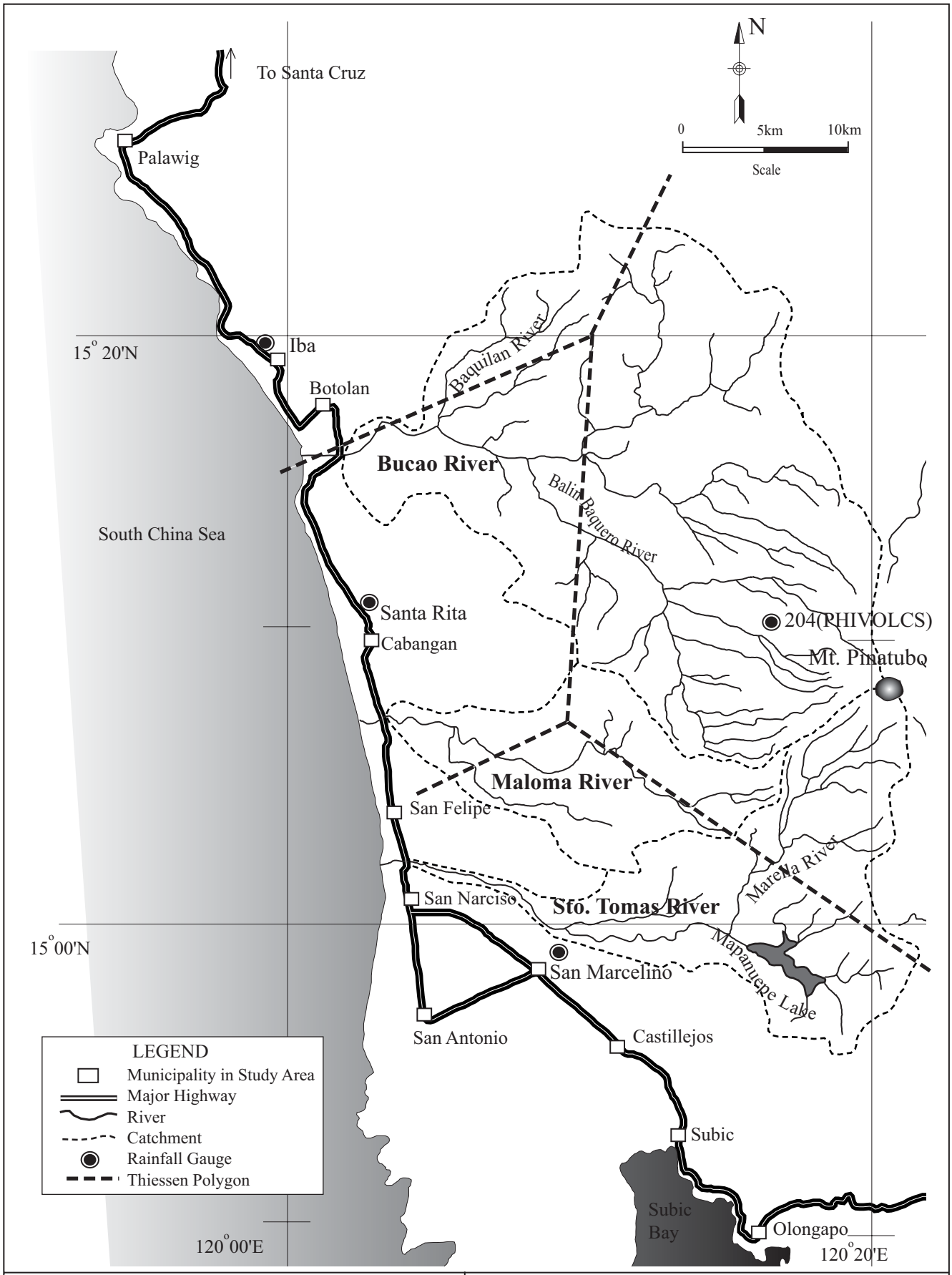

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Figure 2.4.1

Thiessen Polygon for Study Area

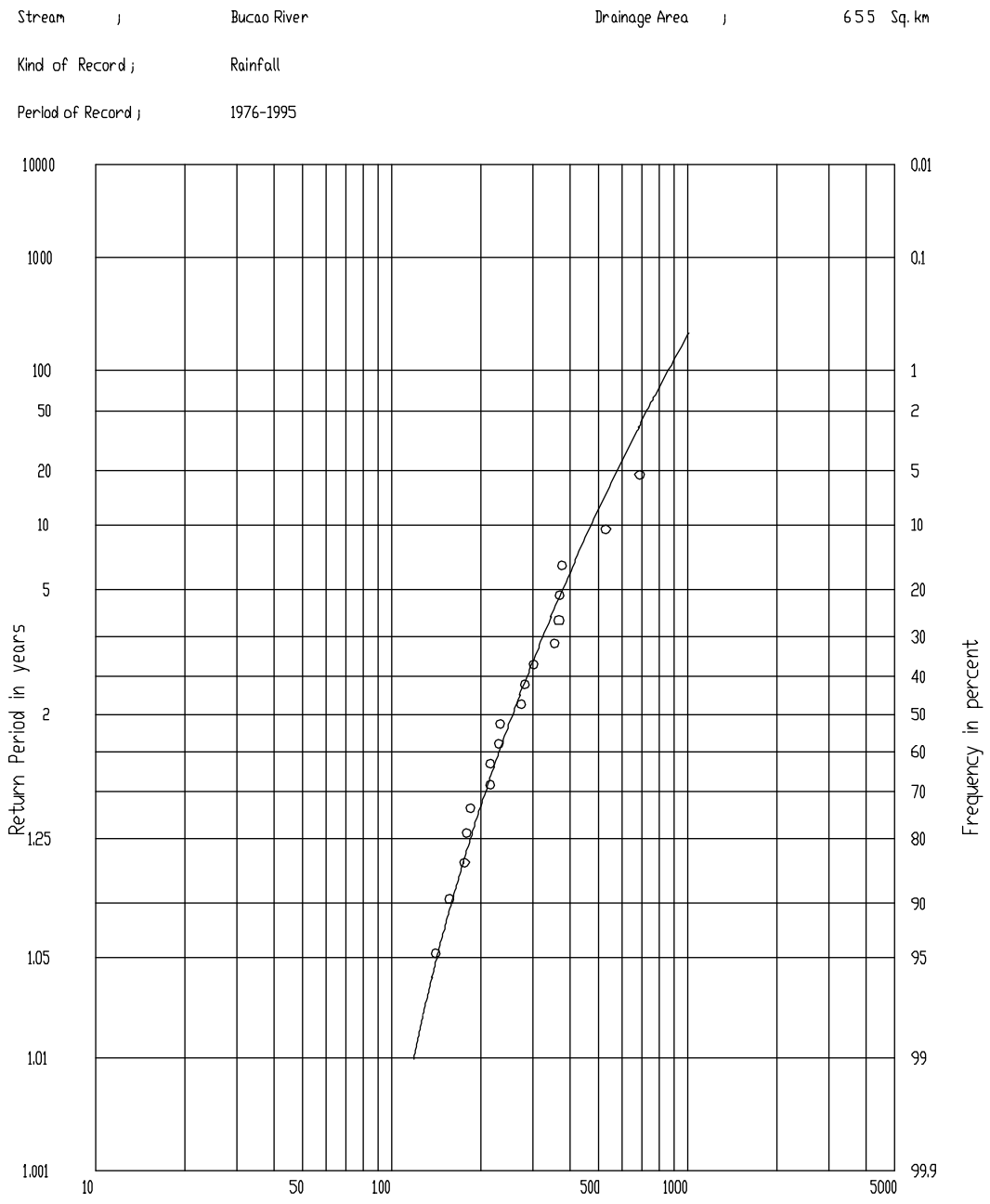

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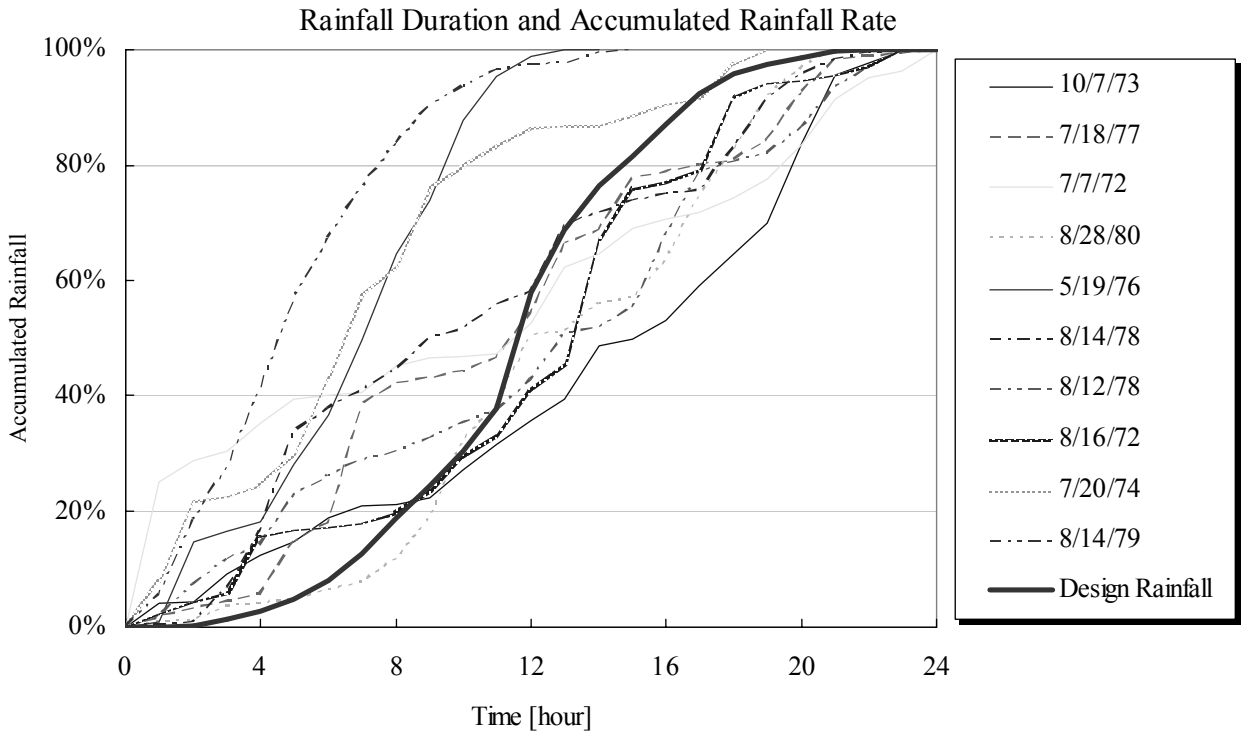
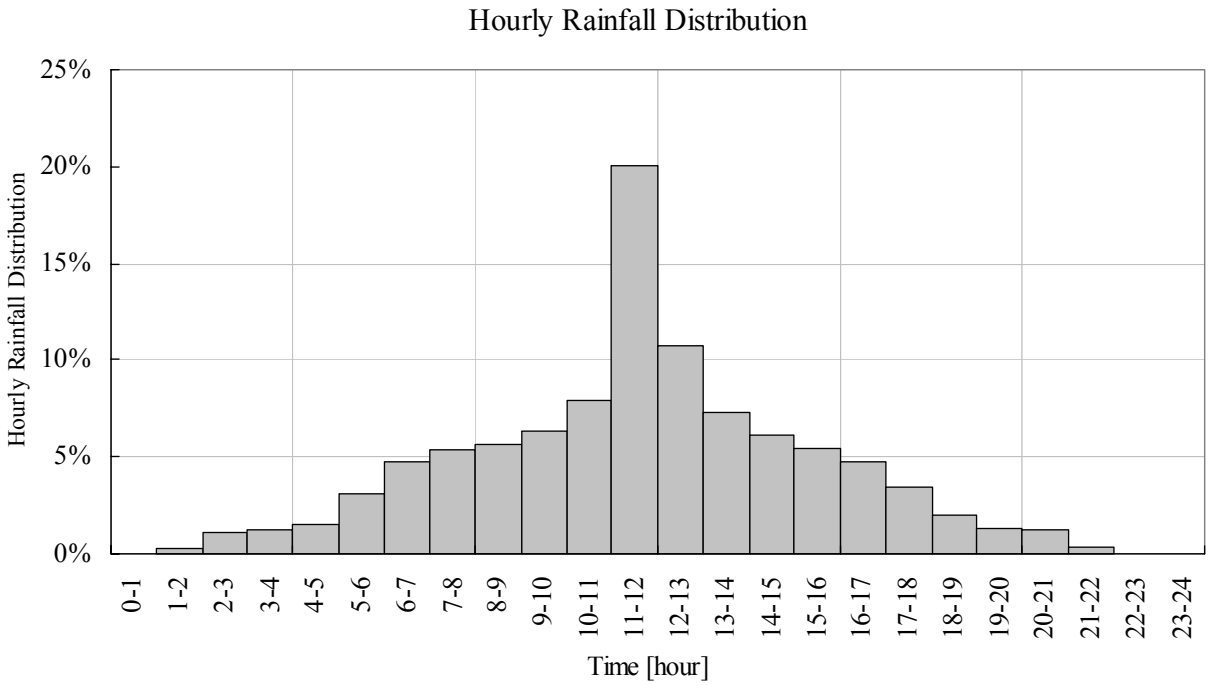
Figure 2.4.2

Probable Rainfall Distributions (Log-Pearson)





THE GOVERNMENT OF THE PHILIPPINES THE DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS **The Study on Sabo and Flood Control for Western River Basins of Mount Pinatubo in the Republic of the Philippines** *JAPAN INTERNATIONAL COOPERATION AGENCY*	**Figure 2.5.1** **Model Hyetograph**

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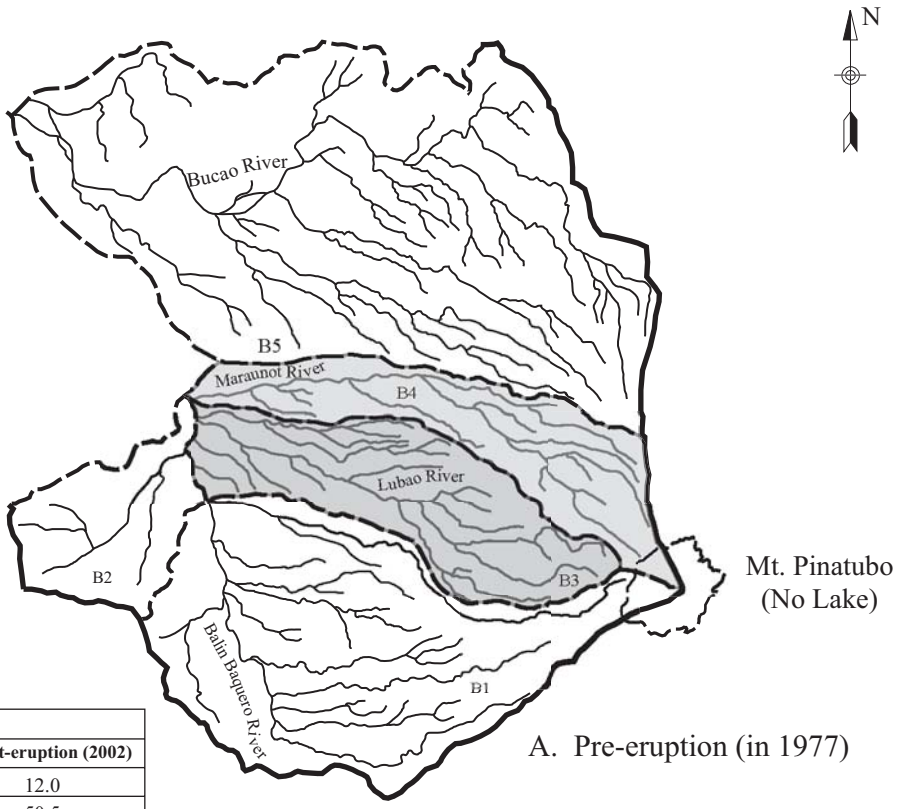
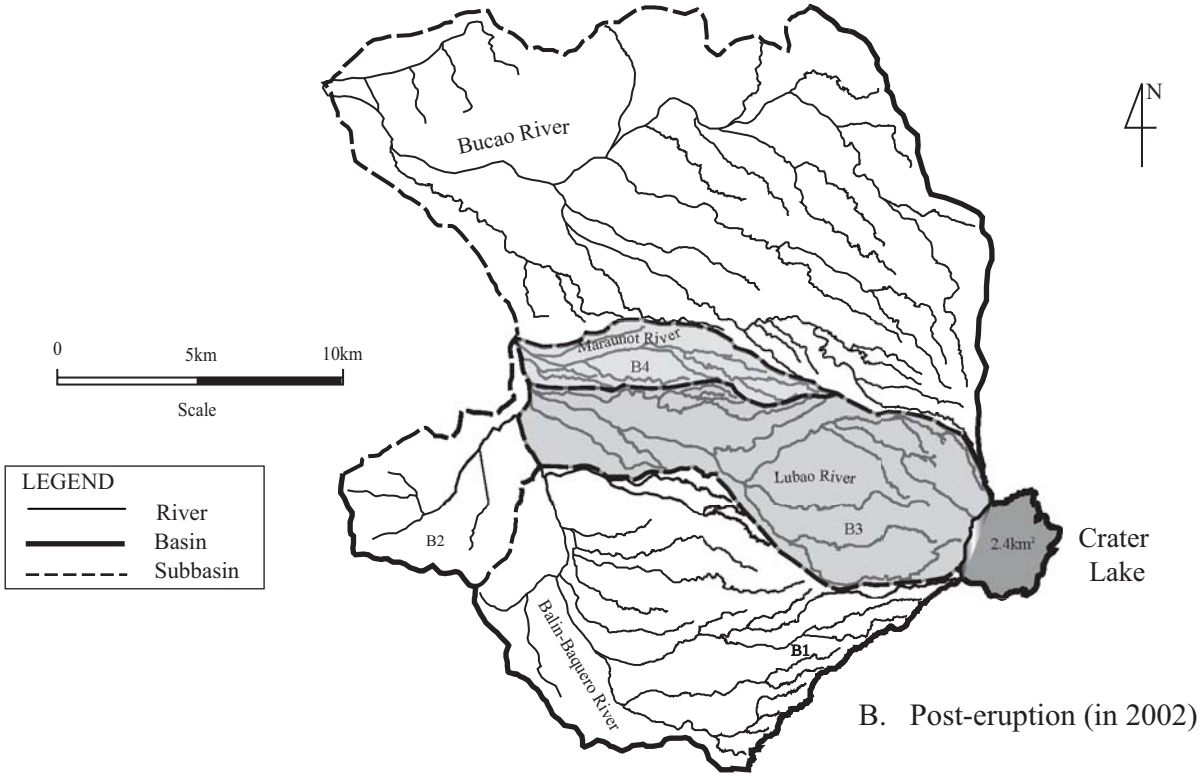
Figure 3.1.1

Pre-Eruption Subbasin Division



A. Pre-eruption (in 1977)

Subbasin	Area (km^2)	
	Pre-eruption (1977)	Post-eruption (2002)
Maraunot	31.1	12.0
Lubao	35.8	50.5
Balin-Baquero	70.9	68.4
Bucao	133.4	142.1
Total	**271.2**	**273.0**



B. Post-eruption (in 2002)

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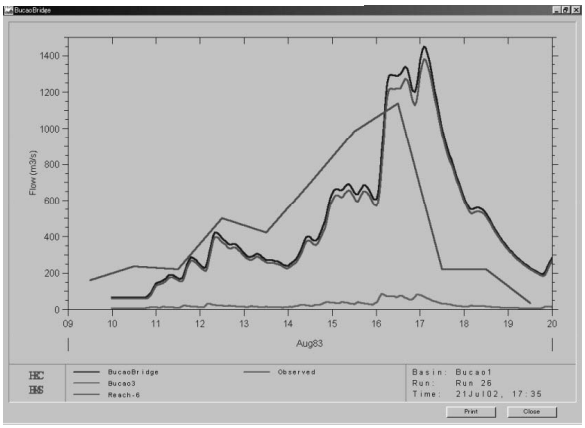
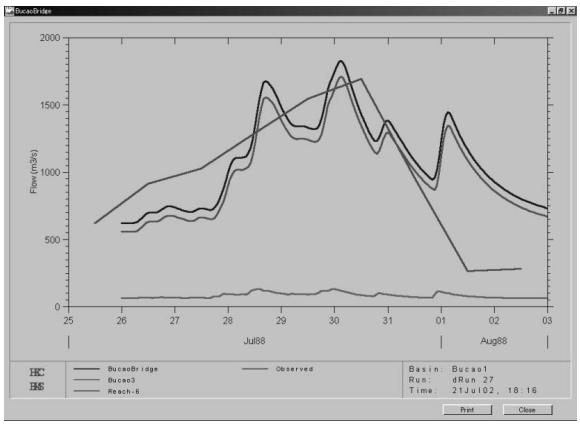
Figure 3.1.2

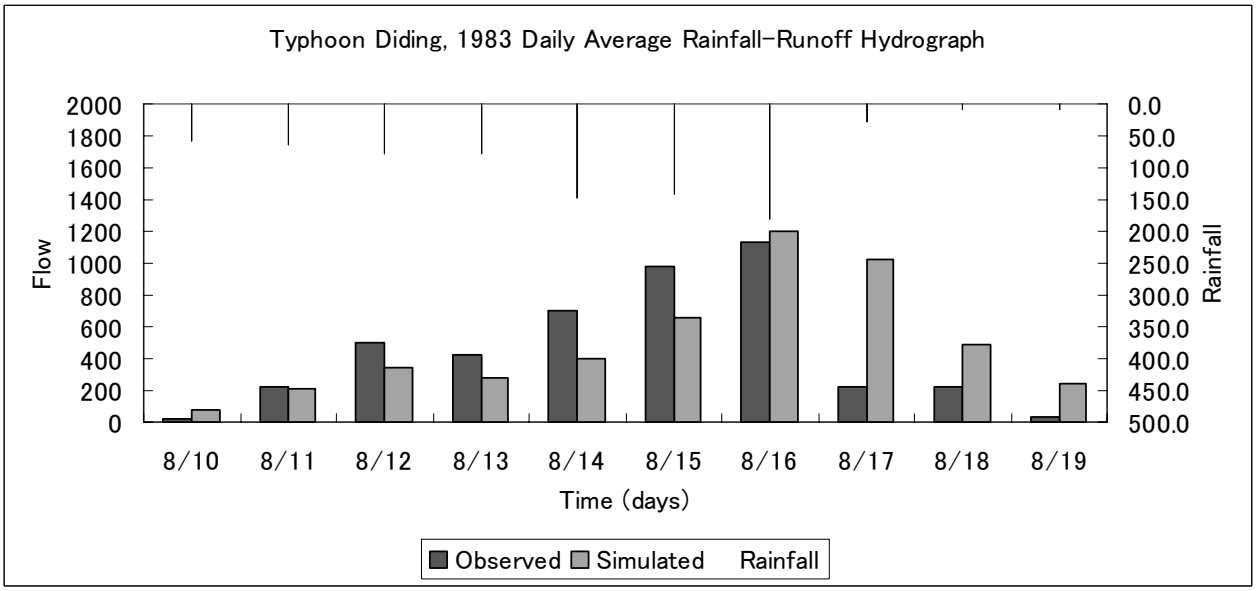
Change in Catchment Area in the Bucao River System

Typhoon Diding, 1983



Typhoon Huaning, 1988





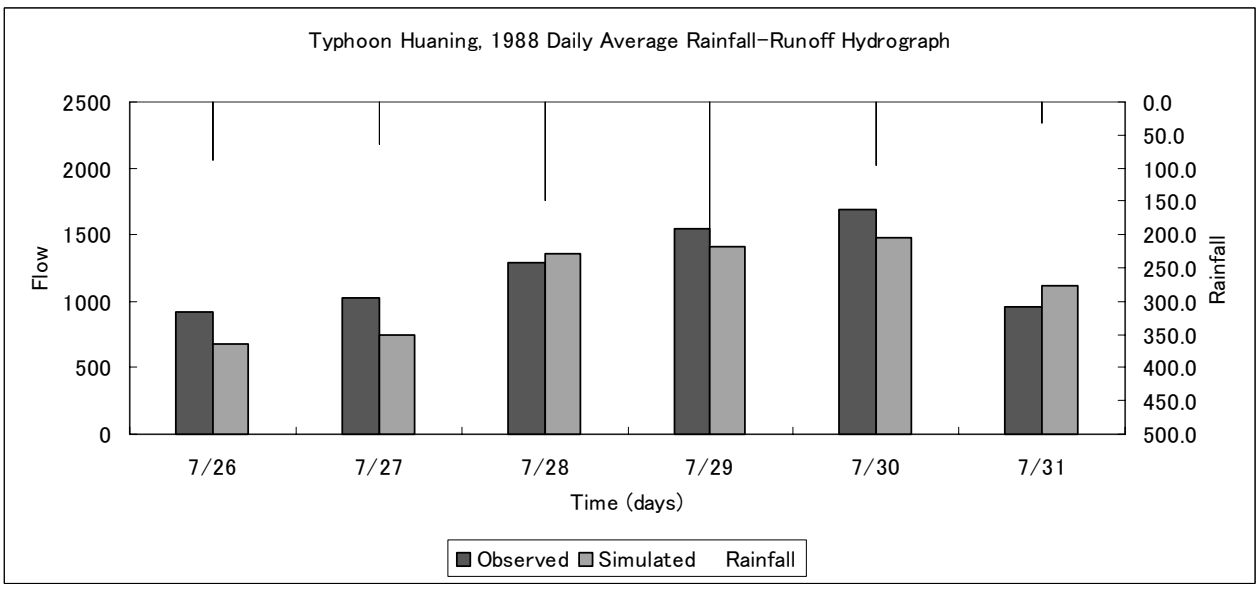


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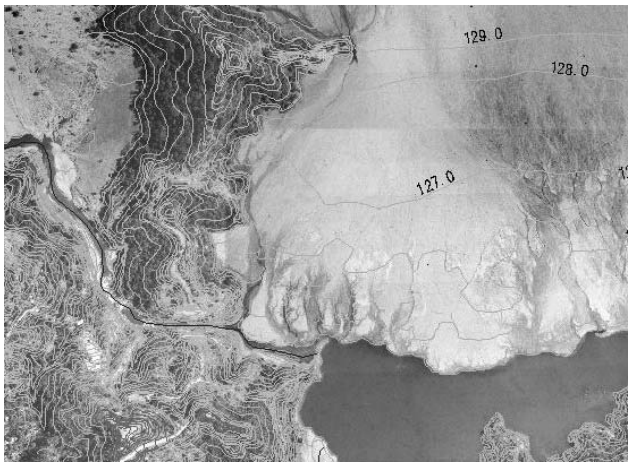
Figure 3.1.3

Calibration Results

Mapanuepe Lake Water at 11:00 a.m. July 8



Contour Line at downstream of Mapanuepe Lake

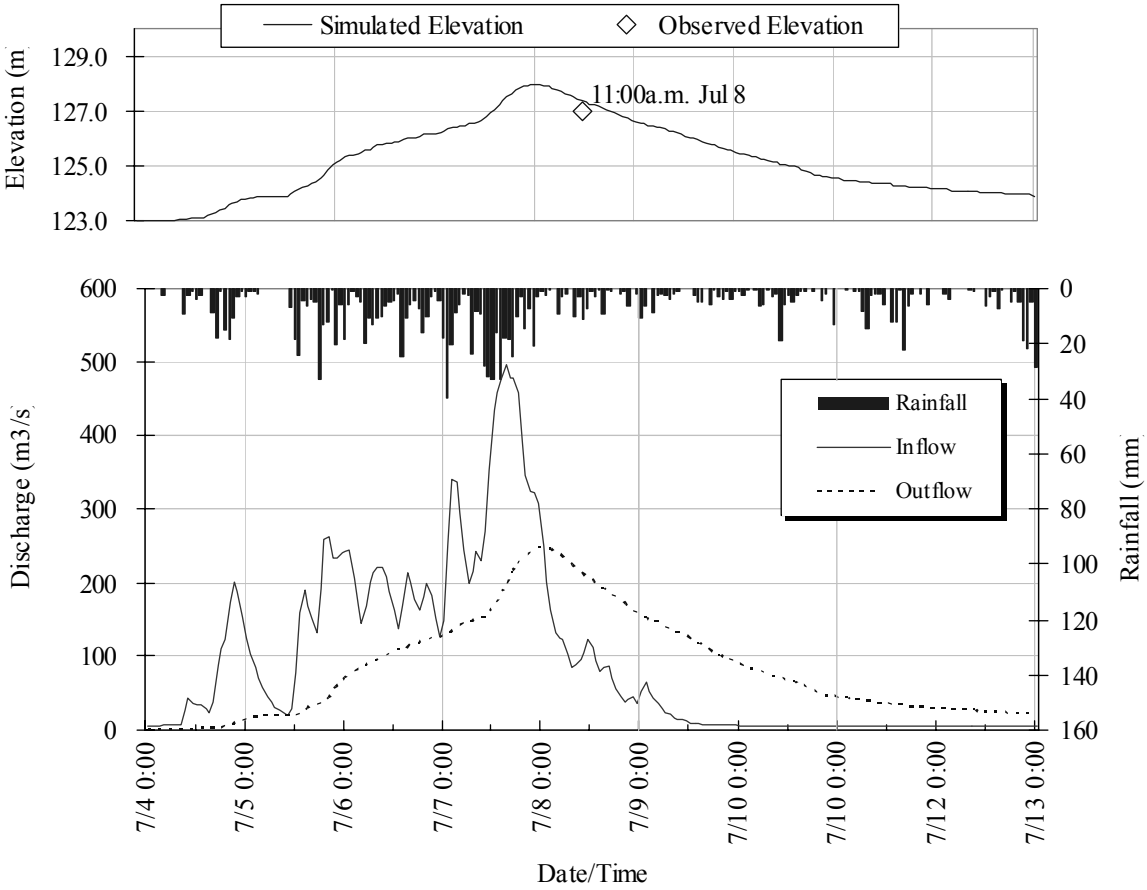


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Figure 3.1.4

Calibration of Storage Model of Mapanuepe Lake

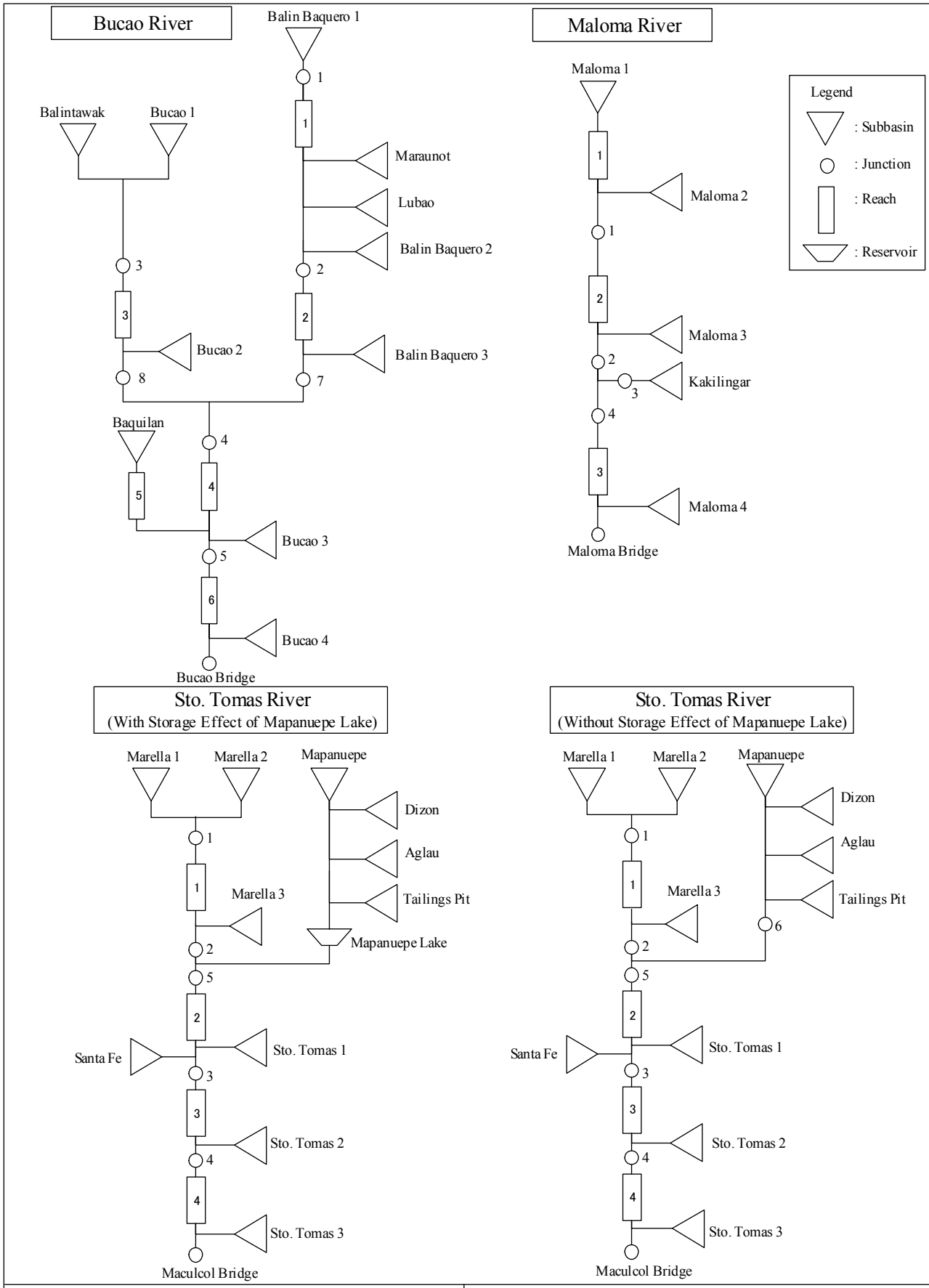

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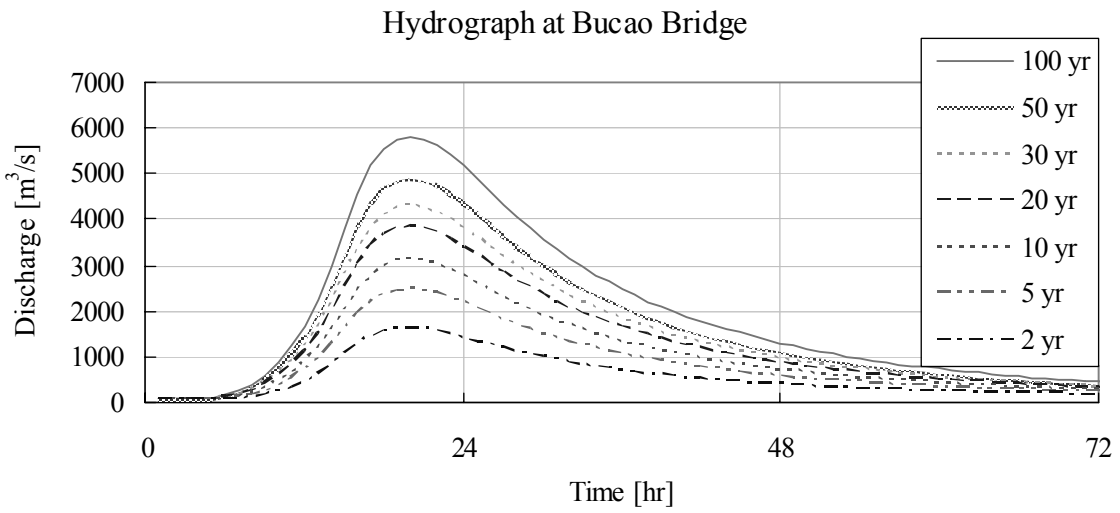
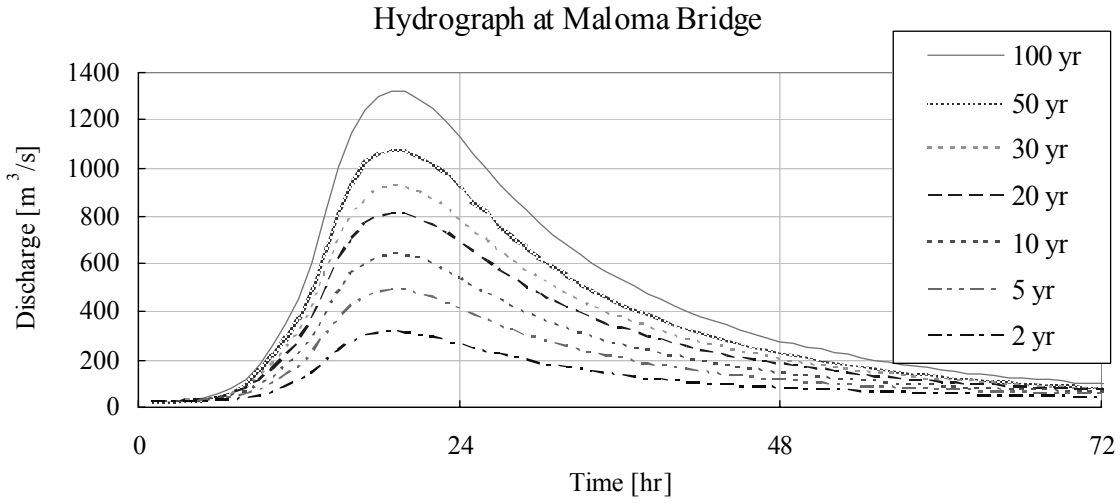
Figure 3.2.1

Model Diagram for the Bucao, Maloma and Sto. Tomas Rivers





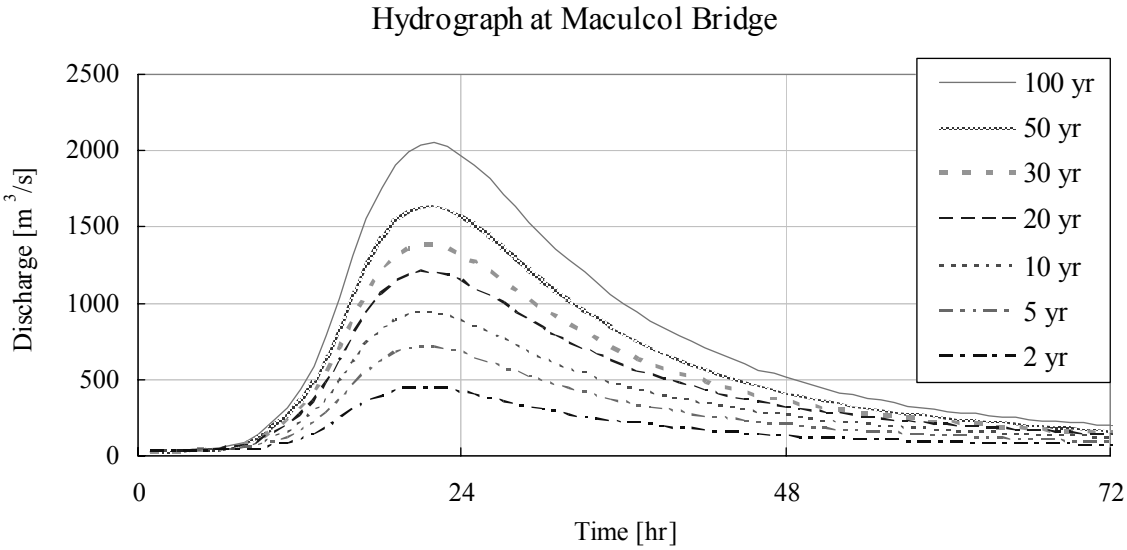


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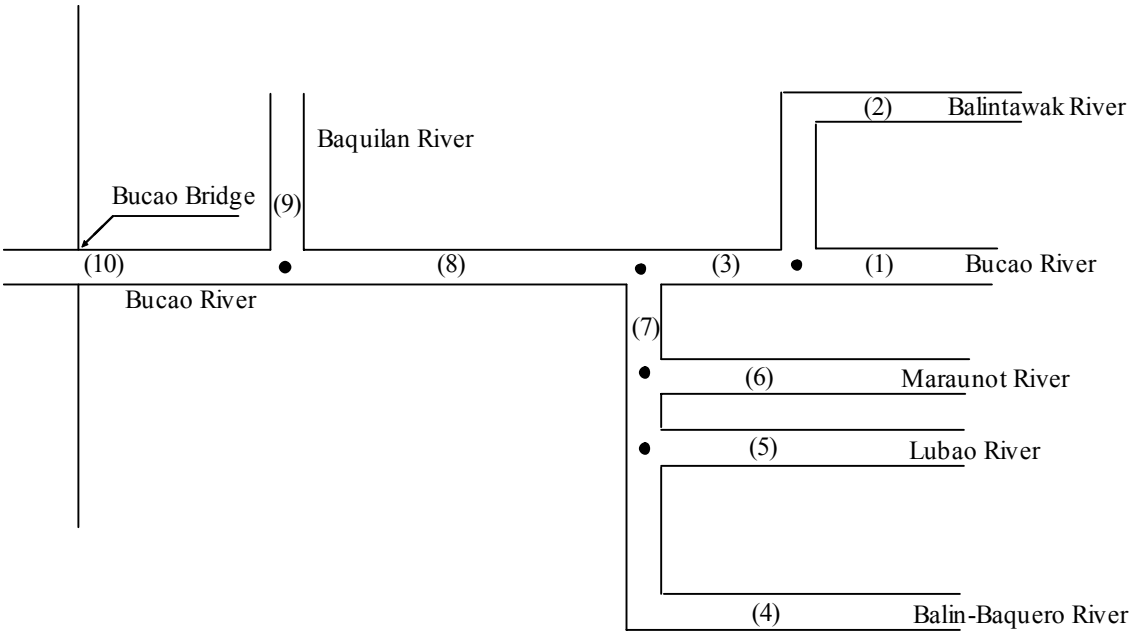
Figure 3.2.2

Flood Hydrographs for the Bucao, Maloma and Sto. Tomas Rivers



Probable Peak Discharge (m^3/s)

Reach	Return Period (year)						
	2	5	10	20	30	50	100
(1)	210	310	400	490	540	620	740
(2)	350	520	660	820	910	1,000	1,200
(3)	550	830	1,100	1,300	1,400	1,700	2,000
(4)	190	290	370	250	510	580	690
(5)	160	240	310	380	420	480	570
(6)	40	60	80	100	110	130	150
(7)	660	1,000	1,300	1,500	1,700	2,000	2,300
(8)	1,300	1,900	2,400	2,900	3,300	3,800	4,400
(9)	180	290	350	440	490	560	660
(10)	1,600	2,500	3,100	3,800	4,300	4,900	5,800

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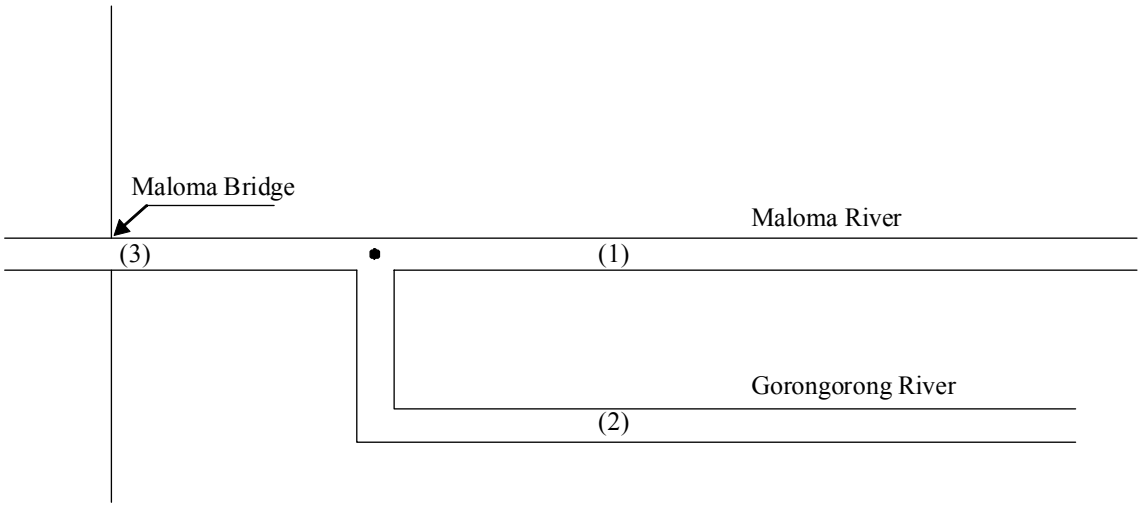
Figure 3.2.3

Flow Distribution Diagram for the Bucao River



Probable Peak Discharge (m^3/s)

Reach	Return Period (year)						
	2	5	10	20	30	50	100
(1)	220	350	450	570	650	770	940
(2)	60	100	130	160	190	220	270
(3)	310	490	640	810	920	1,100	1,300

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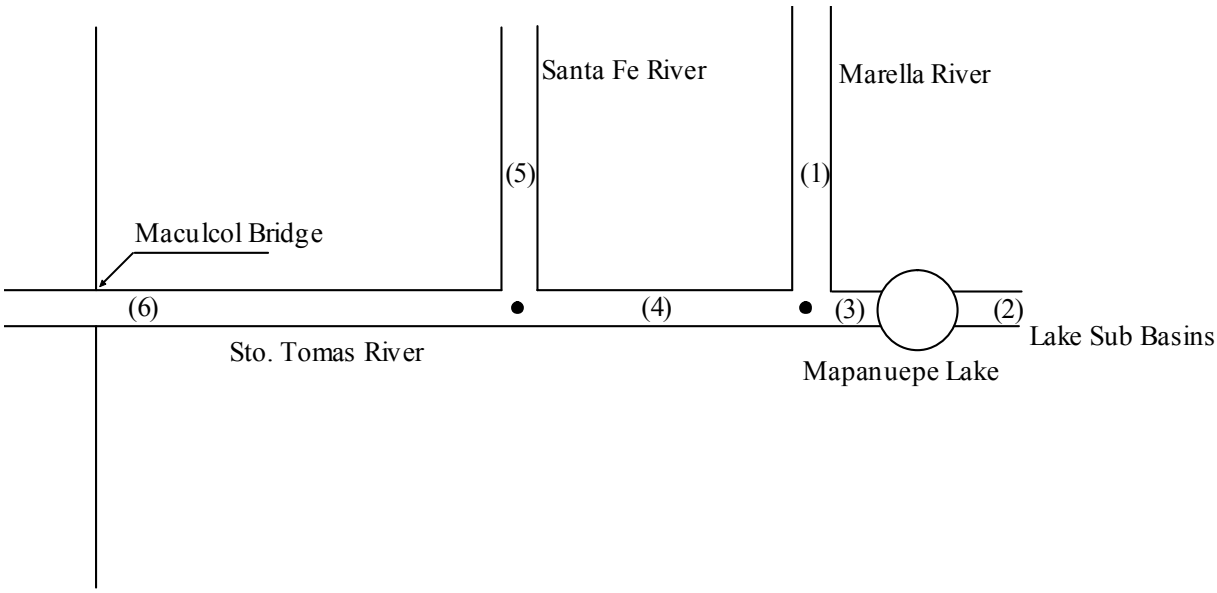
Figure 3.2.4

Flow Distribution Diagram for the Maloma River



Probable Peak Discharge (m^3/s)

a. With Retarding Effect of Mapanuepe Lake

Reach	Return Period (year)						
	2	5	10	20	30	50	100
(1)	260	400	530	680	780	900	1,100
(2)	390	610	800	1,000	1,200	1,400	1,700
(3)	80	140	180	250	300	370	480
(4)	310	500	670	860	990	1,200	1,500
(5)	60	100	130	160	190	220	270
(6)	440	710	940	1,200	1,400	1,600	2,000

b. Without Retarding Effect of Mapanuepe Lake

Reach	Return Period (year)						
	2	5	10	20	30	50	100
(1)	260	400	530	680	780	900	1,100
(2)	390	610	800	1,000	1,200	1,400	1,700
(3)	390	610	800	1,000	1,200	1,400	1,700
(4)	620	980	1,300	1,600	1,900	2,200	2,700
(5)	60	100	130	160	190	220	270
(6)	730	1,200	1,500	1,900	2,200	2,600	3,200

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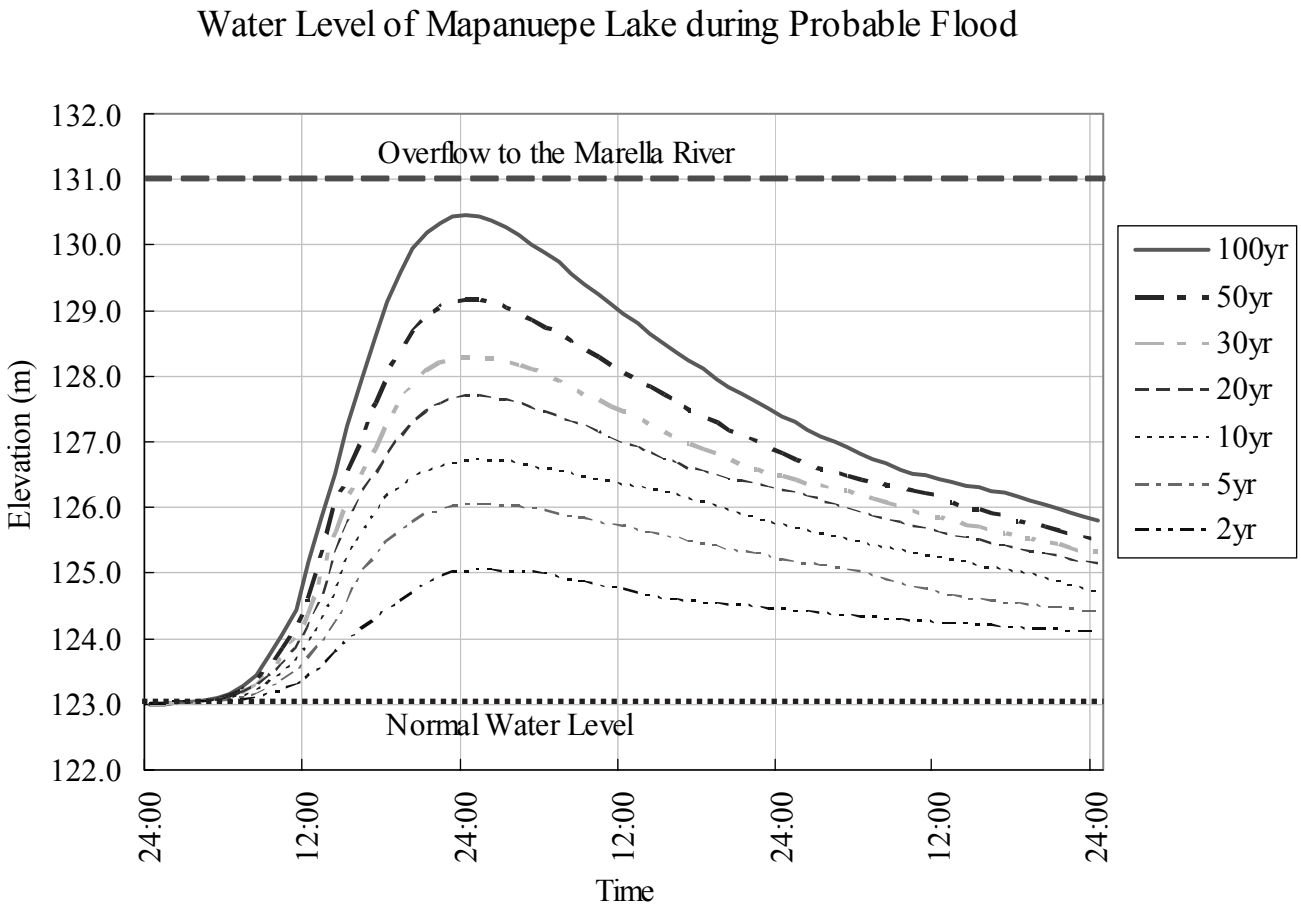
Figure 3.2.5

Flow Distribution Diagram for the Sto. Tomas River



Unit (m)

	Return Period						
	2yr	5yr	10yr	20yr	30yr	50yr	100yr
Normal (El.)	123.0						
Highest (El.)	125.0	126.0	126.7	127.7	128.3	129.2	130.5
Water Rise	2.0	3.0	3.7	4.7	5.3	6.2	7.5

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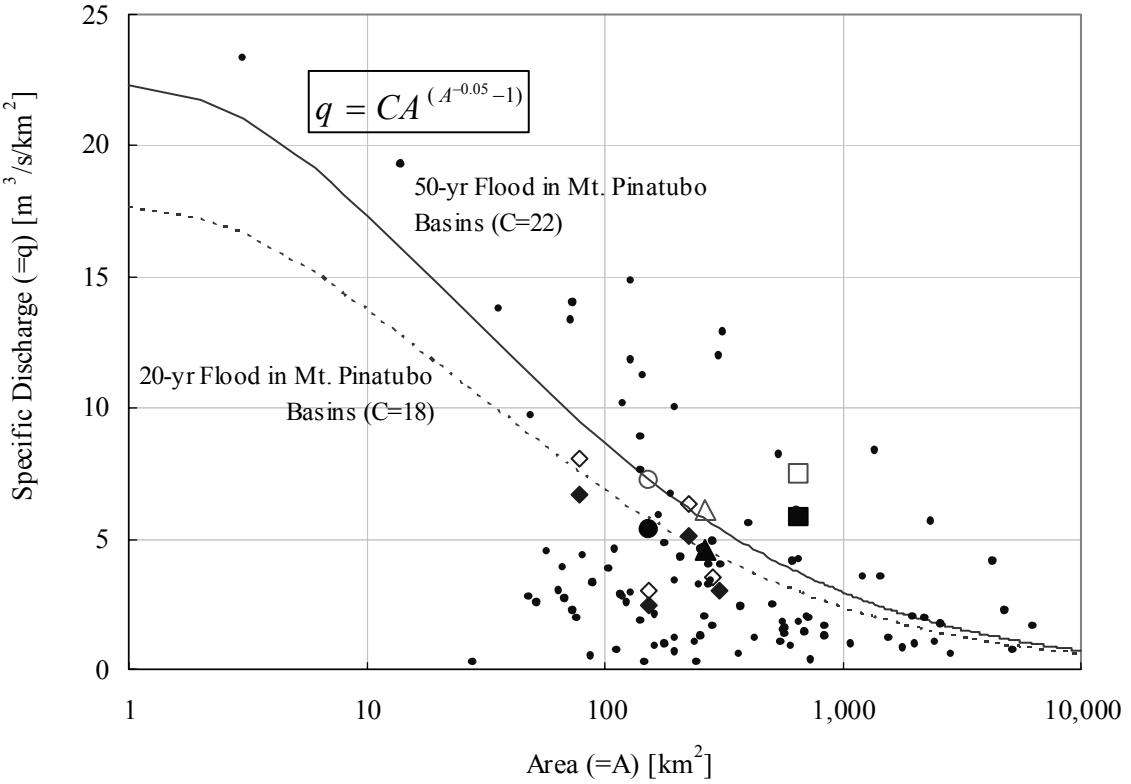
Figure 3.2.6

Simulated Maximum Water Level of Mapanuepe Lake

Catchment Area and Specific Discharge



Basin	Area (km^2)	Specific Discharge		Creager's C-Value	
		20-yr	50-yr	20-yr	50-yr
Sacobia-Bamban	225	5.2	6.3	19	23
Abacan	77	6.7	8.0	16	19
Porac-Gumain	302	3.0	-	12	-
Pasig-Potrero	154	2.5	3.0	8	9
O'Donnell	283	-	3.5	-	14
Bucao	**655**	**5.8**	**7.5**	**35**	**45**
Maloma	**152**	**5.3**	**7.2**	**16**	**22**
Sto. Tomas	**262**	**4.6**	**6.1**	**18**	**24**
Average (around Mt. Pinatubo)	264	4.7	6.0	18	22

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Figure 3.2.7

Regional Specific Discharge