(2) Cebu City

Cebu City is located at the center of the Visayas.

<u>River System</u>

Cebu City has five (5) related rivers, namely, Bulacao river, Kinalumsan river, Guadalupe river, Lahug river and Subang Daku river. The five rivers have similar topographic features. All the rivers are usually steep with a longitudinal gradient of 1/200 to 1/50 in the mountain area and flow from north to south almost in parallel thereby forming several drainage channels.

Lahug river is diverted at 3.32 km from its mouth to the drainage channel connecting the Subang Daku river. At this point, all base flow of Lahug river is released to the Subang Daku river basin. Cebu City has expanded to the south by reclamation of the seashore. The river mouth of Subang Daku river has been reclaimed and used for the Cebu International Port.

Drainage Area (sq. kms)	Possible Inundation Area 100-yr Probability (sq. kms)	Estimated Annual Run-off (MCM)
	16.3 Sec. 1	

Source : Principal Basin of the Philippines (NWRC : 1976)

River	Basin Area (km ²)	River Length (km)	Overall Slope (1/I)
Bulacao River	・『ふったきに10:7.チ.手続	12.7	,≅ 2 .35 ° ,√ ?*
Kinalumsan River 🗟 🕬	₹ ×:::::::::::::::::::::::::::::::::::		1. A. 47
Guadalupe River	16.3 States	19.3 June 19.3	, .t. (43 st s ⊅
Lahug River	このかっていた。6.3、「たった」な	8.5	57. C. S. S.
Subang Daku River	TRANS 12.6 PST.	* . * 9.9 . * * *	h tan, 1 53 h tan, 1

Source: Study on Flood Control for Rivers in the Selected Urban Centers (JICA, Feb. 1995)

Population

Description	PEOPLE AND A PEOPLE	Cebu Ci	ty 《学习》,在中国的主义	计的表达任何指示
			國國1990美國	梁林1995端海
Population (thousands)	: Foi :347:1 (#1941)	vatar 490.3 ∼ ≊⊸	· · · 604.6	- 662.3
Population Density	. ⇒. 1,235.7 ⊸.)	1,745.4	2,173.1	2,357.8
(person per sq. km)		-041		

Source: NSO

Land Uses (Cebu City)

Category	Area (ha)	Percentage (%)
	0.0	······································
1. Cropland		2
2. Upland Field	きょうないのないないである。	
3. Fishpond, Saltbed	0.0	
		34-1923年至4:236月3日日前
C. Not Identified	219.6	6.3
D. Built-up Areas	3,108.0	89.5
Total	3;475.0	100.0

Source: Study on Flood Control for Rivers in the Selected Urban Centers (JICA, 1995)

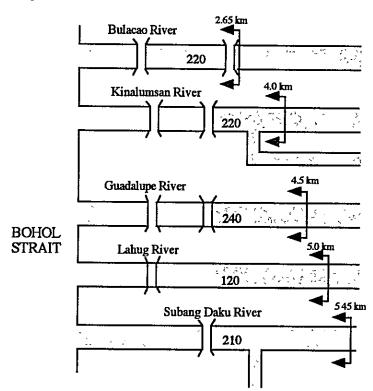
Inundation and Damages

During typhoons in Cebu City, no overflows were reported in the middle reaches of the five (5) rivers. However, a narrow belt along the seashore was flooded due to flood overflow in the five (5) rivers. Although no flood discharge was observed, the flood caused by Typhoon Ruping in November 1990 was estimated to correspond to a 10-year return period based on the daily rainfall of 139.7 m at Lahug Station. The flooded area was estimated to be approx. 800 ha.

Main Project/Study

Title>	Year 🐲	Agency
Study on the Flood Control for Rivers in the Selected Urban Centers	·登达1995 游流	лса M/P, F/S
Selected Urban Centers	2.2000	

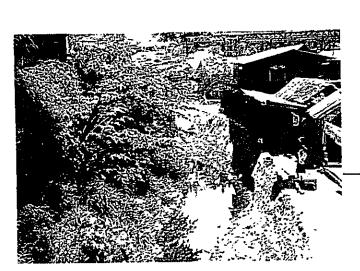
Proposed Design Discharge



50-year Return Period

Source : Study on the Flood Control for Rivers in the Selected Urban Centers, 1995, JICA

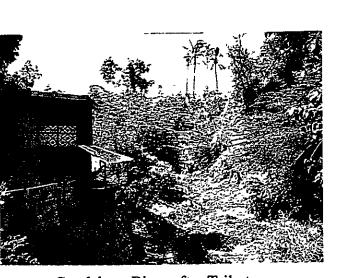
(2) Cebu City



Kinalumsan River Mouth



Bulacao River (Lower Reach)



Guadalupe River after Tributary

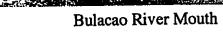




Guadalupe River (Middle Reach)



Guadalupe River (Lower Reach)





Subang Daku River (Middle Reach)



Subang Daku River (Lower Reach)



Lahug River (Lower Reach)

(3) Ormoc City

Ormoc City is located in the western part of the Leyte Island.

<u>River System</u>

Ormoc City is situated between two rivers: Anilao River on the west side and Malbasag River on the east side. With their length of 17 km to 12 km, respectively, these two rivers flow on the western slope of Mt. Banao closely in parallel to each other from northwest to southeast and eventually join tributaries running along the mainstream. The river channels in the mountain area form a deep valley where the river gradient ranges from 1/10 to 1/45. Where the rivers pass the plain area, both turn south and merge into the Ormoc Bay keeping a steep river gradient of 1/150.

Drainage Area (sq. kms)	Possible Inundation Area 100-yr Probability (sq. kms)	Estimated Annual Run-off (MCM)
37	2.4	5. 5 mar 65.7 States of the

Source : Principal Basin of the Philippines (NWRC : 1976)

River Basin Area (km ²)	River Length (km)	*Overail Slope (1/I)
Anilao River	18.3 ser ser a	
Malbasag River	10.7	

Source: Study on Flood Control for Rivers in the Selected Urban Centers (JICA, Feb. 1995)

Population

Description		Ormoc (City	REVOCIONALES -
率和目的运行时间和自己存在	》第4年 1970 年第1	si 1980 si si	西京韩1990 美国家	臺灣 1995 案 至 3
Population (thousands)	84.5	105.0	129.5	144.0,
Population Density	182.1 Sec.	226.1		310.2
(person per sq. km)				

Source: NSO

Land Uses (Ormoc City)

Category	Area (ha)	Percentage (%)
A. Agriculture	4,142.0	- 8.9
1. Cropland Company Party	and 1,104.0 (Sec. 2).	
14 2. Upland Field	, =	in the provide 6.5 that with
3. Fishpond, Saltbed	A state of the second state of the	٠. د د د د د د د د د د د د د د د د د د د
B. Park Open Space, etc.	<u> </u>	·》:一:··································
.C. Not Identified	41,840.0	· 90.1
D. Built-up Areas		
Total 🖓 🗁 🛆	√, 46,430.0 ,≇ ‴**,≦**	100.0

Source: Land Resources Evaluation Report, 1986, BSWM

Inundation and Damages

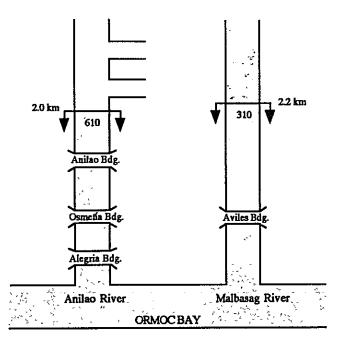
As reported many times through newspapers and communication networks because of its big death toll of about 5,000 people and missing persons of about 3,000, a big flush flood caused by the downpour brought about by Typhoon Uring on November 5, 1991 swept Ormoc City. A simple computation of flood run-off shows the peak flood discharges of the Anilao and Malbasag rivers to be 600-700 m³/s and 250-300 m³/s, respectively. They correspond to floods of about 20-year return period.

Main Project/Study

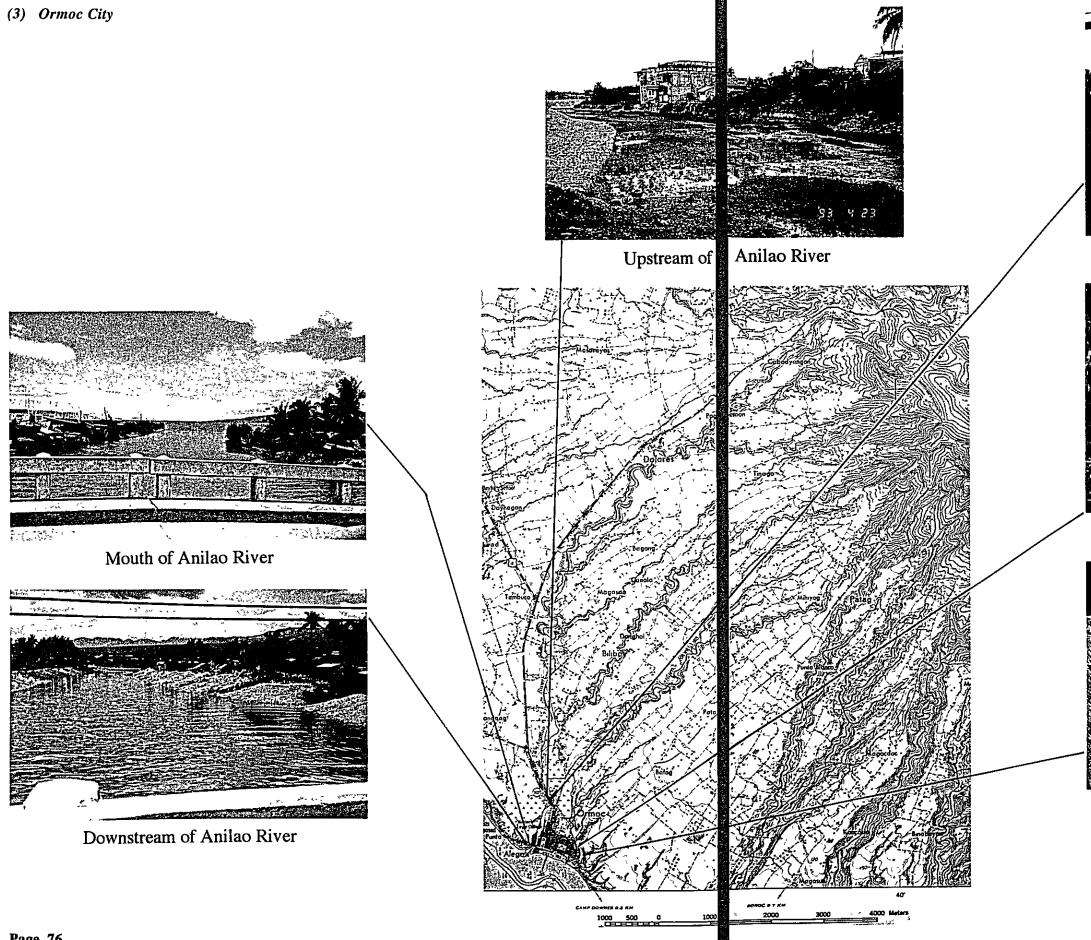
Title	Year	Agency	🐒 🗈 Status 😪 -
Study on the Flood Control for Rivers in the	1995	ЛСА	M/P, F/S
Selected Urban Centers			

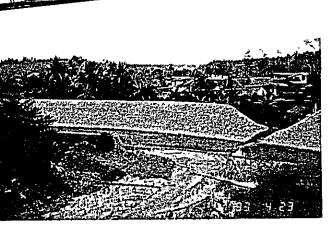
Proposed Design Discharge

50-year Return Period



Source : Study on the Flood Control for Rivers in the Selected Urban Centers, 1995, JICA

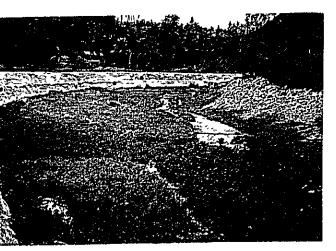




Anilao River



Upstream of Malbasag River



Downstream of Malbasag River

Part III : DATA BOOK

Table III.1.0Previous and Present JICA Flood Control and Sabo ProjectsTable III.1.1Previous and Present OECF Flood Control and Sabo Projects

Figure III. 1.0	Flood Control and Drainage Projects in 12 Major River Basins and in Metro Manila
Figure III. 1.1	- Location Map of Meteo-Hydrologic Stations in Region I
Figure III. 1.2	Data Availability of Rainfall Station in Region I
Figure III. 1.3	Data Availability of Streamflow Station in Region I
Figure III. 2.1	Location Map of Meteo-Hydrologic Stations in Region II
Figure III. 2.2	Data Availability of Rainfall Station in Region II
Figure III. 2.3	Data Availability of Streamflow Station in Region II
Figure III. 3.1	Location Map of Meteo-Hydrologic Stations in Region III
Figure III. 3.2	Data Availability of Rainfall Station in Region III
Figure III. 3.3	Data Availability of Streamflow Station in Region III
11gue 111. 3.3	Data Avaluatility of Directative Data and the Department
Figure III. 4.1	Location Map of Meteo-Hydrologic Stations in Region IV
Figure III. 4.2	Data Availability of Rainfall Station in Region IV
Figure III. 4.3	Data Availability of Streamflow Station in Region IV
Figure 111. 4.5	Leaa Availability of Sucalification Station III Region IV
Figure III. 5.1	Location Map of Meteo-Hydrologic Stations in Region V
Figure III. 5.2	Data Availability of Rainfall Station in Region V
Figure III: 5.3	- Data Availability of Streamflow Station in Region V
	Lata Availability of Sucalification Station in Region, v
Figure III: 6.1	Location Map of Meteo-Hydrologic Stations in Region VI
Caller and the second	Data Availability of Rainfall Station in Region VI
Figure III. 6.2	Data Availability of Streamflow Station in Region VI
Figure III. 6.3	
Figure III. 7.1	Location Map of Meteo-Hydrologic Stations in Region VII
1 - 	Data Availability of Rainfall Station in Region VII
Figure III. 7.2	Data Availability of Streamflow Station in Region VII
Figure III. 7.3	Lan Avanaphily OLOHCAMMUW Danou III ACGUN VI
Figure III. 8.1	Location Map of Meteo-Hydrologic Stations in Region VIII
Figure III. 8.2	
	Data Availability of Streamflow Station in Region VIII
Figure III. 8.3	

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Figure III. 9:1Location Map of Meteo-Hydrologic Stations in Region IXFigure III. 9:2Data Availability of Rainfall Station in Region IXFigure III. 9:3Data Availability of Streamflow Station in Region IX

Figure III. 10.1 Location Map of Meteo-Hydrologic Stations in Region X Figure III. 10.2 Data Availability of Rainfall Station in Region X Figure III. 10.3 Data Availability of Streamflow Station in Region X

Figure III. 11.1 Location Map of Meteo-Hydrologic Stations in Region XI Figure III. 11.2 Data Availability of Rainfall Station in Region XI Figure III. 11.3 Data Availability of Streamflow Station in Region XI

Figure III: 12.1 Location Map of Meteo-Hydrologic Stations in Region XII Figure III: 12.2 Data Availability of Rainfall Station in Region XII Figure III: 12.3 Data Availability of Streamflow Station in Region XII

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rol and Sabo Projects
Conti
Flood
JICA
Present
Previous and
Table III.1.0

JICA Development Survey : DPWH

Year	Project
1976-1978	Planning report on the Pasig-Potrero river flood control and Sabo project
1978-1981	Master plan for Mayon Volcano Sabo and flood control project
1979-1982	Pampanga delta development project
1982-1983	Re-Study of Mayon Volcano Sabo and flood control project
1985-1987	M/P study on the Cagayan river basin water resources development
1983-1986	Panay niver basinwide flood control study
1987-1990	Study on flood control and drainage project in Metro Manila
1988-1991	Study of Agno river basin flood control project
1989-1991	Study on Ilog-Hilabangan river basin flood control project
1992-1995	Study on the flood control for rivers in selected urban centers
1992-1995	The study on flood control and mudflow control for Sacobia-Bamban/Abacan
	river basin draining from Mt. Pinatubo
1996-	The study on Sabo and flood control in the Laoag river basin
JICA Developme	nent Survey : Other Agency

Year	Project	Agency	
1976-1977 1976-1977	Survey for the flood forecasting system project Basic design for the extension plan of the National Hydraulic Research	PAGASA NHRC	
1977-	Center in the Republic of the Philippines Master plan study on water resources management in the Republic of	NWRB	
	the Philippines		

The Overseas Economic Cooperation Fund (OECF) Flood Control Project List

 Table III.1.1
 Previous and Present OECF Flood Control and Sabo Projects

Yen Credit Package	L/A No.	Project	L/A Date	L/A Amount (million ¥)	Status
lst	1004-Hd	Manila and suburbs flood control & drainage project	19730323	3,028	completed
3rd	PH-P008	Flood control dredging project in the Pampanga, Bicol & Cotabato river basins	19740801	3,187	completed
4ħ	PH-P010	Pasig river flood control project	19750909	5,112	completed
6th	PH-P018	The flood forecasting systems project	19780114	1,774	completed
7th	PH-P008-2	River dredging project (II)	19781109	2,429	completed
10th	PH-P052	Lower Agusan development project (E/S)	19820531	330	completed
10th	PH-P053	Flood forecasting and warning system for dam operation project	19820531	3,600	completed
11th	PH-P062	Nationwide flood control dredging project	19830909	1,140	completed
12th	PH-P066	Metro Manila drainage system rehabilitation project	19840507	3,012	completed
13th	PH-P071	For Pampanga delta development project (E/S)	19860530	50%	completed
13th	PH-P073	Flood forecasting and warning system for dam operation project (II)	19860530	3,988	completed
14th	6404-H4	Metro Manila flood control project (II)	19880127	10,818	on-going
14th	PH-P085	Small water impounding management project	19880127	3,193	on-going
14th	PH-P087	Lower Agusan development project, Stage 1, Phase 1	19880127	3,372	on-going
16th	PH-P106	Pampanga delta development project, flood control component (I)	19900209	8,634	on-going
16th	PH-P107	North Laguna lakeshore urgent flood control & drainage project (E/S)	19900209	454	completed
20th	PH-P155	Agno and Allied rivers urgent rehabilitation project	19950830	8,312	on-going
Tokyo Special PH-P166	PH-P166	Mt. Pinatubo hazard urgent mitigation project	19960329	6,911	on-going
21st	PH-P179	The Metro Manila flood control project West of Mangahan floodway	19970318	9,411	on-going
21st	0814-H4	Lower Agusan development project (Flood control component - phase II)	19970318	7,979	on-going

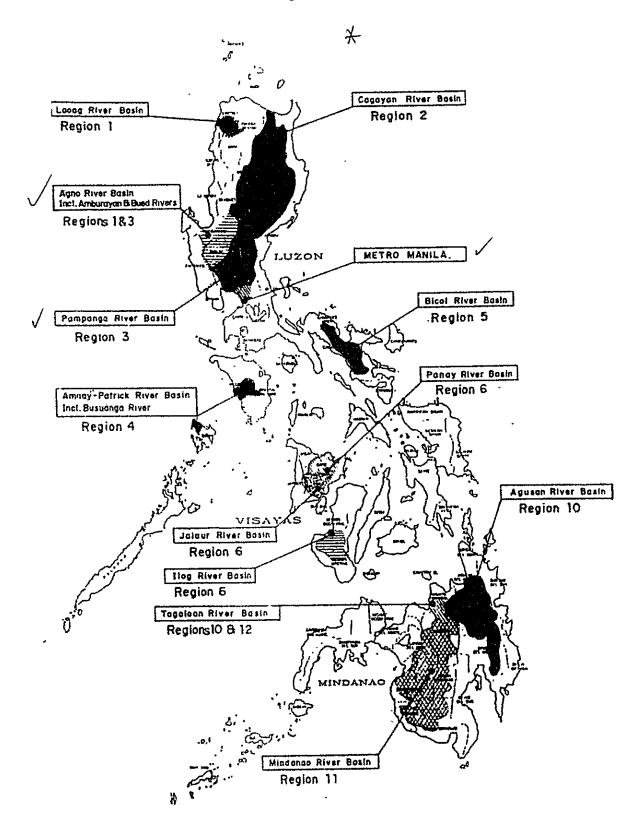


Figure III.1.0 Flood Control and Drainage Projects in 12 Major River Basins and in Metro Manila

Sources : Department of Public Works and Highways (DPWH)

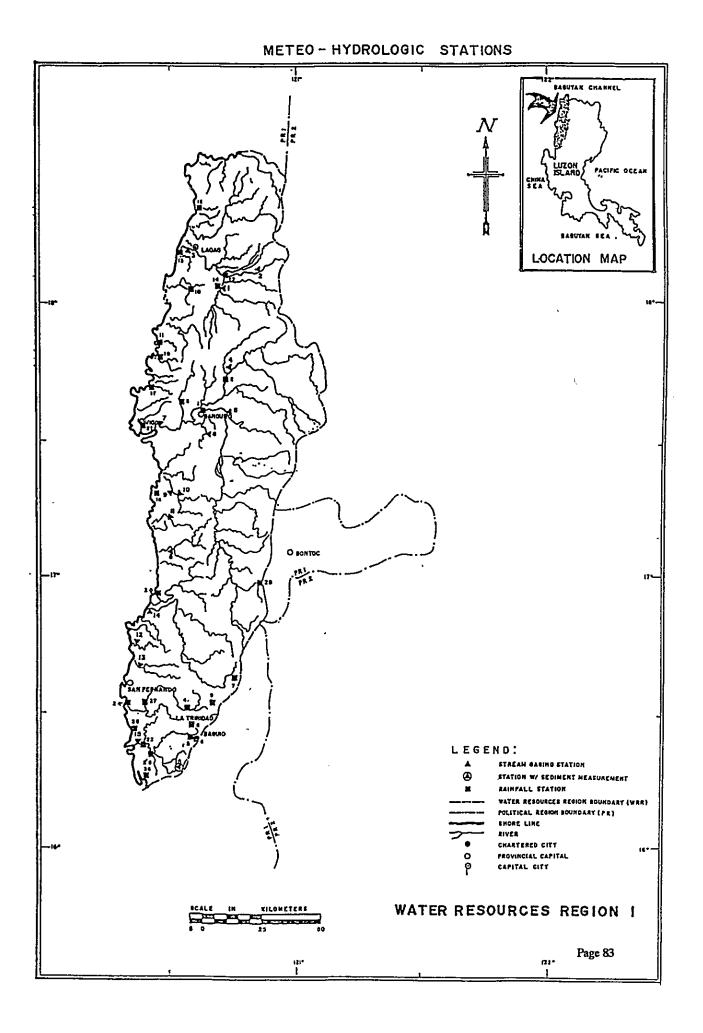


Figure III.1.2 Data Availability of Rainfall Station in Region I REGION 1 - 1LOCOS

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Figure III.1.3 Data Availability of Streamflow Station in Region I REGION 1 - ILOCOS

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ri i	Gasgas River - Manalpac, Solsona, Hocos	18° 04'	120° 50'	E.	÷	ž	+																
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Э.	Lacag River - Poblacion, Lacag, Bocos	18° 12'	120° 35	1355	-8	į	E			╫							╇	+		+	-	+	
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	Burgos, llocos Sur					╋	Ī			11-	-					╡			-	-			
11.	Bucong Ruver - Salvador, Candon, Ilocos	17-13	120° 28	\$	ŧ	į	ŀ						-#			╪	+						
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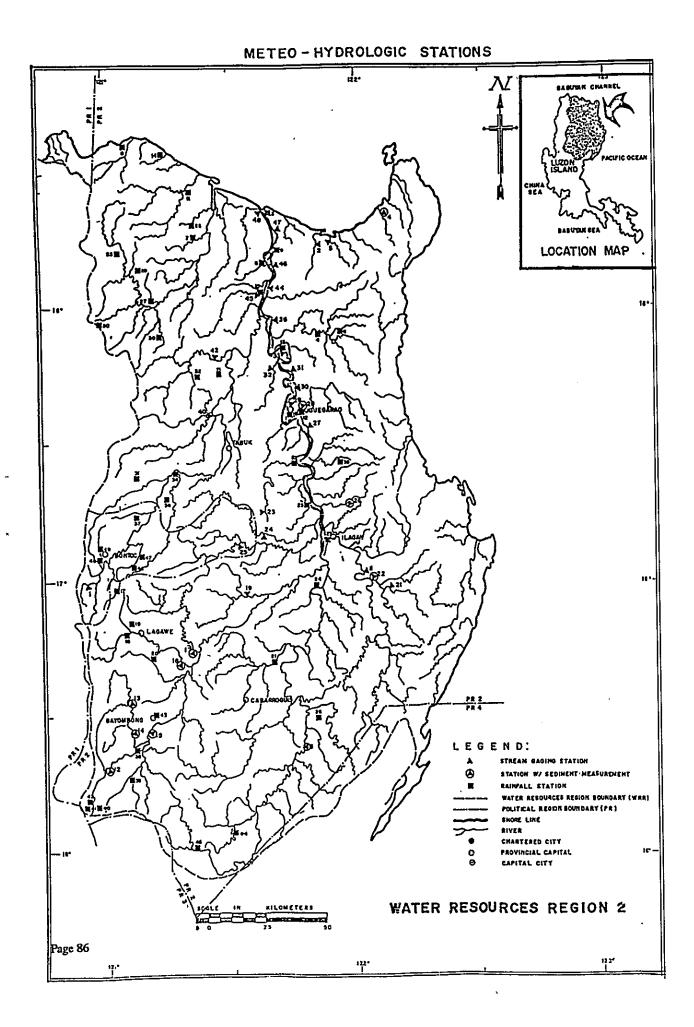


Figure III.2.2 Data Availability of Rainfall Station in Region II (1/2) RECION2-CAGAYAN VALLEY •

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Figure III.2.2 Data Availability of Rainfall Station in Region II (2/2) REGION 2-CAGAYAN VALLEY

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	Figure III.2.3 Data Availability of Streamflow Station in Region II (2/3)	REGION 2 - CAGAYAN VALLEY
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ล่	Canla Creek - Casile, Mailig, Isabela	17-12	121°35	1:95	- do -	AR															
ส่	Mallig River - Maligaya, Mallig, Itabela	17-10	121-35	5:63	- op -	Ĕ															
	Siffu River - Muliuz, Rozes, Isabela	17-08	121-34	6:36	- do -	-op-															
ส่	Pinacansusa de Tumawini River - Antagan,	1717	121-55	1:70	- do -	Ĕ			-												
	Tumawini, Isabela																			_	
21.	Cagayan River - Namabalan, Tugueguno,	17°32	121° 47	18, 6:85	- op -	- op -			-										_		
	Cagayan																		_		
28	Pinacanaum River - Larion Alto,	17-37	121*46	6c35	- do -	AR														_	
	Tuguegano, Capryan		•													_					
29.	Cagayan River - Catagraman, Tuguegano,	17-35	121*40*	19, 4:45	- op -	Ĕ													_		
	Cagayin														Ξ			_	_		
ห่	Cagayan River - Bago, Iguig, Cagayan	17-42	121*41	19,685	TRAND TO	R								Ŧ	_	_	_				
					NWRC																
31.	Cagayaa River - Centro, Igulg, Cagayaa	17-45	121*44'	19,785	- ab -	- op -						┤┤					_			_	
ង	Paugul River - Paugul, Solana, Cagayan	17*39	121°37	312	-do-	AR															
÷	Cagrym River - Anguiny, Amuloog	17-49	121*23'	20,310	- do -	NR						╋			_						
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Figure III.2.3 Data Availability of Streamflow Station in Region II (3/3) REGION 2 - CAGAYAN VALLEY

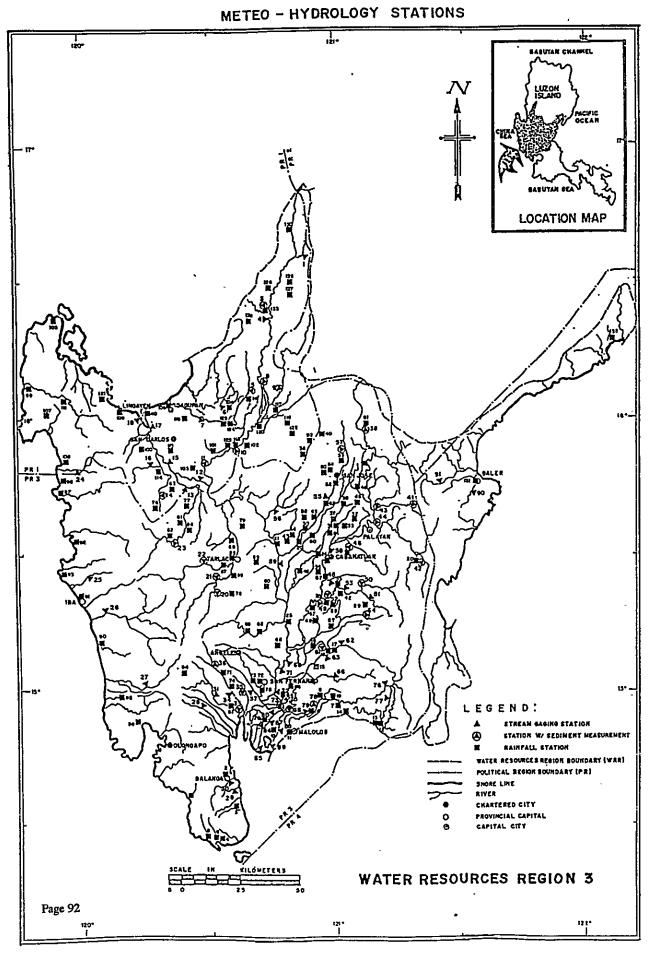
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Ŕ	Part River - Assid, Bagguo, Cagayan	17-54	121-47	730	- do -	- do -				1						┽╹								Abundaned	8
Ŕ	Caprynn River - Tupung, Alcala, Cagayan	17-57	36-121	21,560	- do -	- qo -										1	_	_		\equiv				Abendaned	10
Ŕ	Capayra River - Nasiping, Cararra,	17-57	121-37	21,610	- op -	- ab -		•												\exists	=				
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31.	Chico River - Tinglayan, Kalinga-Apayao	17°16	121-09	1,087	- ab -	AR								Ħ							╡			Abendoned	78
Ŕ	Chico River - Parongiao, Tabuk, Kalinga-	17-24	121•25	1,987	- op -	-op-								Ŧ							_	-		Abadoned	19 10
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ĥ	Tenudan River - Baba-alan, Tabuk, Kalinga-	17-23	121 - 1 <i>5</i>	365	-op-	NR											_	_						Abmdmed	
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41.	Sahan River - Liglig, Gawaan, Balbalan,	17-30	121-12	255	- op -	AR	-							Ħ						_	-		_	Abendoned	Page
	Kalinga-Apayao																						_	_	
4	Metalag River - Escola, Rizal, Cagayan	17-49	22°121	655	- op -	NR	_														_	_			
43.	Dummon River - Celecugan, Daoquel, Gana	18" 02"	121•43	308	- op -	- op -						T.					_			_				Abudoned	19
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44.	Cagayan River - Poblacion, Gamaran, Cag.	18° 03	121-38	26,840	- op -	AR																		_	
45.	Simuduagaa River - Simsy, Lasem, Cag.	18 03	121-35	189	- do -	R									Ŧ	1				_				\square	
46.	Cagayan River - Calayanan, Lallo, Cagayan	18° 15	121-39	27,305	- op -	-do-				-		+			-	Т	_	_							٦
. 41.	Capyan River - Canadaniugan, Capyan	15° 16	121•40	27,510	- op -	-op-																			
48,	Cagayan River - Apani, Cagayan	18° 22	121•37	27,580	-do-	-do-				_ _	Ŧ	_			∓		_	_						_	
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Figure III.3.2 Data Availability of Rainfall Station in Region III (1/4) REGION 3 - CENTRAL LUZON

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-Figure III.3.3 Data Availability of Streamflow Station in Region III (1/7) REGION 3 - CENTRAL LUZON

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	1. Agno River - Adsony, Kahnyan, Benguet	16°35	120*29	246	TRANS'D TO	NR N											_	_			
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[<u></u>	2. Bokod River - Poblacion, Bokod, Benguer	16°29	120* 50	\$5	- op -	AR												-			Abindoned
	3. Twin River - Baloy, Itogon, Benguet	16°23	120* 43*	LS	- ab -	NR							Ŧ			=					
Ľ	4. Agoo River - Thongdan, Itogon, Benfuet	16-23	120° 43'	856	• op •	- do -					 										ĺ
	5. Tobow River - Kaliphip, San Miguel,	16-07	120° 38°	71	- ab -	AR			_					┼╼┤							
	Pargastan												_					Ξ			
	6. Tagamudug River - Sim Felipe, Binalonan,	16* 02*	120*30	ES	- ap -	NR															
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	7. Shomolan River, Poblacion, Bayambana	16*00	120* 28*	150	• do •	- op -															
	Pangrainan			-														_	_		•
	8. Arno River - Sun Roque, Sun Miguel,	16*08	120*41'	57271	- op -	- op													_		
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	9. Ambayonn River - Sin Marin, San Nicolas,	16-07	122*46	152	• op •	AR															
Ļ	Pangasinan															;					
Ĩ	10. Appo River - Carmen Rocales, Pungadinan	15*53	120°35	2209	- do -	н Р				ТП	Ŧ								_	_	
1	11. Agno River - Poblacion, Bayambang,	15-49	120* 27	2254	- do -	- do -												-		-8	
	· Pangasinan																				
1	12. Popomio Swampa - Banadang, Bayambang,	L 15-45	120-27	•	- do -	NR) 		Η						~
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Ľ	13. Agno River - Wawa, Bayambang,	15-45	120° 26'	4,196	- do -	- op -															
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Ĩ	14. Pila River - Damsite, Pacalat, Mangataran,	15-45	1202 15	117	- op -	- do -															
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	15. Apo River - Doroupa, Urbistondo,	. 15,49	120° 19	5,134	- op -	-op-															
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Ē	16. Bayaoss River-Maples, Aguilar, Pargasinan	n 15°49	120° 15	35	- op -	- qo -	-														
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e III.3.3	Figure III.3.3 Data Availability of Streamflow Station in Region III (2/7)	REGION 3 - CENTRAL LUZON
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Ŷ	RIVERS/LOCATIONS	ι. Έλι	LONG.		BY	ттез	0561 6961 8961 2961 9961	4561 9561 5561 5561 5561 5561 1561	0651 6861 6891 68961 68961 68961 28861 28861 28861 28861 28861 28861 28861 28861 28861 28861 28861 28861 28861 28861 28861 2861 28861 2861 2861 2861 2861 2861 2861 2861 2861 2861 2861 2861 2861 2861 2861 2861 2861 2861 2861 2861 2861 2861 2861 2861 2861 2961 2961 2961 2961 2961 2961 2961 2961 2961 2961 2961 2961 2961 2961 2961 2961 2961	ST 1995 1995 1995 1995 1995 1995 1995 1995
, <u>r</u>	Agno River - Banaga, Bugallon, Pangasinan	15-59	120°13"	5,564	- qo -	AR				
18	Agoo River - Bany West, Lingayen,	16°00	1201° 12	5,646	- op -	- ab -				
	Paguina									
61	Balimerguing River - Nibaliw, Mabinl,	16*04	119°57	145	- do -	-op-				Abundomed
	Pargasinan									
ล่	Bangcot River - Sta. Lucia, Capus, Tarlac	15.22	120~29	8	- qo -	- op -			H	3
21.	Or Donnel River - Paiublub, Capas, Tarlac	15°23	120° 30'	240	-ob-	NR				
ส	Bula River - Villa Agipay, Tariac	15*28	120-26	405	- qo -	- do -				
ส่	Camiling River - Nambalan, Mayantok,	15-32	120* 19	142	- co-	- do -				
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ส์	Nayom River - Guisguis, Sta. Cruz,	15*48	119*58	128	- qo -	- do -				
	Zambales									
ห่	Bagsit River - Dumpai, Palauig, Zambules	15-25	120-01'	89	- ob -	-op-				
শ্ন	Bucao River - San Juan, Botolan, Zambales	15°18	120-05	615	TRANSD	NR				
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ជ	Sto. Tomas River - Dalanawan, San	14* 59	120-15	EI.	- do	- do -				
	Marcelino, Zambales					- -				
ส	Colo River - San Benito, Dinalupihan,	14° 50	120° 24'	76	- qo -	-op-				
	Battan									
<u>ର୍</u> ଥ	Mirry Creek - Labing Bunl, Balanga,	14° 38°	120* 31*	3	- qo -	- ep-				
ļ	Batara									
Ŕ	Pilter River - Nagwaling, Pilter, Betaen	14° 40	120° 33'	14	- do -	- op -				3
31.	Ceuteman River - Patemiag, Ficridabianca,	14°57	120-28	2	- do -	AR				
워	Oumain River - Pabanlag, Floridablanca,	45 • ¥I	120*26	128	- op - `	-ob-				
	Perpents					-				
Ŕ	Gumain Floodway - Sta. Cruz, Lubao,	14-55	120° 34'	ŝ	- do -	ž				
	Pumpanga						·			
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Figure III.3.3 Data Availability of Streamflow Station in Region III (3/7) REGION 3 - CENTRAL LUZON	
Figure III.3.3	-

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	Parac River - Del Carmen, Floridablanca,	14° 59	120° 32	111	-do-	4 8								┼┲╢		7	4	╡	╡				
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35.	Parac River - Valdez, Floridabhanca,	14° 58'	120*36	118	- do -	- op -			_	╁╋╴		÷,					_				4		
•	Punpata												_	_							_		
×	Parig-Potraro River - Hda. Dolores,	15-06	120-31'	ង	- do -	- do -				-						_	_			_			
/	Punpunga					-									`		_				_		
37.	Parig-Potraro Rivar - Caberican, Bacolor,	15-59	120*38	ці.	- do -	- op -																	
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Ŕ	Carrachan River - Balvarta, Carrachan,	15-58	121°03'	258	-do-	AR																	
	Nueva Ecija		 																		-	-	
39.	Pentabengan River - Poblacion, Pentaba-	15-51	121*08	25	- op -	-op-												_				$\frac{1}{2}$	Abundoned
	ngan, Nuova Ecija					F		il												-			
40.	Pampanga River - Pialuan, Pamuhangan,	15-49	121*06	838	- ob -	- op -													_	_			Abundoned
	Nueva Ecija																_			_			
41.	Digmala River - Labi, Bongaboo, Nueva E.	15*38	121*15	22	- do	- do -										1.							
42	Santor River - Cuyapa, Gabaldon, Nucva E.	15°28	121* 18*	8f	-do-	- ab -		ļ														_	
43.	S-ntor River - San Vicente, Laur, Nueva E.	15°36	121°09	242	-da-	- do -					ШÜ						-	_			╡		
44	Coronel River - Bengterihan, Bougsben,	15°35	121*07*	602	-do-	NR															Ξ		
	Nueva E.																	_					
45.	Pampanga River - Mahta, Bongahon,	15°30	121°02'	2,015	- do -	AR												•			Ξ	Ì	Abendoned
	Nueva Ecija														_	·							
46.	Caba River - Cabu, Cabanatuan City	15°31'	120°03'	143	- ab -	AR																-	
. 41.	Pempanga River - Valdefuenta, Cabronnen	15-31'	120-57	2,441	- da -	- op -																	Abundoned
	City																						
48.	Tabuating River - Soledad, Sta. Rosa,	15-24	120° 59'	81	TRANSD	NR														-			
	Nueva E.				TO NWRC										_								

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HISTORICAL STREAM FLOW RECORDS

AUTO-RECORDING STREAM GAGE STATION

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40	Printianes River - San Anton. San		120- 54	2851	- do -										╫┓							
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ន	ti, Gen. Thalo,	.12-51	121*04*	149	- ob -	- do -																•
	Nueva Ecija																					
51.	Sumachao River - Pass, Gen. Tinio, 1	15-20	121*06	287	- op -	- ap -				11					7				4			
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ង	Refaranda River (HW) - San Josef, Peña-	15-19	120*56	511	• op •	Metric																
	randa, Nueva Ecija				Cali	Calibration																.
ន	Petharanda River - San Josef, Petharanda 1	15°21'	121*00	512	- ab -	AR H													-		_	
	Nueva Ecija																					
	J Pediaranda River - San Vicente, Gapan, 1	15°18	120° 56'	575	- ab -	NR												_				
	Nueva Ecija	_																-		∃		
55.	Baliwag River - Catalanacan, Muñoz, 1	15°43	120* 53'	284	- do -	AR										Ţ.						
	Nueva Ecija													_								
%	Benium River - Pasong Intsit, Guimba,	1 5° 40	120° 44'	206	- ab -	- op -		-									_					
	Nueva Ecija													_				_	-		_	
57.	Talavers River - Lomboy, San Jose City 1	15 21,	121-00	261	- op -	- do -																
Ŕ	Talavers River - Cabobolooman, Talavera, 1	15°41'	120* 58	431	- do -	- do -																
	Nueva Ecija																	-			_	
.65	Rio Chico River - Sto. Rostrio, Zaragoza, 1	15-27	120*45	1.177	-ab-	NR																
	Nueva Ecija				-							_								-		
8	Rio Chico River - Banga, Arayat,	15 13	120° 46'	2,982	- op -	AR							Ħ			_				_		Abudoned
	Fundand														_							
éi.	Pampanga River - San Agustin, Arayat, 1	15-10	120* 46	6,487	-do-	ž																
	Findung																				_	
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LEOEND: AR	AUTO-RECORDING STREAM GAGE STATION	AM OAGE	NOITATS			■ HISTO	תכאבא	 HISTORICAL STREAM FLOW RECORDS 	OWREC	SUDS			EVA	EVALUATED	•			■ RAW	DATA	NOTYE	ILEVAI	RAW DATA, NOT YET EVALUATED

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Figure III.3.3 Data	

STATION		COORD	COORDINATES	DRAINAGE AREA	MAINTAINED						8 8 8	10 0	OF R	BCOI	R D						
Ů N	RIVERSA.OCATIONS	LAT.	Lchia.		BY	177 RE	8761 2761 9761	5561 2561 1561 0561 6961	9561 <u>4561</u> 9561 \$561 \$561	2961 1961 0961 6561	13961 19961 19961	6961 8961 2961 9961	<u> (161</u> <u> 1161</u> <u> 0161</u>	9/61 \$/61 \$/61	6661 8661 661	C861 7861 1861 0861	9861 5861 1861	067.1 6861 8861 4861	£561 7561 1661	9661 5661 9661	REMARKS
g	Bulacog-Madim River - Benga, Arayat,	50 s I	121-00	204	-op-	ş															
	Pampanga			,		-															
3	San Miguel River - San Vicente, San	30 .51	1201° 58'	32	- op -	AR															
	Miguel, Buhcan																				
z	Bulo River - Malibery, San Miguel,	15°13	.10-121	5	- ob -	ž						H.				-		_			
	Bulacan											E			—						
S	Gerlang Creek - Garlang, San Ikiefonso,	15°06	120° 57	s	-do-	Ĕ															Abendoned
	Butacan										E										
ઝ	Garing Creek - Garing, Sm Ildefonso,	10-21	120-57	8	- do -	ę											E				
	Bulacan											Ē									
61.	Cendaba Swenga • Ducma, Cendaba,	15.06	120° 51'	7,454	- do -	e	-					Ħ									
	Pumpenga																E				
8	Pumpunga River - Pasig, Candaba,	15 05	120*49	7,468	TRANSD	Å															
	Pampanga				TO NWRC	_							_					-			
S	Massim River - Diliman, San Rafael.	20-21	120*57	150	- do-	ž															
	Bulacen																	=			
Ŕ	Marsim River - Bahay-Pare, Candaba,	15-01'	120* 53'	174	- do -	- op -															
	Pampanga															E					
ц.	Pumpunga River - Sta. Crut, San Luis,	15-00	120*46	7,756	- op -	AR															
	Pampanga					-								E			E	Ē	E		
Ŕ	Pampanga River - San Juan, San Simon,	15-00	120*46	7,776	- op -	ž										E					
	Pumpenga										E					E	E				
Ę	Pampanga River - Sulipan, Apalit,	14° 56	120*45	7,849	- do -	-do															
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え	Sulipen Cut-Off-Chennel - Sulipen,	14-56	120° 45	7,874	- do											E	E			E	
	Apalit, Pampanga															E					
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HISTORICAL STREAM FLOW RECORDS •

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75.	Francia River - San Miguel, Cahumpit,	14° 56	120° 4S		- do -	- do -							╞╾╂	Ħ				1				
	Bulacto									_											_	Т
76.	Angat River - (Below) - Norragaray.	25.41	121-08	629	- op -	AR															4	Ī
	Bulacua										-							+			╡	Τ
4.	Bayabas River - Pulong Sampaloc, Angat	14.57	121°03'	74	- do -	-op-												-	╡		\downarrow	
	Bulacan					_					_	T							╡		_	
Ŕ	Angat River - Longos, Pulilan, Bulacan	14° 53	122-51'	656	- do -	- do -										┨┤						
T	Angat River - Poblacion, Pullan, Bulacan	14° 53	120° 50	5963	- do -	R							F								+	
T	Angst River - Pungo, Calumpit, Bulacun	14° 54'	120° 47	1,014	- op -	AR							┝╼╂ ┥╼┦							-	1	
81.	Pampanga River - Poblacion, Calumpit,	14-55	121P 45	7,910	- do -	NR.												╡			_	T
	Bulacan																	1			_	
8	Pampanga River - San Miguel, Calumpit,	14-55	120° 44'	7,914	- op -	-op-						╞╾┨							╡			
	Bulacto						_														-	Ţ
8	Bebs Cut-off-Channel #1 - Bebs, Masuntol,	14° 52	120° 42'		-op-	AR		_										7	+		Abendoned	laned
	Pampanga												-									
2	Bebe Cut-off-Channel #2 - Bobe, Masantol,	14.53	120° 40'		- do -	- op -																
	Pampengi																					
85.	Pampanga River - Budbud, Masantol,	14-46	120°39'		- op -	- op -								-								
	Pampanga																				_	
8	Labengen River - Bagbeg, Cahumpit,	14° 53	120-46	1,016	- do -	- qo -																
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81.	Laburgan River - San Amonio Hagonoy	14° 52	120-45		- do -	-op-																
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Ŕ	Laburgen River - Halang Hagonoy Bulacen	14-50	120° 44'		- qo -	NR													4			
ŝ	Cababuga River - Dismus, Maria Aurora	14°46	120-45		- do -	AR						╞╴┨					╡					
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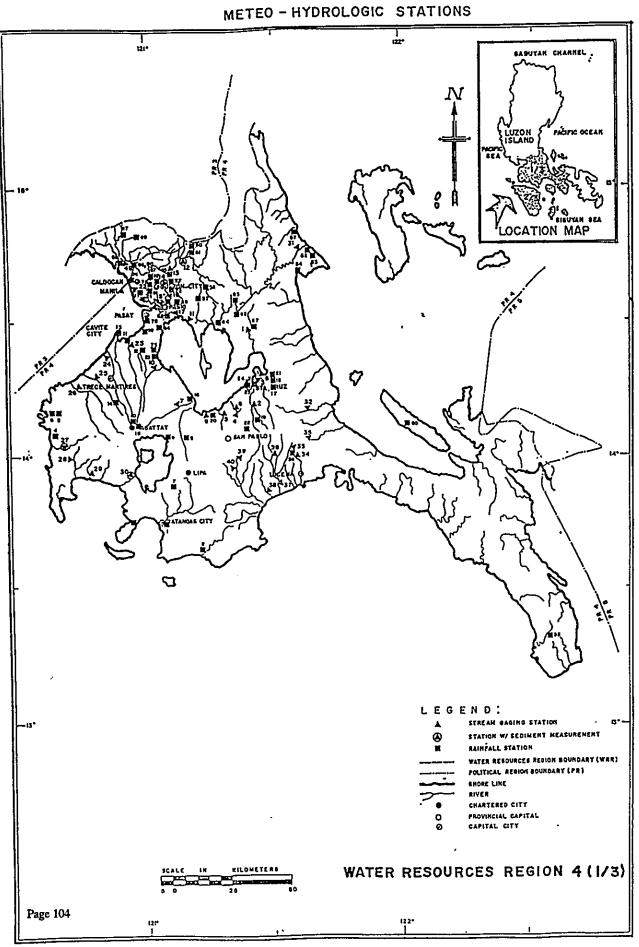
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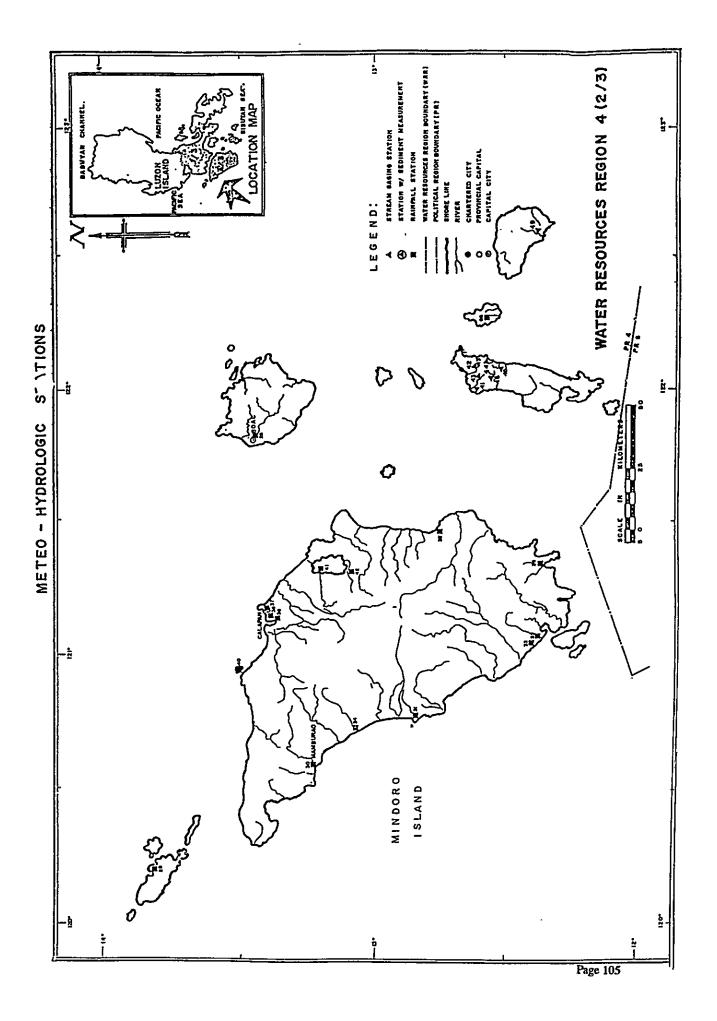
Figure III.3.3 Data Availability of Streamflow Station in Region III (6/7) REGION 3 - CENTRAL LUZON

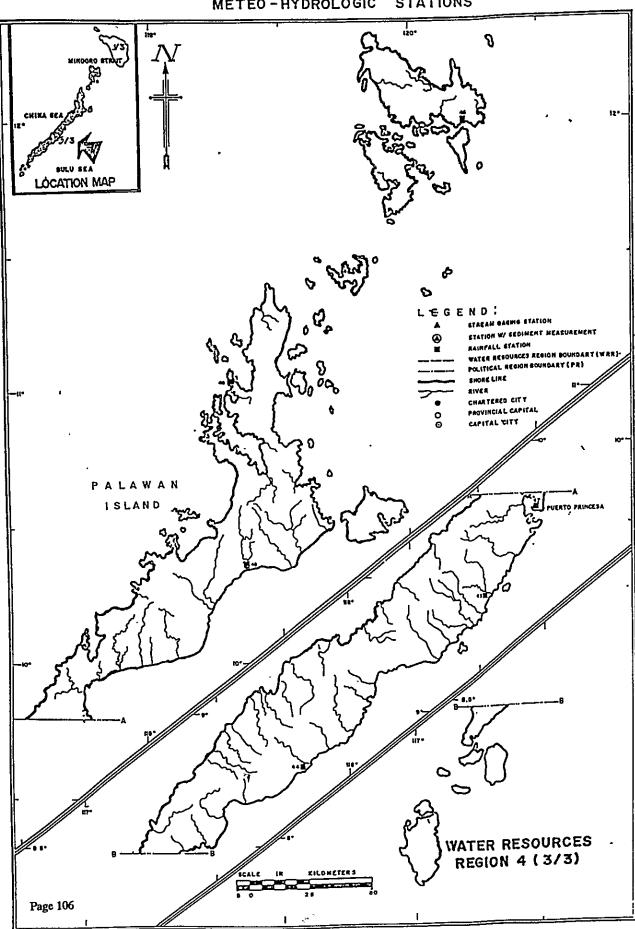
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Figure III.3.3 Data Availability of Streamflow Station in Region III (7/7) **REGION 3 - CENTRAL LUZON**







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Figure III.4.2 Data Availability of Rainfall Station in Region IV (1/3) REGION 4. SOUTHERN TAGALOG

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Figure III.4.3 Data Availability of Streamflow Station in Region IV (1/4) REGION 4 - SOUTHERN TAGALOG

STATION NO. REVERSILOCATIONS COORDINATIES INC. AREA MANATARE INC. INTEGRISTICATIONS 1. Mayre River- Bagembryen, Stalloan, Lagua 14' 25 111' 27 45 TRANSTO 1 2. Balane River- Bagembryen, Stalloan, Lagua 14' 25 111' 27 45 50K/0. BY 1 3. Balane River- Badai, Magdatena, Lagua 19' 12' 12' 12' 12' 12' 12' 12' 12' 12' 12	
RIVERS/IDCATIONS LT. LONG. SQ KN. BY TYPE [2016]	
Myore River - Bigamibyan, Sinilone, 14° 25 121° 26 216 -60- 1 1 Liguan Binnee River - Budai, Magalena, Laguen 19° 12 121° 26 216 -60- 101 1 1 Liguan Binnee River (overe)- Budai, Magalena, Laguen 19° 12' 22' 200 -60- 101 1 1 Son, Curs River - Chimpurg, Lilliv, 18° 11 121° 26' 200 -60- NR 1 1 1 Son, Curs River - Chimpurg, Lilliv, 18° 11 121° 26' 200 -60- NR 1 1 1 Materia River - Chimpurg, Lilliv, 18° 11' 121° 27' 200 -60- NR 1 1 1 Lagua Nateria River - Materia, Laguan 18° 67' 18° 7 46- -60- NR 1 1 1 Lagua Nateria River - Materia, Laguan 18° 67' 18° -60- MR 1 1 1 1 1 1 1 1 1 1	661 661 661 661 661 661 661 661 861 861 8061 8061 8061 8061 9961 9961 9961 9961 9961 9961 9961 9961 9961 8561 8561 8561 8561 8561
Lguan SAR0 AR SAR0 AR A A Bhinae River (bover) - Bubil, Mugalten, Lagua 19<17	
Durber Lugent 14° 12 121° 25 210 -00 -00 1 1 Bainen River - Bairai, Magalten, Laguna 14° 12 121° 25 -00 -00 1 1 1 Laguna Sta Cura River - Champang, Lilliw, 14° 11' 121° 25' 203 -00 1 1 1 Sta Cura River - Mabaca, Caluna, 16° 11' 121° 25' 203 -00 NR 1 1 1 Parona 14° 00' 121° 17' 45 -00 NR 1 1 1 Parona River - Mabaca, Caluna, Laguna 14° 10' 121° 17' 45 -00 NR 1 1 1 Anagulaa River - Calmana, Caluna, Laguna 14° 10' 121° 27' 3,138 -00 NR 1	
Buttaner River (Gover) - Buich, Magaliena, 14° 121° 24' 200 -60- -10- 10- 10- 10- 10- 10- 10-	
Battanes River (lower)- Bultai, Magdaten, 14° 14′ 121° 25′ 203 -600- -60-	
Laguat Laguat <thlator< th=""> <thlator< th=""> Laguat</thlator<></thlator<>	
Su. Cuz River-Chimparg, Liliw, 14° 11' 121° 24' 203 -60- 60- 60- 60 60 Laguat Mahasa River-Mahacan, Chituan, 14° 0Y 121° 17 46 -60- NR 1 1 1 Laguat Laguat 14° 0Y 121° 17 46 -60- NR 1 1 1 Anaglian River-Mahacan, Caluania, Laguan 14° 18' 121° 17 81 -60- MR 1 1 1 Anaglian River-Culania, Cabuyao, 14° 18' 121° 17 81 -60- MR 1 1 1 Laguat 14° 11' 121° 17 3.138 -60- MR 1 1 1 1 Laguat 14° 11' 121° 17 3.138 -60- MR 1 </td <td></td>	
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Mathema River - Mabacan, Calman, 14° 0y 121° 17 46 -do- NR 1 1 1 Leguna Pepulok River Mabacan, Calman, Leguna 14° 05 121° 21' 85 -do- NR 1 1 1 Armagina River-Calmania, Calmun, Leguna 14° 15' 121° 27 3,138 -do- -do- NR 1 1 1 I Leguna 14° 16' 121° 27 3,138 -do- NR 1 1 1 I Leguna Later-Haine, Lumban, Leguna 14° 16' 121° 27 3,138 -do- NR 1 1 1 Leguna Later-Hobiocón, Lon Bados, 14° 11' 121° 07 3,138 -do- NR 1	
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Arnagina River - Calamiat, Cabuyee, 14° 121° 07 87 -do-	
i Laguna Laguna 14° 15' 121° 27 3,138 -do- NR 1 1 1 Laguna Laguna 14° 15' 121° 27 3,138 -do- NR 1 1 1 1 Laguna Laguna 14° 11' 121° 13' 3,138 -do- AR 1 <td< td=""><td></td></td<>	
Laguna Late-Ham, Lambar, Laguaa 10° 15 3.138 -do- NR 1 1 1 Laguna Late-Poblacion, Loe Barlos, 14° 11' 121° 13' 3.138 -do- AR 1	
Laguna Late-Poblacion, Los Bañtos, 14° 11' 121° 13' 3,138 -do- AR A	
Laguar Laguar Laguar 14° 21' 121° 02' ·do- NR 1	
Laguras Lake-Poblacion, Munitables, 14° 21' 121° 02 -do- NR 1	
Rizal Rizal 14° 31' 121° 05' 3238 - 60- - 60- 1 1 1 Merilina River - San Rafed, Montaban, 14° 31' 121° 10' 323 - 60- - 60- 1 1 1 1 1 Merilina River - San Rafed, Montaban, 14° 31' 121° 10' 322 - do- 1	
Laguas Lake - Teymana, Binargonan, Rinal 14° 31' 121° 10' 3.238 - 60- - 60- -	
Maritian River - San Rafael, Montathan, 14° 44' 121° 10' 282 -do- 1 <td></td>	
Rizai Rizai 14° 41' 121° 06' 54 -do- Nangjia River - Nangjia, Maritina, Rizai 14° 35' 121° 05' 239 -do- Maritina River - Sin, Nifio, Maritina, 14° 35' 121° 05' 239 -do- Rizai 14° 35' 121° 05' 527 -do- Maritina River - Ugong Norta, Pasig, Rizai 14° 36' 121° 05' 527 -do- Maritina River - Ugong Norta, Pasig, Rizai 14° 36' 121° 05' 527 -do- Rizai 14° 36' 121° 05' 527 -do-	
Nangta River - Nangta, Maritina, Rizai 14° 41' 121° 06' 54 -do- Maritina River - Sio, Nifo, Maritina, 14° 35' 121° 05' 239' -do- Ritai Ritai 14° 35' 121° 05' 239' -do- Ritai Ritai 14° 35' 121° 05' 237' -do- Maritina River - Manghan, Pasita, Ritai 14° 35' 121° 05' 527' -do- Maritina River - Ugong Natu, Pasita, Ritai 14° 36' 121° 05' 532' -do- Ritai River - Ugong Natu, Pasita, Ritai 14° 36' 121° 05' 532' -do-	
Maritina River - Siu. Nilio, Maritina, 14° 35' 121° 05' 299 -do- Rinal Rinal - - - - Maritina River - Munghun, Pasit, Rinal 14° 35' 121° 05' 527' -do- Maritina River - Ugong Norta, Pasit, 14° 35' 121° 05' 532' -do- Rinal Rival 14° 35' 121° 05' 532' -do-	
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Maritina River - Ugoug Norte, Pasig. 14° 36' 121° 05 532 - do - Ritzal	
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	ł	¢			REGION	N 4	4 - SOUTHERN TAGALOG	
STATION	N BIVERAD OCATIONS		COORDINATES		MAINTAINED			
Ś		ş	LONG.	SQ KM.	ВУ	러신	20051 20	ARKS
17.	Parig River - Napindan, Tagulg, Rizal	14° 32'	121* 05	3,259	-ob-	- do		
18.	Pasig River - Pineda, Pasig, Rizal	14* 33*	121-03	3,121	- qo -	- 99		
19.	Pasig River - Mc Kinley, Matati, Rizal	14" 33"	121- 03	3,307	- ob -	- do -		
8	Pasig River - San Joss, Makni, Rizal	36.31	121-02	3,624	- ob -	AR		oned
21.	Parig River - Besta, Pandacan, Manila	35 .71	121° 00'	332	- ob -	ž		
8	Padg River - Delpen Bridge, Manita	14° 35	120° 58	3,123	- ob -	Å		
ส	Itang-Itang River - Alapan 2nd, Imus,	14° 24'	120° 54	8	-9-	Ä		
	Cavita .							
ж.	Parayaryan River - Palubluban, Gen. Trias,	14• 22	120- 52	ล	9	¥		
	Crvita		,					Γ
ห	Baltahan River - Pulançue, Nair, Cavite	14° 16'	120" 48	ส	- op -	Ę		
26.	Margoodon River - Mabacao, Marogondon	14° 16	120* 44*	260	- 00 -	ş		
	Cevita							
zi.	- Palico River - Bilaran, Nasugbu, Batangas	14° 03'	120° 41'	8 S	-99	- 9		
Ŕ	Molino River - Guinhawa, Tuy, Banngas	14° 01'	120° 43	51	- 90 -	- do -		
ิณ	Dactatiao River - Sampanga, Balayan,	13• Sc	120* 47	\$	- 00-	- 99 -		<u> </u>
	Battungas							<u> </u>
ต์	Pameipit River - Pob., San Nicolas, Bans.	13* 56	120* 56	ž	- qo -	- db -		Γ
31.	Agus River - Panagao, Infenta, Quezon	14° 45	95 -121	879	- qo -	AR		
Ŕ	Maspon River - Maspon, Samp., Quezon	14* 10*	121• 38	8	- do -	ġ		Γ
33.	Dumacen River - Alazm, Tayabas, Quezon	14* 02*	12•1 37	x	- ob -	- - -		
ส์	Ibin River - Ayase, Teyabes, Quezen	10-01	∂ €~•171	2	- 90 -	- qq		
35,	Dumacan River - Lakawan, Tayabas,	14° 03'	121° 327	7	-9-	ž		
	Quezcos							
Ŕ	Hibangan River - Mamala, Sarinya,	14* 02*	121• 30	٢	- qo -	AR		Ι
	Querton							
LEGEND: AR	R AUTO-RECORDING STREAM DAGE STATION	EAM CAG	BSTATION			OT2H	 HISTORICAL STREAM FLOW RECORDS HISTORICAL STREAM FLOW RECORDS 	₿

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Figure III.4.3 Data Availability of Streamflow Station in Region IV (2/4)

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				DRAINAGE	MARKEN		PERIOD OF RECORD	
STATION	RIVERSAOCATIONS					5	960 766 766 766 766 766 766 766 766 766 766 766 766 767	REMARKS
2		LAT.	LONG.	sQKM.	ВΥ		61 61 62 61 63 61 64 61 65 61 661 63 651 651 651 651 651 561 561 561 561 561 561 561 561 561 561 561	
3.	Marros River - Morcos, Sariaya, Quezon	13° 15	121* 33	12	- ob -	- do -		
Ŕ	Sariaya River - Tombaga, Sariaya, Quezon	13* 51'	121- 31	6	- do -	- ob -		
39.	Bulakin River - Bulakin, Tiaong, Quezon	14* 02*	121-21	201	- do -	NR		
ą	Lagnas River - Lagalag, Tiaong, Quezon	13° 57	121° 21'	ज	- do -	AR		
4	Baloga River - Balogo Grande,	12° 35	121• 21	4	- do -	NR		
	San Aguatin Rombioa							
녂	Baftadero River - Malamig, Cabrava, San	12° 36	121- 04	9	- do -	AR		
	Agusting, Romblon							
43.	Dubduban Creek - Dubduban, San Aguatia,	12° 35	122° 06	11	- do -	- op -		
	Rombion							Ţ
4	Bincegaan River - Bincogaan, Sen Aguatin	12° 32'	122* 06	0.83	- do -	NR		
	6 Rombion							
\$	Hunugasan River - San Agustin, Romblon	12° 32°	122° 05	S	- op -	- ob -		T
\$	Lusong River - Lusong, Sen Agustin,	12° 31'	122° 05	4.35	- ob -	- da -		Ī
	Rombion							
43.	Catingus River - Taclobo, San Fernando,	12° 19	122° 34	\$7	- op -	- do -		
	Rombien							
ą	Sta. Maria River - Bagbagm, Sta. Marin,	14 48	120° 57	151	- do -	-do-		
	Bulacan							
49.	Tury River - Thuy Abra de Ilog.	13° 24	122* 42	2	- 9-	-9-		
	Occidental Mindoro							
Ŕ	Mamburio River - Cabaco Abra de llog	13* 19	120* 39	189	- ob -	-9		
	Occidental, Mindoro		•					T
51.	Prepahan River - Talabaan, Mamburao	13 8	120* 42	263	- 90 -	- do -		
	Occidental Mindoro							
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Figure III.4.3 Data Availability of Streamflow Station in Region IV (3/4) REGION 4 - SOUTHERN TAGALOG

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- AUTO-RECORDING STREAM GAGE STATION

RAW DATA, NOT YET EVALUATED

EVALUATED

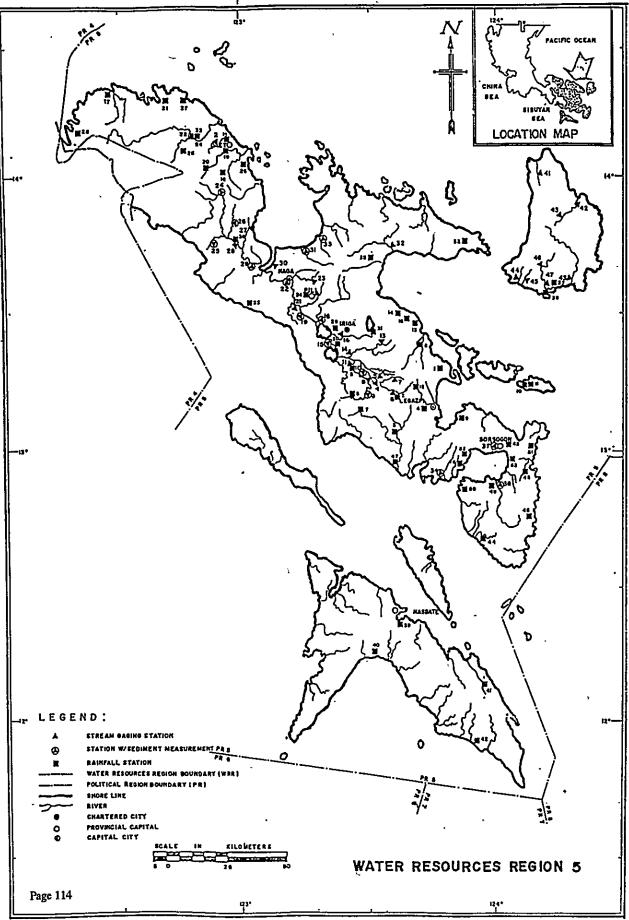
HISTORICAL STREAM FLOW RECORDS

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STATION		COORD	COORDINATES	AREA	MAINTAINED					•		6	ERI	0 0	OF R	ВС	ORD								
Й.	RIVERSAOCATIONS	LAT.	LONG.	SQ.KM.	вҮ	TYPE	8161 2161 9161	1561 0561 6961	1624 1623 1623	<u>2561</u> 9561 5561	0961 6561 8561	1961 2961 2961 1961	996t \$96t	6961 8961 1961	1415 1461 1610	5261 1261 5261	8161 6161 9161	0861 6661	2861 2861 1861	9861 \$861	6861 \$861 	1661 0661	7661 [661 [661	9661	REMARKS
ង	Busuanga River - Batatan, San Jose,	12° 31'	121* 6'	167	. do .	+ op +																	-		
	Occidental Minduro																				E	Ē			
ន់	Caguray River - Onyan, San Jose,	12* 20*	121• 11	136	- op -	- op -							Ŧ												
	Occidential Mindoro															E						E			
ઝં	Bucayao River - Bucayao, Calapan	13° 18'	121* 11'	688	- 00 -	- op									T							-1			
	Occidental Mindero								_	—								_							
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AR AR	AUTO-RECORDING STREAM GAGE STATION	TREAM GAG	BSTATION			# HISTORICAL STREAM FLOW RECORDS	UCALS	TREAM	FLOW	RECOR	8			μ.	EVALUATED	e				NA I	NDM	RAW DATA, NOT YET EVALUATED	тувт	EVAL	QELVY

Figure III.4.3 Data Availability of Streamflow Station in Region IV (4/4) REGION 4 - SOUTHERN TAGALOG

METEO - HYDROLOGIC STATIONS



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Figure III.5.2 Data Availability of Rainfall Station in Region V (1/2) RECION 5- BICOL

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	COORDINATI	COORDINATESALTITUDE MAINTAINED	MINTANED									•	-	0	0	-	8.0	0	0										
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Figure III.5.2 Data Availability of Rainfall Station in Region V (2/2) RECION 5- BICOL

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Figure III.5.3 Data Availability of Streamflow Station in Region V (1/4) REGION 5 - BICOL

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-	Daet River - Alawihao, Daet, Camarines	14° 05	122° 54'	8	TRANSD	Ĕ																Abandoned
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ч	Matogdon River - Matogdon, Labo,	14° 08'	122* 50	38	- qo -	- ob -								_								
	Camarines Norte			•								H										
ń	Talisay River - Cahabaan, Talisay	14* 08*	122° 55	ព	- qo -	AR								-		-	_					Abradoned
	Camarines Norte							E														
4	San Francisco River - Bobongsoran, Ligao,	13° 14'	123° 31'	151	- do -	- op -														_		
	Albay																			- 8		
ŝ	Cabilogun River - Bobongsoran, Ligao,	13° 14'	123* 31'	164	- qa -	AR															_	ŀ
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ও	1)gsong River - Benanuan, Ligao, Albay	13* 14*	123° 35	11	- op -	- op -									-		_					
7,	Nesisi River - Nasisi, Ligao, Albay	SI •EI	123° 35	39	- op -	۲ ۲										F			_	_		
ත්	irraya River - Obaliw, Oas, Albay	13° 15	123° 29	217	- do -	- do -											_					
6	Talisay River - Aliang, Ligao, Albay	13• 11	123° 27	8	- op -	AR																_
10.	Qiinali River - Busac, Oas, Albay	13° 16'	123° 28	232	- op -	NR																
11.	San Agustin River - San Agusting, Libon,	13° 19'	123° 26	262	- do -	AR AR										T					u Tu	
	Albay																					
12.	Agus River - Agus, Pulangui, Albey	13• 20	123° 23	Π	- qo -	-op																Abadoned
13.	Lalio River - Antipolo, Buhi, Camarines	13• 22	123* 32	· 22	- da -	NR										+					<u> </u>	
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14.	Lake Bata - Poblacion, Bato, Camarines	13* 21'	123° 22	57	- ob	- op -			+							1				_		
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15.	Bicol River - Sto. Domingo, Nabua,	13* 24'	123° 19	205	- do -	AR																
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16	Barit River - Sto, Nibo, Iriga, Camarines	13° 24'	123• 24	142	- op -	- do -		l i l														
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AR	AUTO-RECORDING STREAM CAGE STATION	REAM OAG	BSTATION			HISTOR	ICAL ST	REAMF	HISTORICAL STREAM FLOW RECORDS	CORDS				EVALUATED	ê			E	TAD WI	A, NOT	YETEV	RAW DATA, NOT YET EVALUATED

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Figure III.5.3 Data Availability of Streamflow Station in Region V (2/4) REGION 5 - BICOL

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RIVERS/LOCATIONS LATT. LONG. SQ KM. Pawill River - San Vicente, Ocempo, 1*3 123° 21' 117 7 Camariaes Sur LATT. LONG SQ KM. 1 1 Pawill River - San Vicente, Ocempo, 1*3 123° 15' 117 7 1 Camariaes Sur 1*9 1*9 1*9 129° 15' 1,750 1 Biol River - Balawag, Nuevo, Minalabae, 13° 22' 123° 15' 1,750 1 1 Anyan River - San Roque, Fuli, 13° 27' 123° 15' 1,750 1 1 Anyan River - San Roque, Fuli, 13° 37' 123° 15' 1,750 1 1 Anyan River - San Roque, Fuli, 13° 37' 123° 15' 1,750 1 1 Anyan River - San Roque, Fuli, 13° 37' 123° 15' 1,750 1 1 Anyan River - San Roque, Fuli, 13° 37' 123° 15' 1,720 1 1 Anyan River - San Roque, Fuli, 13° 37' 123° 15' 1/72' 1 1					DRAINAGE	MAINTAINED				<u>م</u>	ERIOD	OF RE(CORD					
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Prolit River - San Kenera, Ocumpo, 19 22 12.9 21 113 TANNSD Ann	NO.	RIVERS/LOCATIONS	LAT.	LONG.	SQ KM.	вү	9161 5161	2561 1561 0561 6761 8761	8561 4561 9561 \$561 \$561	2961 2961 1961 0961	9961 4961 9961 \$961	Q <i>L6</i> I	6161 8161 1161 9161 5161	£861 7861 1861 0861	8861 (861 9861 \$861 7861	2661 1661 0661 6861	9661 5661 1661	REMARKS
Constrine Star 13° 22 12° 12°	17.	Pawill River - San Vicente, Ocampo,	13 32	123° 21'	112	TRANSTD	NR											7
Pewill Muer - San Reque, Fluit, Camerinas 19 220 -60- -60- -60- -60 -		Creatines Sur		•		TO NWRC												
Sur Sur <td>18.</td> <td>Pawili River - San Roque, Bula, Camarines</td> <td>13° 22'</td> <td>123° 16</td> <td>240</td> <td>- op -</td> <td>- op -</td> <td></td>	18.	Pawili River - San Roque, Bula, Camarines	13° 22'	123° 16	240	- op -	- op -											
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Yabo River - San iddin, Naga City, 13° 37 123° 16 20 -do- AR I <thi< th=""> I <thi< th=""> I <thi< td=""><td>8</td><td>Bicol River - Mabolo, Nega City</td><td>13° 37</td><td>123°, 10</td><td>066'1</td><td>- ob -</td><td>AR</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></thi<></thi<></thi<>	8	Bicol River - Mabolo, Nega City	13° 37	123°, 10	066'1	- ob -	AR											
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Cutateling River-Del Roserio, Lipit, 13° 46' 122° 47' 64 -do- -do- <t< td=""><td></td><td>Cemarines Sur</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>		Cemarines Sur																
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Yaho River-Yalo, Spoce, Camarinea 13° 45' 122° 56' 85' -d>- MR 1	ľ	Cemerines Sur								+			_			_		
Surr Surr	ส่	Yaba River - Yabo, Sipocot, Camarines	13° 48'	122° 56	8	- də -	NR							_				
Sippocal River - Sthung, Sippocat, . 13° 457 122° 59 447 -do -do -do- -do -do <td></td> <td>Sur</td> <td></td> <td>•</td> <td></td>		Sur		•														
Сататфа Sur 13° 40° 123° 00° 12 -do- -do- 1	. 21.	Sipocot River - Sabang, Sipocot, -	13° 48°	122° 59	447	- do -	- do -			-								
Atlong, River - Sam Isldary, Libramana, 13° 40' 123° 60' 12 -do -do <td></td> <td>Camarindes Sur</td> <td></td> <td>╞╼┤ ╎┲╎</td> <td></td> <td></td> <td></td> <td></td> <td></td>		Camarindes Sur											╞╼┤ ╎┲╎					
Constricte sur 13° 41' 123° 03 596 -do- AR AR </td <td>ส่</td> <td>Astong River - San Isidro, Libmanan,</td> <td>13* 40*</td> <td>123° 00'</td> <td>12</td> <td>- op -</td> <td>- do -</td> <td></td>	ส่	Astong River - San Isidro, Libmanan,	13* 40*	123° 00'	12	- op -	- do -											
Libmanna River - Planza, Libmanna, 13° 41' 123° 03 536 - do- AR A A A A A A A A A A A A A A A A A A		Cemerines sur																
Currentiate Sur Librariane Sur 13° 40° 123° 05° 2,717 - do - NR 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.	39.	Liberane River - Planza, Liberanae,	13° 41'	123° 03	596	- op -	AR											
Bkol River - Cuyapi, Libmanan, 13° 40' 123° 05 2,717 - do - NR 		Camarines Sur			•	1												
	ю.	Bicol River - Cuyapi, Libmanan,	13* 40	123° 05	2,717	- do -	ЪЯ	•										
		Comarines Sur															_	

HISTORICAL STREAM FLOW RECORDS

- AUTO-RECORDENG STREAM GAGE STATION

Figure III.5.3 Data Availability of Streamflow Station in Region V (3/4) REGION 5 - BICOL

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STATION	2	COORDINATES		DRADNAGE	MAINTAINED						-	PERL	0 0	OF R B	COR	â		•					
Ś	RIVERS/LOCATIONS	, LAF.	TONG.		BY	TYPE	8161 	1625 1621 1620 1646	9561 5561 9561 6561	6561 9561 _{561	<u>£961</u> <u>2961</u> <u>1961</u> 0961	9961 5961 1961	0(61 6961 \$961 4961	<u> </u>	9651 9661 9661	64.61 84.61 44.61	7861 1861 0861	9861 9861 9861 6861	\$861 (861 9861	1661 0661 6861	1661 5661 7661	22 9661 5661	REMARKS
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	Culabanga, Camarines Sur				TO NWRC		E				E												
셔	Lagonoy River - Caprycay, Cos,	13• 44	123° 31'	45.0	- 49-	Ĕ	E																
•	Cemerines Sur																						
ต่	Tigmen River - Cabenbanan, Calabenga,	13* 45	122° 15	*	- op	AR																	
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ಸ	Comadead River - Comadead, Castilla,	12° 58	123° 46	51	-9-	NR		,														_	
	Serojan																			_			
ล่	Mallog River - Cumadcad, Castilla,	12° 58	12.47	8	- ob -	- ob -	E	E														<	Abendoned
	Sartopan																					<u> </u>	Abudoped
35	Pili River - San Isidro, Castil'a, Somogon	12° 58	123° 51°	18.00	- op -	- op -	Ε																
31.	Cawayan Riwar - Basad, Sorsogon,	12° 59'	123° 57	21	• op •	•op•																	
	Saropa															,							
38	Namust River - Sta, Cruz, Cariguran,	12° 53'	124° 02	10.00	- q9 -	- ob -																	
	Satogoa																	·					
39.	San Francisco River - Hamorawon, Bulan,	.17 -21	iz3° 59	8	- do -	- op -																v	Abendoned
	Sarogon						E	Ē							╞			E					
%	San Ramon River - San Ramon, Bulan,	12° 40'	123* 55	\$;	- do -	- do -													-			v	Abandoned
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41.	Mambang River - Bugtong, Pandan,	.10	124* 09	+	- 00 -	- op -																-	
	Cataciumes													E									
역	Pryo River - Poblacion, Panganiban	13° St	124° 17	29	- do -	- ob -																	
ÿ	000 River - 000, Vigs, Catendanes	13° 51'	124-16	5	- ob -	NR							-										
ŧ	Alibuag River - Alibuag, Caloboo,	13° 36'	128* 0.9	п	- 00 -	- op -									E								
	Crawfumes																						
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MINIMUM HISTORICAL STREAM FLOW RECORDS

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RAW DATA, NOT YET EVALUATED

Figure III.5.3 Data Availability of Streamflow Station in Region V (4/4) REGION 5 - BICOL

																						[
CTATON	<u> </u>		CORDINATES	DRADVAGE	MAINTAINED						PBR	0 0 I	OF R	BCO	2							
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4	Priorok River - Timbaan, Calolbon,	13° 36'	124* 06	10	TRANSD	- op -	Η·												_			
	Cerneturow				TO NWRC	_											-					
\$	Cewayaa River - Hicming, Virac,	13° 35	124* 11'	13	- op -	- op -																Abendoood
	Catadutors												_									
Ċ	Sibenuan River - San Vicente, Virac	13• 35	124 14	4	- do -	- op -									┼╼┥ ┤┲┥					-		
	Catabduardes														_							
8	Libjo Creck - Libjo, Bato, Canaduanes	13• 57	124° 18	4	-9-	- op -									_	_					_	
49.	Batougan River - Cabian, Mandaon,		124° 20	2	- 00 -	- op -											1				Aber	Abendoned
	Mesbete																_		_			
ର୍ଷ	Sagaw-sawan River - Umahay, Mobo,	12° 21'	123° 37	80	- op -	- op -		-	• •												Abe	Abandoned
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51	Pinangapugan River - Pinangapugan,	12° 11'	123* 47	43	- do -	- do -												-			Abu	Abundoned
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