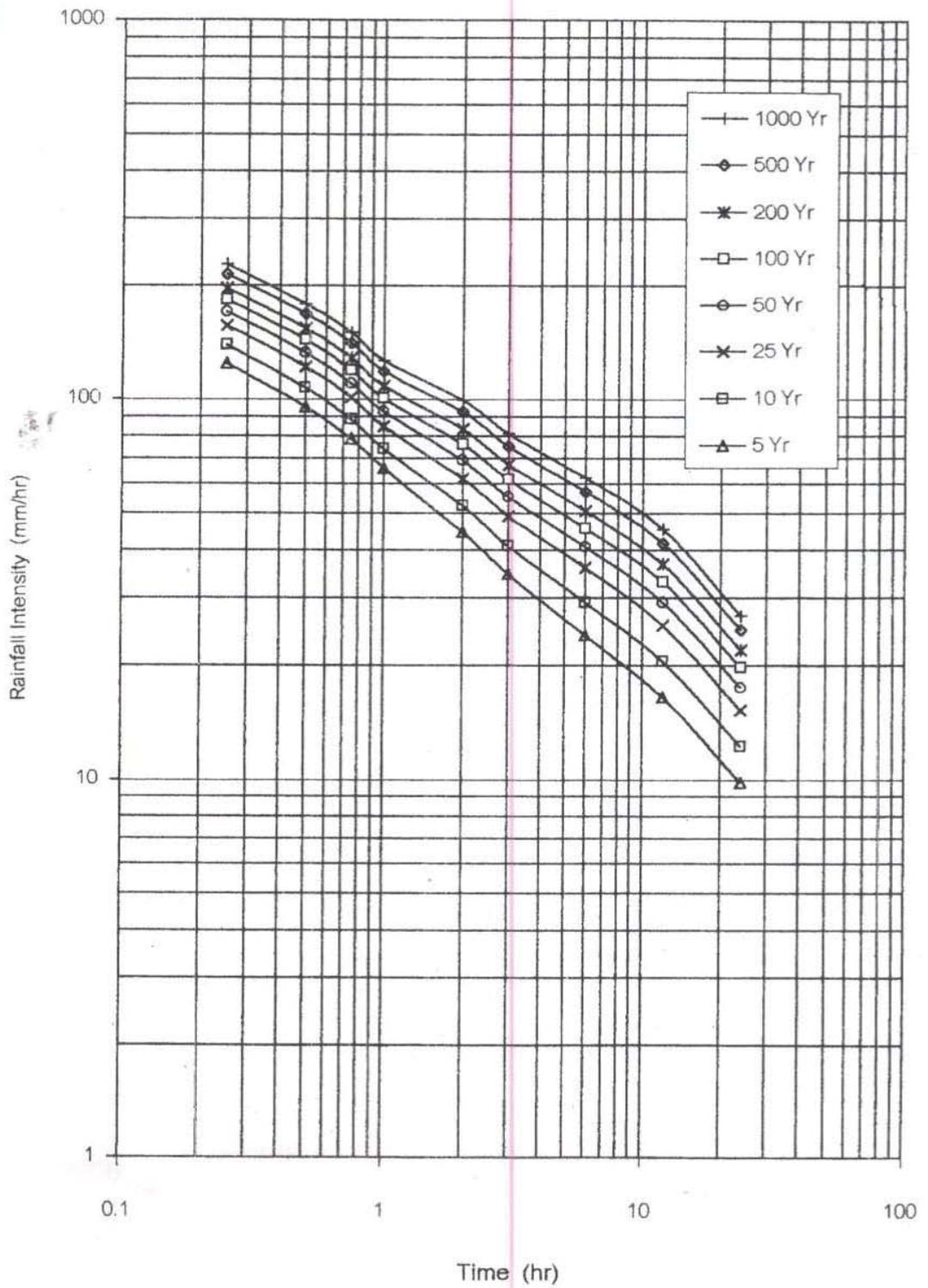


Frequency Analysis of Maximum Rainfall for Each Period at A.Lan Saka C.Nakhon Si Thammarat
(1960 - 1989)

Time (hr)	Rainfall Amount (mm)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	25.9	31.2	34.8	39.3	42.6	45.9	49.2	53.6	56.8
0.5	39.1	47.9	53.7	61.0	66.4	71.8	77.2	84.3	89.7
0.75	48.1	59.3	66.6	76.0	82.9	89.8	96.6	105.7	112.5
1	53.5	66.1	74.5	85.1	93.0	100.8	108.5	118.8	126.5
2	66.6	89.7	105.0	124.3	138.6	152.8	166.9	185.6	199.7
3	74.8	104.2	123.7	148.3	166.6	184.7	202.8	226.7	244.7
6	95.8	143.9	175.7	216.0	245.8	275.4	304.9	343.9	373.3
12	124.3	197.2	245.5	306.6	351.9	396.8	441.6	500.6	545.3
24	148.9	235.7	293.2	365.8	419.7	473.2	526.5	596.8	649.9

Time (hr)	Rainfall Intensity (mm/hr)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	103.4	124.9	139.1	157.0	170.4	183.6	196.8	214.2	227.3
0.5	78.2	95.7	107.3	122.0	132.9	143.7	154.4	168.6	179.3
0.75	64.1	79.0	88.9	101.3	110.5	119.7	128.8	140.9	150.0
1	53.5	66.1	74.5	85.1	93.0	100.8	108.5	118.8	126.5
2	33.3	44.9	52.5	62.1	69.3	76.4	83.5	92.8	99.9
3	24.9	34.7	41.2	49.4	55.5	61.6	67.6	75.6	81.6
6	16.0	24.0	29.3	36.0	41.0	45.9	50.8	57.3	62.2
12	10.4	16.4	20.5	25.5	29.3	33.1	36.8	41.7	45.4
24	6.2	9.8	12.2	15.2	17.5	19.7	21.9	24.9	27.1

Rainfall Intensity-Duration-Frequency Curve at A. Lan Saka C. Nakhon Si Thammarat
(1960 -1989)



Frequency Analysis of Maximum Rainfall for Each Period at C. Narathiwat

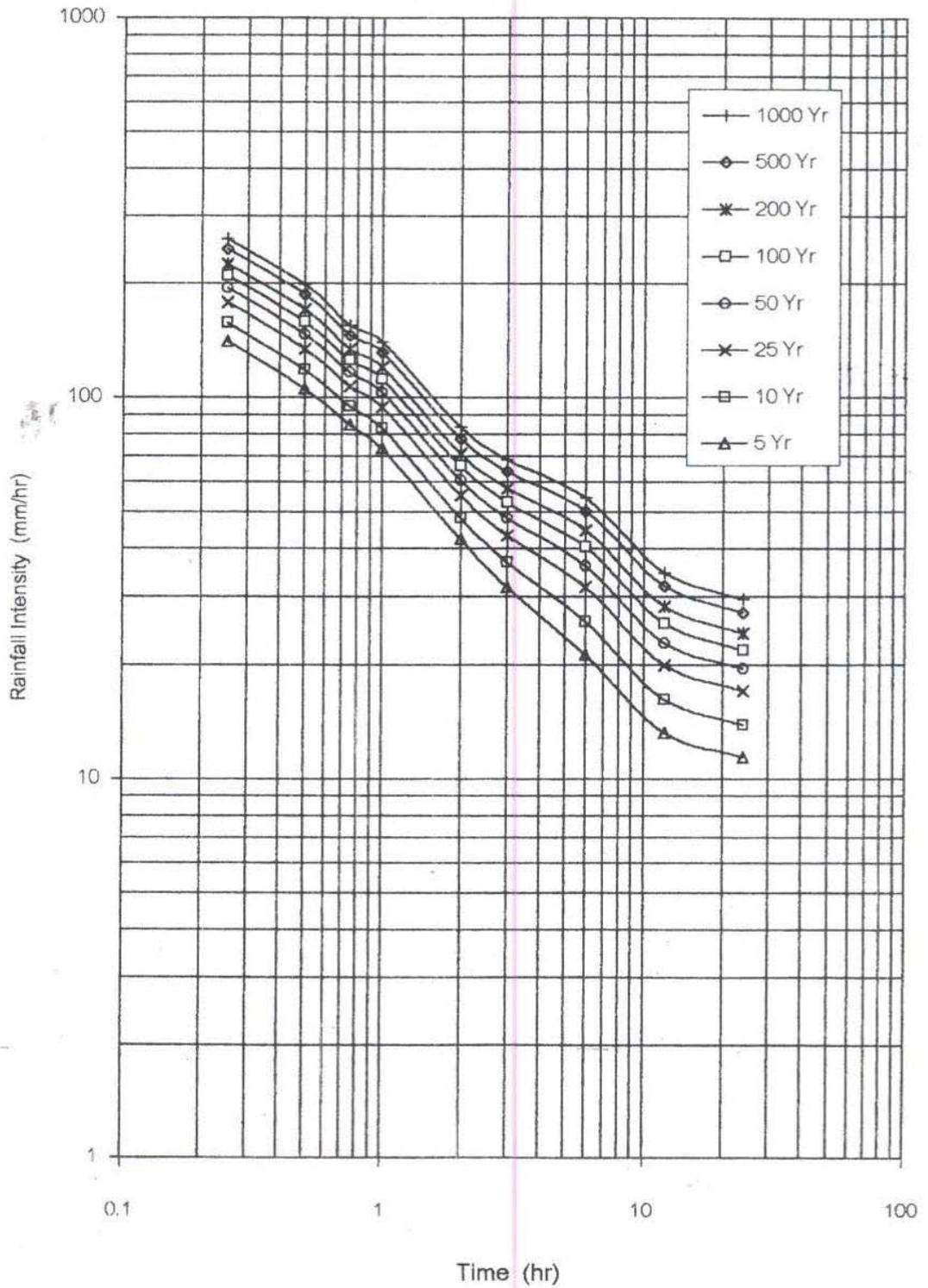
(1976 - 1998)

Time (hr)	Rainfall Amount (mm)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	29.13	35.41	39.56	44.81	48.7	52.57	56.42	61.5	65.43
0.5	43.1	52.9	59.4	67.7	73.8	79.8	85.8	93.8	99.8
0.75	52.6	63.8	71.2	80.6	87.5	94.4	101.3	110.3	117.2
1	59.5	73.6	82.9	94.7	103.4	112.1	120.8	132.2	140.8
2	68.1	85.2	96.5	110.9	121.5	132.0	142.5	156.3	166.8
3	72.3	95.5	110.9	130.3	144.7	159.0	173.3	192.1	206.3
6	86.0	127.9	155.7	190.8	216.8	242.7	268.4	302.4	328.1
12	104.7	158.8	194.7	239.9	273.5	306.8	340.0	383.8	416.9
24	181.5	273.2	333.9	410.6	467.5	524.0	580.3	654.5	710.6

Time (hr)	Rainfall Intensity (mm/hr)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	116.5	141.6	158.2	179.2	194.8	210.3	225.7	246.0	261.7
0.5	86.2	105.9	118.9	135.3	147.5	159.6	171.7	187.6	199.6
0.75	70.1	85.0	94.9	107.4	116.7	125.9	135.0	147.1	156.3
1	59.5	73.6	82.9	94.7	103.4	112.1	120.8	132.2	140.8
2	34.1	42.6	48.3	55.4	60.7	66.0	71.2	78.2	83.4
3	24.1	31.8	37.0	43.4	48.2	53.0	57.8	64.0	68.8
6	14.3	21.3	26.0	31.8	36.1	40.4	44.7	50.4	54.7
12	8.7	13.2	16.2	20.0	22.8	25.6	28.3	32.0	34.7
24	7.6	11.4	13.9	17.1	19.5	21.8	24.2	27.3	29.6

Rainfall Intensity-Duration-Frequency Curve at C. Narathiwat

(1976-1998)



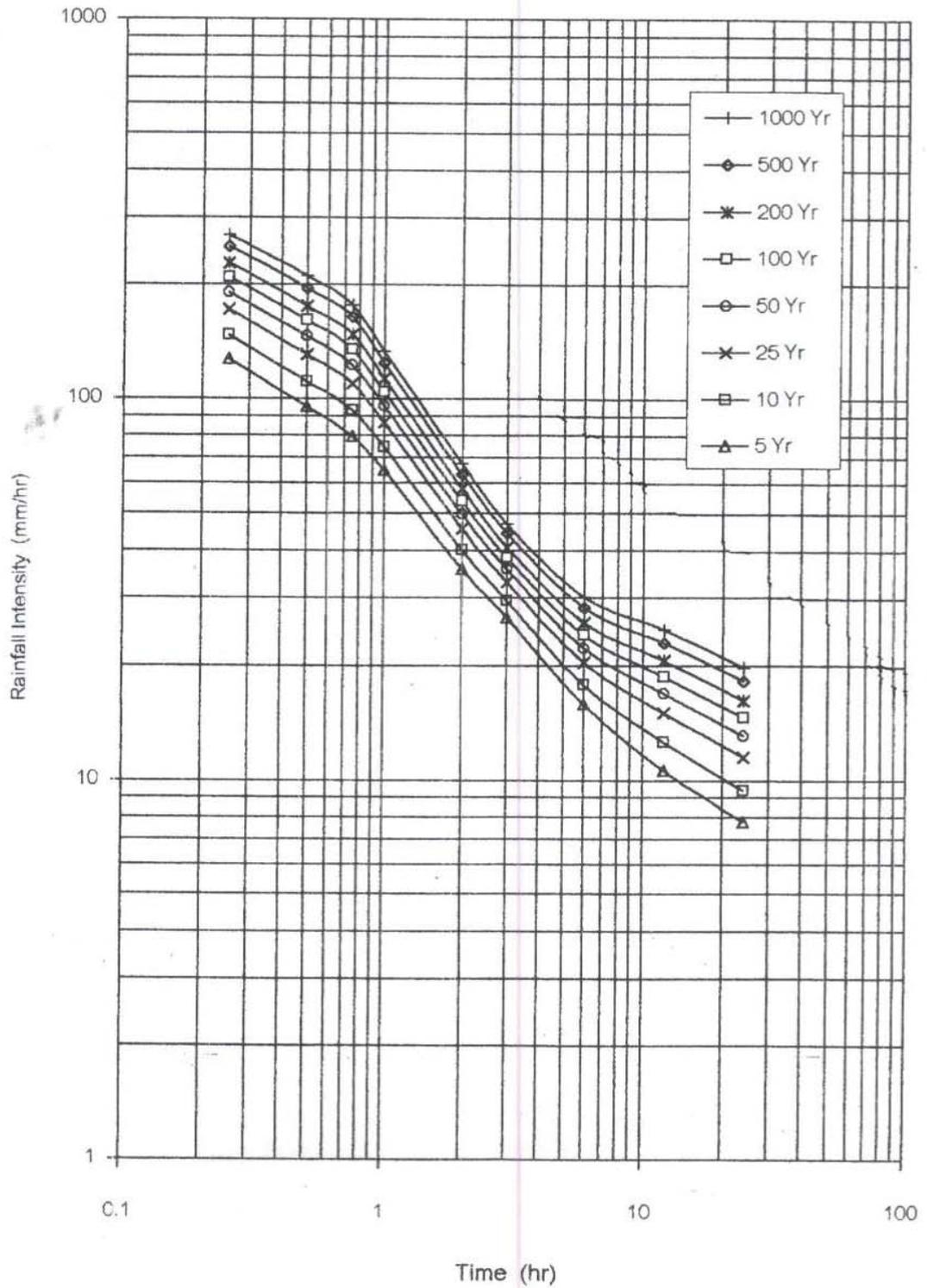
Frequency Analysis of Maximum Rainfall for Each Period at C. Pattani
(1976 - 1998)

Time (hr)	Rainfall Amount (mm)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	24.5	31.9	36.9	43.1	47.7	52.3	56.9	63.0	67.5
0.5	35.6	47.7	55.7	65.8	73.4	80.8	88.3	98.1	105.5
0.75	44.6	59.9	70.0	82.9	92.4	101.8	111.2	123.6	133.0
1	50.7	65.2	74.7	86.8	95.8	104.7	113.6	125.3	134.1
2	58.3	71.6	80.4	91.6	99.9	108.1	116.3	127.1	135.2
3	67.3	80.1	88.6	99.3	107.3	115.2	123.0	133.4	141.3
6	77.0	95.1	107.0	122.1	133.3	144.4	155.5	170.1	181.1
12	91.9	127.5	151.1	180.9	203.0	224.9	246.8	275.6	297.4
24	126.5	186.7	226.5	276.8	314.1	351.1	388.0	436.7	473.5

Time (hr)	Rainfall Intensity (mm/hr)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	97.8	127.7	147.4	172.4	191.0	209.4	227.7	251.9	270.2
0.5	71.1	95.4	111.4	131.7	146.7	161.6	176.5	196.1	211.0
0.75	59.4	79.9	93.4	110.5	123.2	135.7	148.3	164.8	177.3
1	50.7	65.2	74.7	86.8	95.8	104.7	113.6	125.3	134.1
2	29.1	35.8	40.2	45.8	49.9	54.0	58.1	63.5	67.6
3	22.4	26.7	29.5	33.1	35.8	38.4	41.0	44.5	47.1
6	12.8	15.8	17.8	20.3	22.2	24.1	25.9	28.3	30.2
12	7.7	10.6	12.6	15.1	16.9	18.7	20.6	23.0	24.8
24	5.3	7.8	9.4	11.5	13.1	14.6	16.2	18.2	19.7

Rainfall Intensity-Duration-Frequency Curve at C. Pattani

(1976-1998)



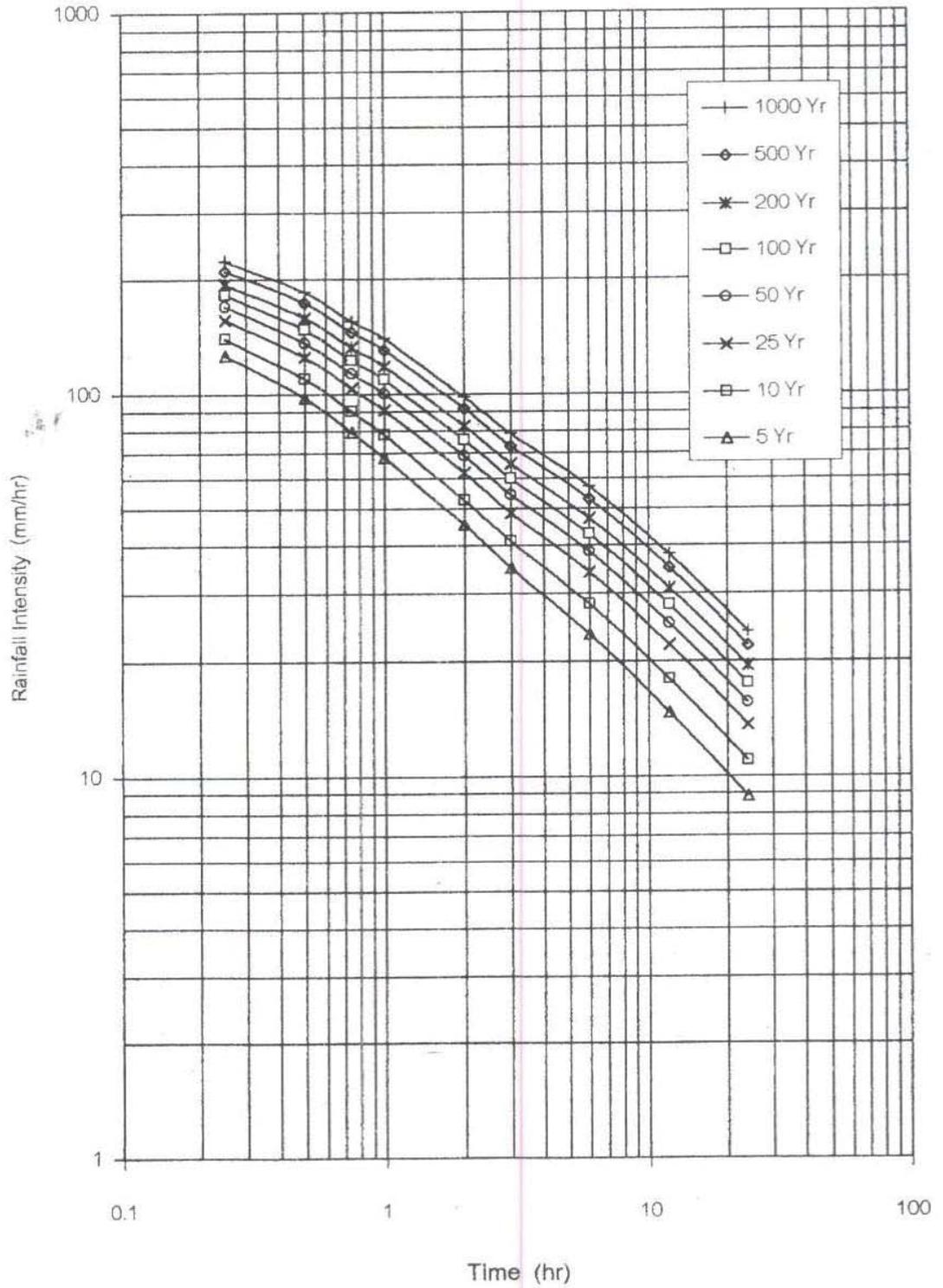
Frequency Analysis of Maximum Rainfall for Each Period at C. Phatthalung
(1959 - 1989)

Time (hr)	Rainfall Amount (mm)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	26.8	31.9	35.2	39.4	42.6	45.7	48.8	52.9	55.9
0.5	40.0	49.2	55.2	62.9	68.5	74.2	79.8	87.2	92.8
0.75	47.9	59.9	67.8	77.8	85.3	92.6	100.0	109.7	117.0
1	53.3	68.4	78.5	91.1	100.5	109.8	119.1	131.3	140.6
2	68.6	90.9	105.7	124.4	138.3	152.1	165.8	183.9	197.6
3	77.5	105.0	123.3	146.3	163.4	180.4	197.3	219.6	236.5
6	98.5	141.1	169.3	205.0	231.4	257.7	283.9	318.4	344.5
12	117.4	176.2	215.1	264.2	300.7	336.9	373.0	420.6	456.5
24	138.0	213.3	263.1	326.1	372.8	419.1	465.3	526.3	572.4

Time (hr)	Rainfall Intensity (mm/hr)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	107.3	127.5	140.8	157.7	170.2	182.7	195.0	211.4	223.7
0.5	80.0	98.3	110.4	125.7	137.1	148.3	159.5	174.3	185.5
0.75	63.9	79.9	90.4	103.7	113.7	123.5	133.3	146.2	156.0
1	53.3	68.4	78.5	91.1	100.5	109.8	119.1	131.3	140.6
2	34.3	45.5	52.9	62.2	69.1	76.0	82.9	91.9	98.8
3	25.8	35.0	41.1	48.8	54.5	60.1	65.8	73.2	78.8
6	16.4	23.5	28.2	34.2	38.6	43.0	47.3	53.1	57.4
12	9.8	14.7	17.9	22.0	25.1	28.1	31.1	35.0	38.0
24	5.7	8.9	11.0	13.6	15.5	17.5	19.4	21.9	23.8

Rainfall Intensity-Duration-Frequency Curve at C. Phatthalung

(1959-1989)



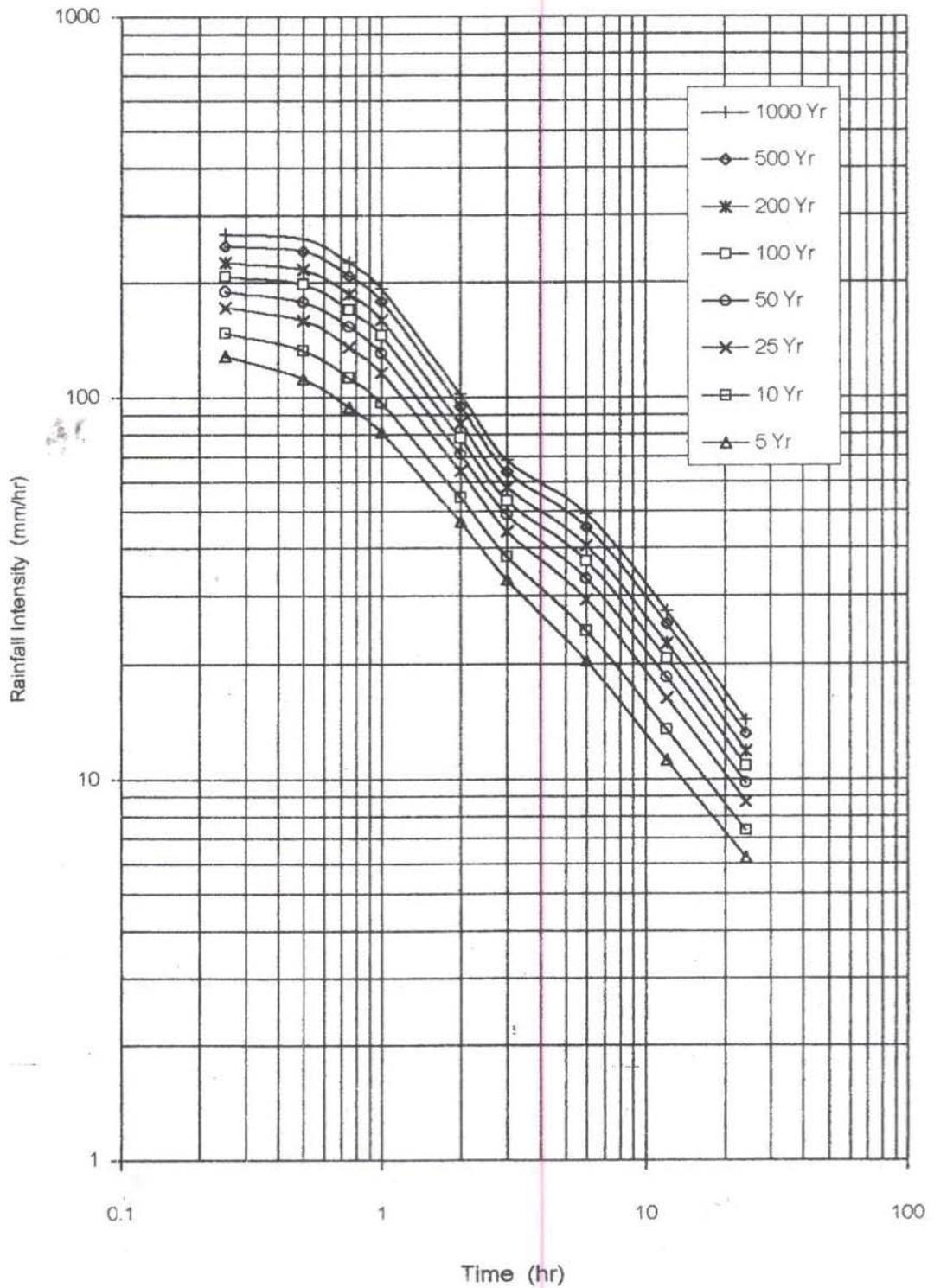
Frequency Analysis of Maximum Rainfall for Each Period at C. Phuket
(1986 - 1998)

Time (hr)	Rainfall Amount (mm)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	24.8	32.1	37.0	43.1	47.6	52.1	56.5	62.5	66.9
0.5	40.4	56.1	66.4	79.5	89.2	98.8	108.4	121.1	130.7
0.75	50.2	70.9	84.6	102.0	114.8	127.6	140.3	157.1	169.7
1	57.7	81.2	96.8	116.4	131.0	145.5	159.9	178.9	193.3
2	70.7	93.8	109.1	128.5	142.8	157.1	171.3	190.0	204.2
3	76.9	99.3	114.2	132.9	146.8	160.6	174.4	192.6	206.3
6	85.7	122.1	146.2	176.6	199.1	221.5	243.9	273.3	295.6
12	93.4	134.5	161.6	196.0	221.5	246.8	272.0	305.3	330.4
24	108.7	149.1	175.8	209.5	234.6	259.4	284.2	316.9	341.5

Time (hr)	Rainfall Intensity (mm/hr)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	99.3	128.5	147.8	172.2	190.3	208.2	226.2	249.8	267.6
0.5	80.9	112.1	132.8	159.0	178.4	197.7	216.8	242.2	261.3
0.75	66.9	94.6	112.9	135.9	153.1	170.1	187.1	209.4	226.3
1	57.7	81.2	96.8	116.4	131.0	145.5	159.9	178.9	193.3
2	35.3	46.9	54.6	64.2	71.4	78.6	85.7	95.0	102.1
3	25.6	33.1	38.1	44.3	48.9	53.5	58.1	64.2	68.8
6	14.3	20.3	24.4	29.4	33.2	36.9	40.6	45.5	49.3
12	7.8	11.2	13.5	16.3	18.5	20.6	22.7	25.4	27.5
24	4.5	6.2	7.3	8.7	9.8	10.8	11.8	13.2	14.2

Rainfall Intensity-Duration-Frequency Curve at C. Phuket

(1986-1998)



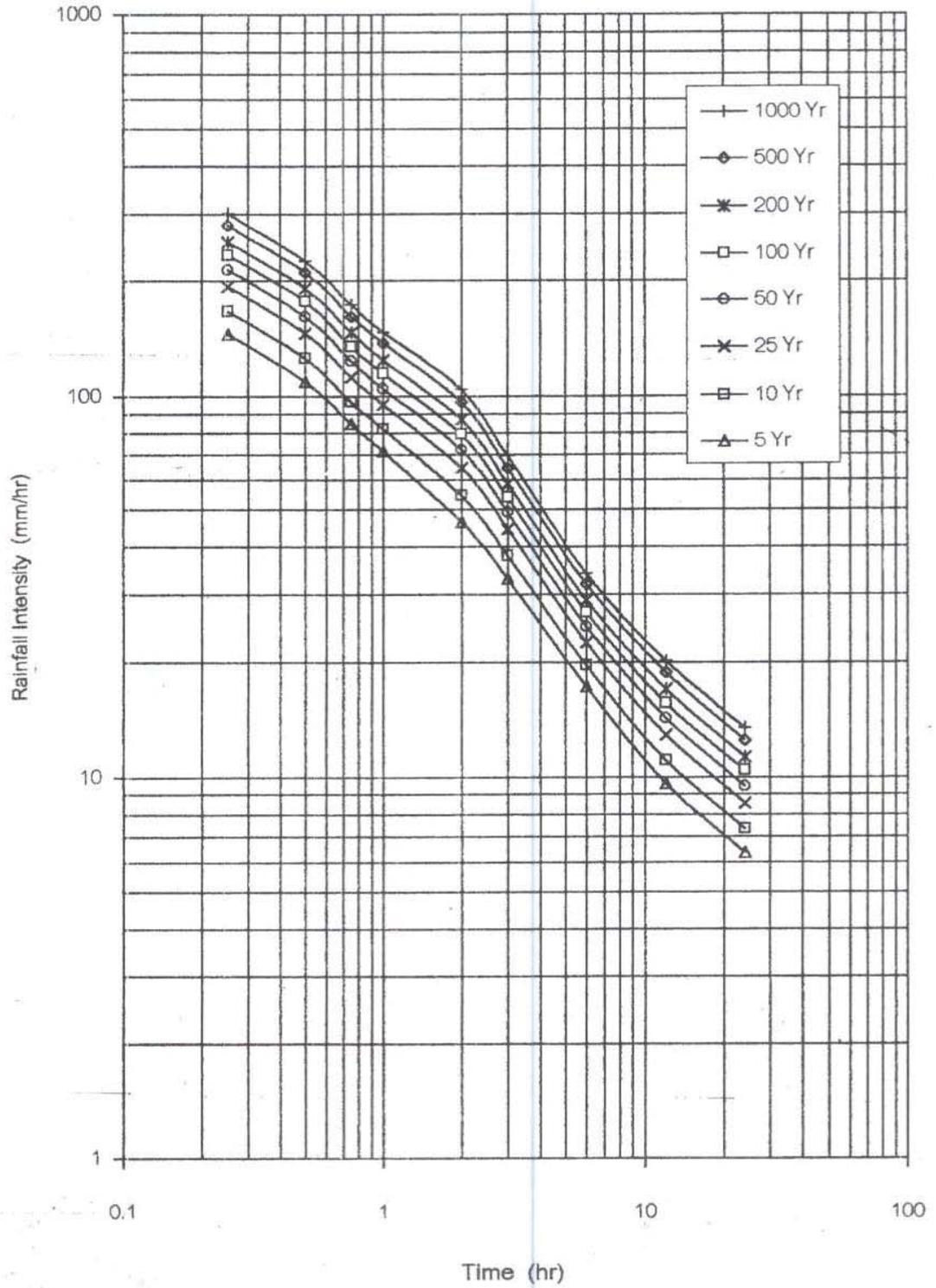
Frequency Analysis of Maximum Rainfall for Each Period at Phuket Airport C.Phuket

(1964 - 1983 , 1986 - 1998)

Time (hr)	Rainfall Amount (mm)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	28.2	36.3	41.7	48.6	53.6	58.7	63.7	70.3	75.3
0.5	42.4	54.7	62.8	73.1	80.8	88.3	95.9	105.8	113.4
0.75	49.8	63.6	72.8	84.4	93.0	101.5	110.0	121.2	129.7
1	55.9	71.8	82.2	95.5	105.3	115.1	124.8	137.6	147.3
2	68.8	93.0	109.1	129.4	144.4	159.3	174.2	193.9	208.7
3	76.0	99.0	114.2	133.5	147.7	161.9	176.0	194.6	208.7
6	82.2	103.6	117.7	135.5	148.8	161.9	175.0	192.3	205.3
12	88.9	115.3	132.8	155.0	171.4	187.7	203.9	225.3	241.5
24	116.8	152.3	175.9	205.7	227.7	249.7	271.5	300.3	322.1

Time (hr)	Rainfall Intensity (mm/hr)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	112.7	145.3	167.0	194.3	214.6	234.7	254.7	281.2	301.1
0.5	84.8	109.4	125.7	146.3	161.5	176.7	191.8	211.7	226.7
0.75	66.4	84.9	97.1	112.5	124.0	135.3	146.7	161.6	172.9
1	55.9	71.8	82.2	95.5	105.3	115.1	124.8	137.6	147.3
2	34.4	46.5	54.5	64.7	72.2	79.7	87.1	96.9	104.4
3	25.3	33.0	38.1	44.5	49.2	54.0	58.7	64.9	69.6
6	13.7	17.3	19.6	22.6	24.8	27.0	29.2	32.0	34.2
12	7.4	9.6	11.1	12.9	14.3	15.6	17.0	18.8	20.1
24	4.9	6.3	7.3	8.6	9.5	10.4	11.3	12.5	13.4

Rainfall Intensity-Duration-Frequency Curve at Phuket Airport C. Phuket
(1964-1983, 1986-1998)



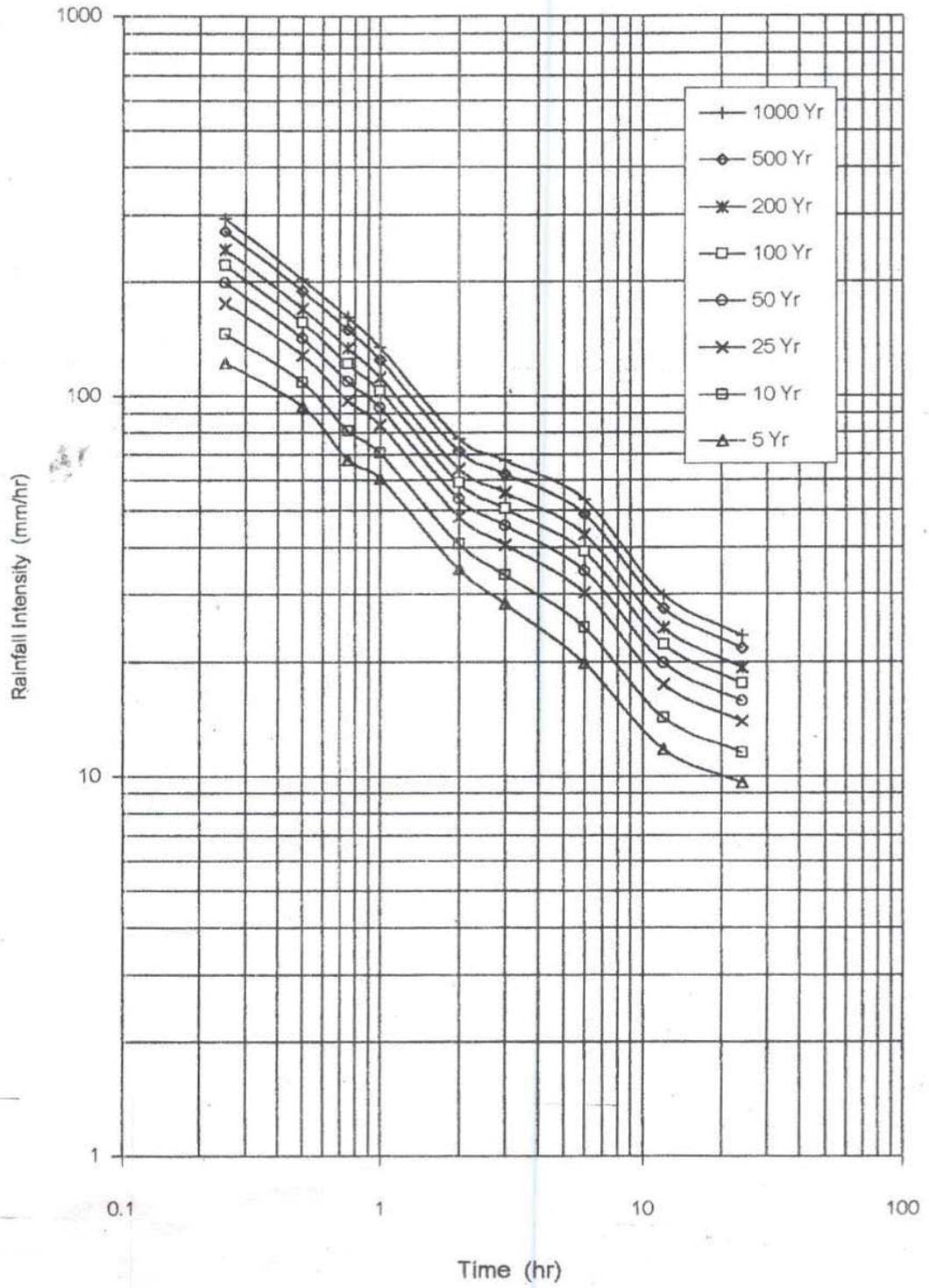
Frequency Analysis of Maximum Rainfall for Each Period at C. Ranong
(1964 - 1998)

Time (hr)	Rainfall Amount (mm)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	21.7	30.7	36.6	44.1	49.7	55.3	60.8	68.1	73.6
0.5	35.6	47.1	54.7	64.2	71.4	78.4	85.5	94.8	101.8
0.75	36.1	50.9	60.7	73.1	82.3	91.4	100.5	112.5	121.6
1	45.2	60.7	71.0	84.0	93.7	103.2	112.8	125.4	134.9
2	52.4	70.1	81.7	96.5	107.4	118.3	129.1	143.4	154.2
3	60.3	84.9	101.3	121.9	137.2	152.4	167.5	187.5	202.6
6	77.0	119.1	147.0	182.2	208.3	234.3	260.1	294.2	320.0
12	95.3	141.1	171.4	209.6	238.1	266.2	294.3	331.4	359.4
24	161.6	231.2	277.2	335.4	378.6	421.4	464.1	520.5	563.0

Time (hr)	Rainfall Intensity (mm/hr)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	86.6	122.6	146.4	176.6	198.9	221.1	243.2	272.3	294.3
0.5	71.2	94.1	109.3	128.5	142.7	156.8	170.9	189.5	203.5
0.75	48.1	67.9	81.0	97.5	109.8	121.9	134.1	150.0	162.1
1	45.2	60.7	71.0	84.0	93.7	103.2	112.8	125.4	134.9
2	26.2	35.0	40.9	48.2	53.7	59.1	64.6	71.7	77.1
3	20.1	28.3	33.8	40.6	45.7	50.8	55.8	62.5	67.5
6	12.8	19.8	24.5	30.4	34.7	39.0	43.4	49.0	53.3
12	7.9	11.8	14.3	17.5	19.8	22.2	24.5	27.6	30.0
24	6.7	9.6	11.6	14.0	15.8	17.6	19.3	21.7	23.5

Rainfall Intensity-Duration-Frequency Curve at C. Ranong

(1964-1998)



Frequency Analysis of Maximum Rainfall for Each Period at C. Satun

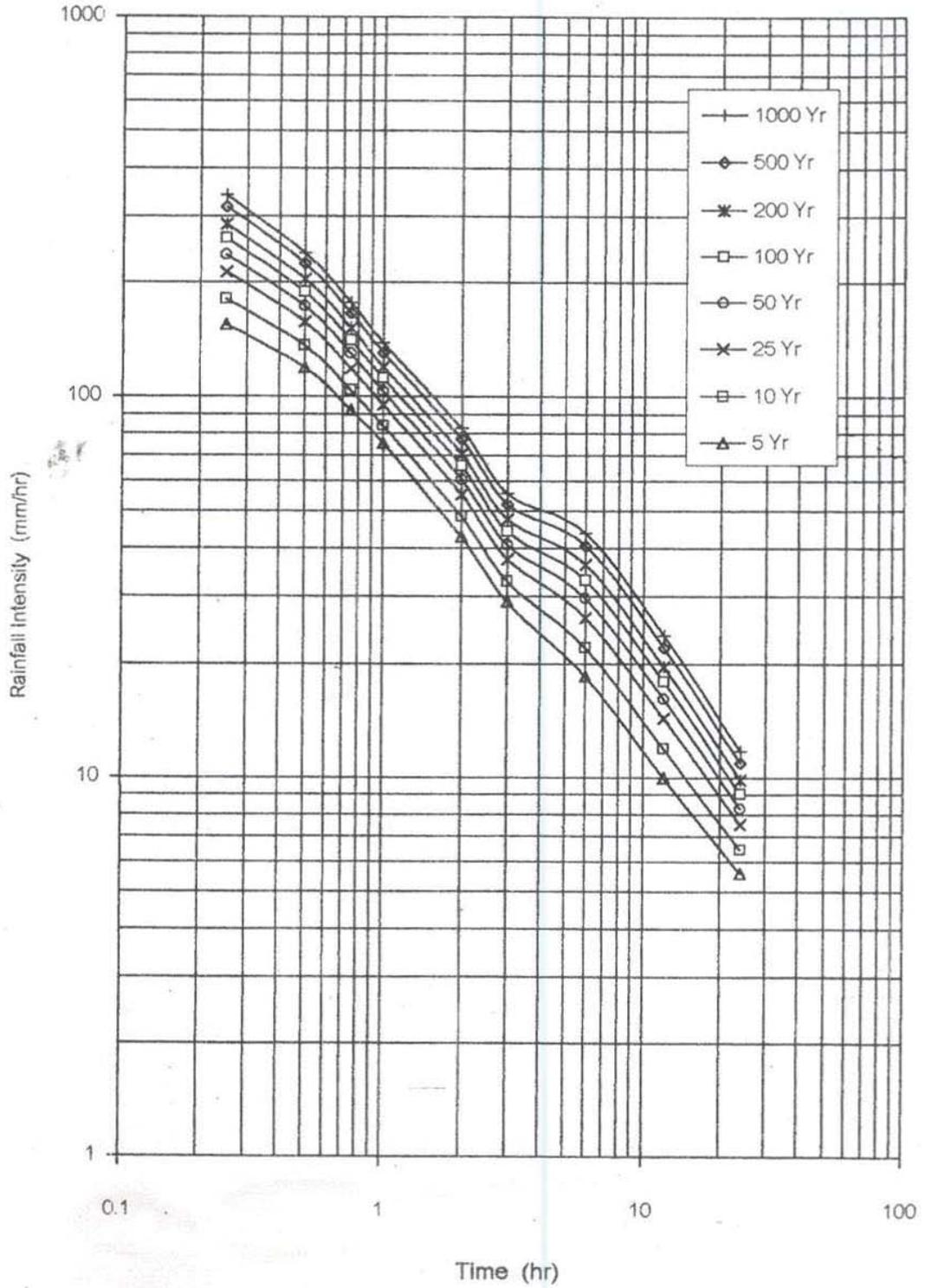
(1979 - 1993)

Time (hr)	Rainfall Amount (mm)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	29.0	38.7	45.2	53.4	59.5	65.5	71.5	79.4	85.4
0.5	47.0	59.7	68.1	78.7	86.6	94.4	102.2	112.4	120.2
0.75	56.0	69.3	78.1	89.2	97.5	105.7	113.8	124.6	132.8
1	62.1	75.4	84.2	95.3	103.6	111.7	119.9	130.7	138.8
2	69.4	86.1	97.1	111.0	121.4	131.6	141.9	155.4	165.6
3	70.8	87.5	98.6	112.6	123.0	133.3	143.6	157.2	167.4
6	79.1	111.0	132.2	159.0	178.8	198.5	218.1	244.0	263.6
12	84.8	119.6	142.6	171.7	193.3	214.8	236.1	264.3	285.6
24	103.7	134.4	154.7	180.3	199.3	218.2	237.0	261.8	280.5

Time (hr)	Rainfall Intensity (mm/hr)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	115.8	154.9	180.8	213.6	237.9	262.0	286.0	317.7	341.6
0.5	94.0	119.4	136.2	157.4	173.1	188.8	204.3	224.9	240.4
0.75	74.6	92.4	104.1	118.9	130.0	140.9	151.8	166.2	177.0
1	62.1	75.4	84.2	95.3	103.6	111.7	119.9	130.7	138.8
2	34.7	43.0	48.5	55.5	60.7	65.8	70.9	77.7	82.8
3	23.6	29.2	32.9	37.5	41.0	44.4	47.9	52.4	55.8
6	13.2	18.5	22.0	26.5	29.8	33.1	36.4	40.7	43.9
12	7.1	10.0	11.9	14.3	16.1	17.9	19.7	22.0	23.8
24	4.3	5.6	6.4	7.5	8.3	9.1	9.9	10.9	11.7

Rainfall Intensity-Duration-Frequency Curve at C. Satun

(1979-1993)



Frequency Analysis of Maximum Rainfall for Each Period at C. Songkhla

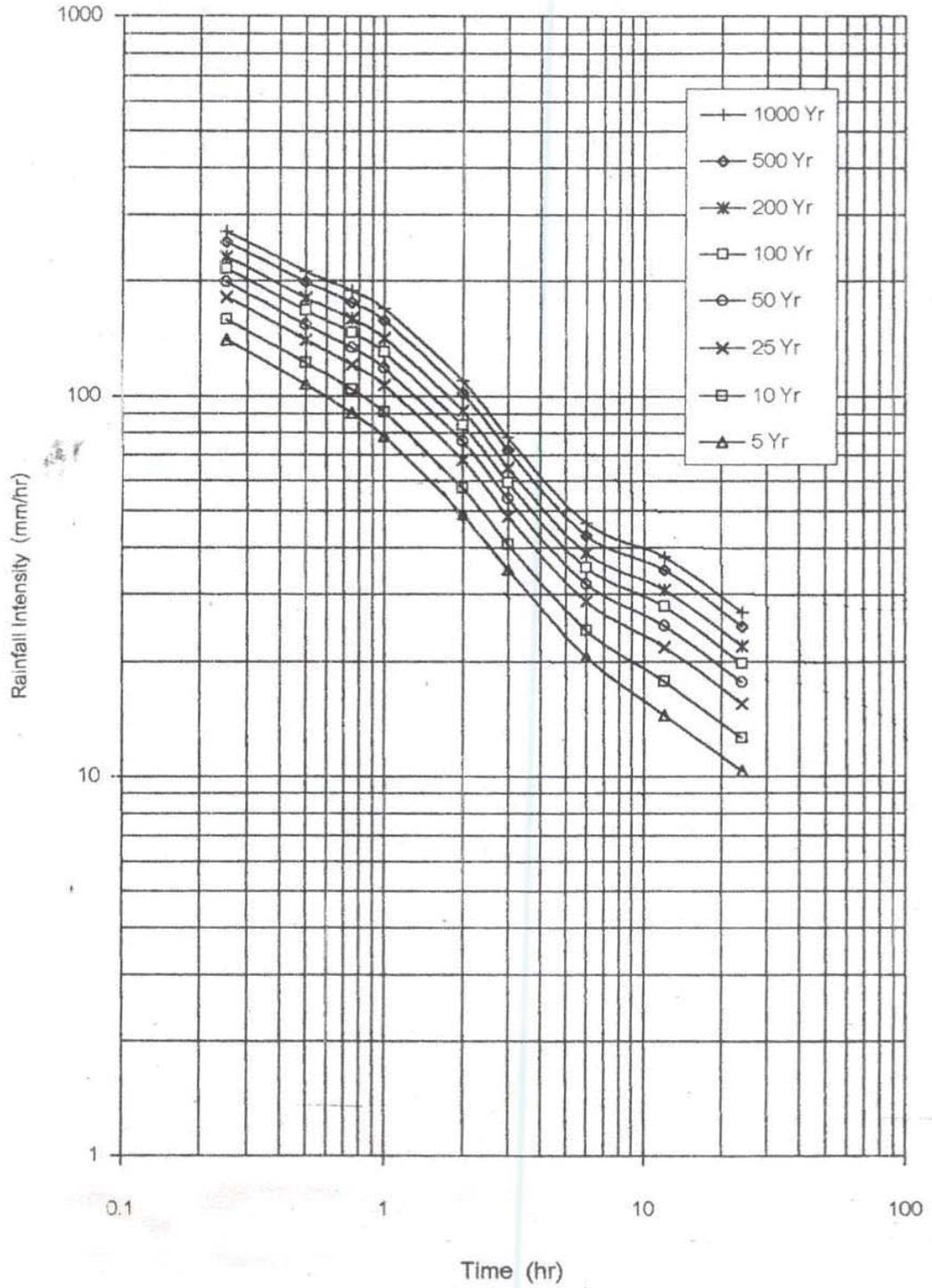
(1957 - 1980 , 1986 - 1998)

Time (hr)	Rainfall Amount (mm)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	28.4	35.3	39.8	45.5	49.8	54.0	58.2	63.8	68.0
0.5	43.2	54.1	61.3	70.4	77.2	83.9	90.6	99.4	106.0
0.75	52.5	68.0	78.3	91.2	100.8	110.4	119.9	132.4	141.9
1	59.3	78.5	91.2	107.2	119.1	130.9	142.6	158.1	169.8
2	72.1	97.9	115.0	136.5	152.5	168.4	184.3	205.1	220.9
3	78.0	105.0	122.9	145.4	162.2	178.8	195.3	217.2	233.7
6	90.7	123.4	145.1	172.5	192.8	212.9	233.0	259.5	279.6
12	115.3	174.0	212.9	262.0	298.4	334.6	370.6	418.1	454.1
24	164.3	247.4	302.5	372.0	423.6	474.9	525.9	593.2	644.1

Time (hr)	Rainfall Intensity (mm/hr)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	113.6	141.0	159.2	182.1	199.1	216.0	232.8	255.0	271.8
0.5	86.4	108.2	122.6	140.8	154.3	167.7	181.1	198.7	212.0
0.75	70.0	90.7	104.3	121.6	134.4	147.1	159.8	176.5	189.1
1	59.3	78.5	91.2	107.2	119.1	130.9	142.6	158.1	169.8
2	36.1	48.9	57.5	68.3	76.3	84.2	92.1	102.6	110.5
3	26.0	35.0	41.0	48.5	54.1	59.6	65.1	72.4	77.9
6	15.1	20.6	24.2	28.7	32.1	35.5	38.8	43.3	46.6
12	9.6	14.5	17.7	21.8	24.9	27.9	30.9	34.8	37.8
24	6.8	10.3	12.6	15.5	17.7	19.8	21.9	24.7	26.8

Rainfall Intensity-Duration-Frequency Curve at C. Songkhla

(1957-1980, 1986-1998)



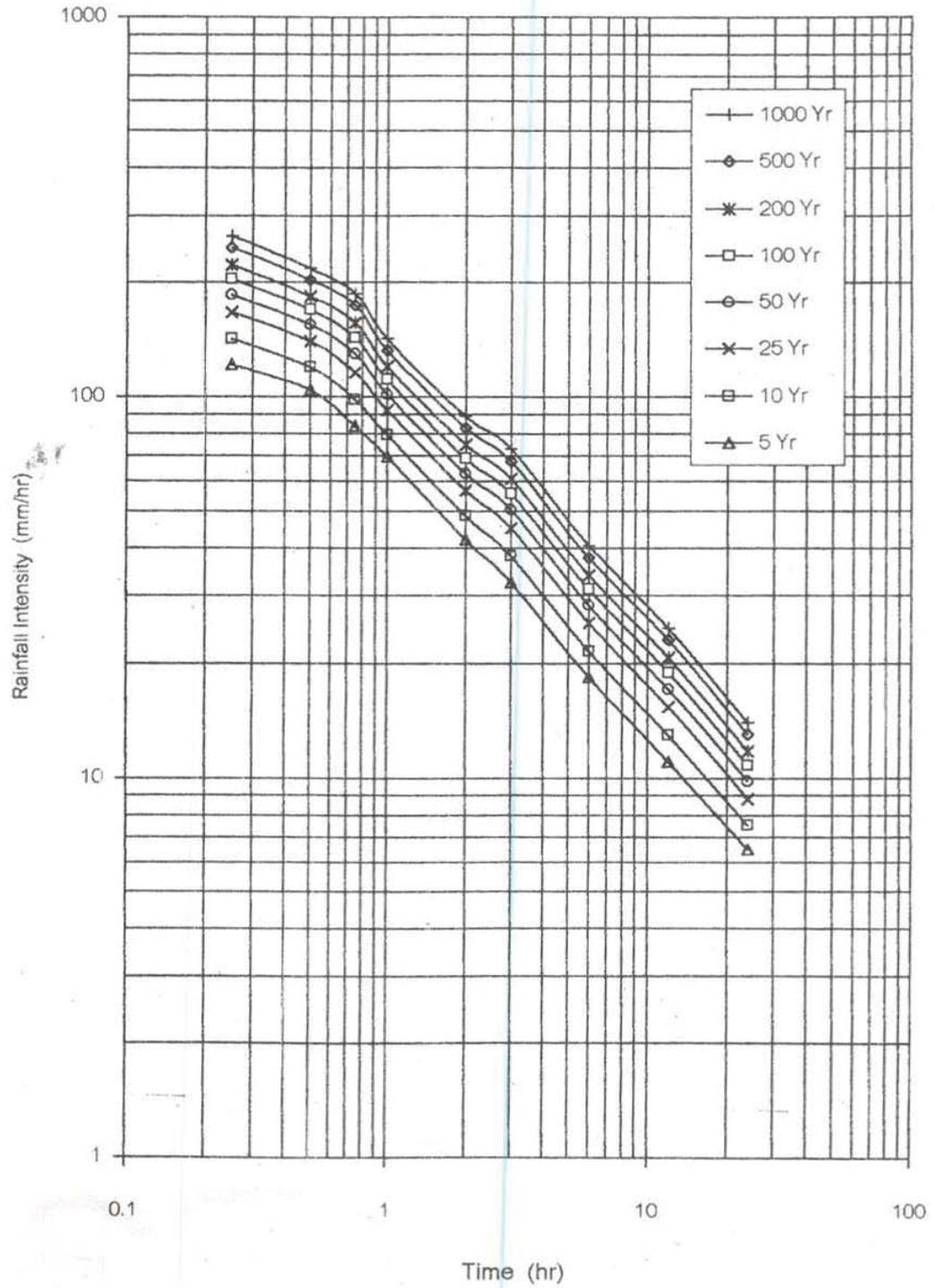
Frequency Analysis of Maximum Rainfall for Each Period at Trang Airport C.Trang

(1965 - 1969 , 1986 - 1998)

Time (hr)	Rainfall Amount (mm)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	23.0	30.5	35.5	41.8	46.5	51.1	55.8	61.9	66.5
0.5	40.3	52.2	60.1	70.1	77.5	84.8	92.1	101.8	109.1
0.75	46.9	63.1	73.8	87.4	97.4	107.4	117.4	130.5	140.4
1	54.3	69.6	79.7	92.5	102.0	111.4	120.8	133.1	142.5
2	64.6	84.4	97.4	114.0	126.2	138.4	150.5	166.5	178.5
3	72.3	97.7	114.5	135.8	151.6	167.3	182.9	203.4	219.0
6	82.8	110.7	129.2	152.5	169.8	187.0	204.2	226.8	243.8
12	98.0	132.5	155.3	184.1	205.5	226.7	247.9	275.8	296.9
24	118.1	155.8	180.8	212.3	235.7	258.9	282.0	312.6	335.6

Time (hr)	Rainfall Intensity (mm/hr)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	91.8	122.0	142.0	167.2	186.0	204.6	223.1	247.5	266.0
0.5	80.6	104.5	120.3	140.2	155.0	169.7	184.3	203.6	218.2
0.75	62.5	84.1	98.4	116.5	129.9	143.2	156.5	174.0	187.2
1	54.3	69.6	79.7	92.5	102.0	111.4	120.8	133.1	142.5
2	32.3	42.2	48.7	57.0	63.1	69.2	75.2	83.2	89.3
3	24.1	32.6	38.2	45.3	50.5	55.8	61.0	67.8	73.0
6	13.8	18.4	21.5	25.4	28.3	31.2	34.0	37.8	40.6
12	8.2	11.0	12.9	15.3	17.1	18.9	20.7	23.0	24.7
24	4.9	6.5	7.5	8.8	9.8	10.8	11.8	13.0	14.0

Rainfall Intensity-Duration-Frequency Curve at Trang Airport C.Trang
(1964-1983, 1986-1998)



Average Value of Frequency Analysis of Maximum Rainfall for Each Period in Southern Part

Time (hr)	Rainfall Amount (mm)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	26.3	33.7	38.6	44.8	49.4	54.0	58.5	64.5	69.0
0.5	40.5	52.0	59.7	67.0	76.5	83.6	90.7	100.1	107.2
0.75	48.5	63.1	72.8	85.0	94.0	103.0	112.0	123.7	132.7
1	54.8	70.9	81.6	95.0	105.0	114.9	124.8	137.8	147.7
2	66.3	88.8	103.6	122.4	136.3	147.6	164.0	182.1	195.9
3	73.2	98.6	115.4	136.7	152.4	168.1	183.7	204.2	219.8
6	87.2	123.7	147.8	178.4	201.0	223.5	245.9	275.4	297.8
12	103.8	152.4	184.5	225.1	255.2	285.1	314.9	354.2	383.9
24	139.4	204.6	247.8	302.3	342.8	383.0	423.0	475.8	515.7

Time (hr)	Rainfall Intensity (mm/hr)								
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr	200 yr	500 yr	1000 yr
0.25	105.2	134.8	154.4	179.2	197.6	215.9	234.0	258.1	276.2
0.5	80.9	104.1	119.3	134.0	153.1	167.2	181.5	200.2	214.4
0.75	64.7	84.1	97.0	113.3	125.4	137.3	149.3	165.0	176.9
1	54.8	70.9	81.6	95.0	105.0	114.9	124.8	137.8	147.7
2	33.2	44.4	51.8	61.2	68.2	73.8	82.0	91.1	97.9
3	24.4	32.9	38.5	45.6	50.8	56.0	61.2	68.1	73.3
6	14.5	20.6	24.6	29.7	33.5	37.2	41.0	45.9	49.6
12	8.7	12.7	15.4	18.8	21.3	23.8	26.2	29.5	32.0
24	5.8	8.5	10.3	12.6	14.3	16.0	17.6	19.8	21.5

**Rainfall Intensity-Duration-Frequency Average Curve of
Southern Part**

