

Table 6-1 LIST OF GROUNDWATER OBSERVATION STATIONS
IN THE STUDY AREA

Regional No.	Station	Remarks
1	Mae Taeng Project	×
	Mae Fage - Mae Nguad Project	○
	Mae Kuang Project	○
	Mae Ping Project	×
	Mae Taeng Research Station	×
2	Mae Wang Project	×
3	Phitsanulok Research Staion	×
7	Bolomatad Project	×
	Channasvit Project	○
	" " (Interception Drain)	○
	Yang Manee Project	○
	Phak Hai Project	×
	Phonla Thep Project	○
	Thabote Project	○
	Samchook Project	○
	" " (Interception Drain)	○
	Don Chea Dee Project	○
	Phoa Phaya Project	○
	Chow Ched Bang Yi Hon	○
Sam Chook Research Station	×	
8	Manorom Project	×
	Chong Kae Project	○
	" " (Interception Drain)	○
	Kok Kiha Tiem Project	×
	Roeng Rang Project	×
	Nakorn Luang Project	×
Maharaj Project	×	
10	Phet Cha Buri Project	○
	" " (Interception Drain)	○
	Pran Buri Project	×
	Phet Cha Buri Research Staion	○
	Mae Klong Research Station	×
	Kam Phang Sean Project (Existing Phoa Phaya Project)	×

Remarks --- ○ : Observation On-going as of 1986
× : Observation terminated as of 1986

ANNUAL RAINFALL (Ave. of 1951-80)

ANNUAL TEMPERATURE (Ave. of 1951-80)

ANNUAL RELATIVE HUMIDITY (Ave of 1951-85)

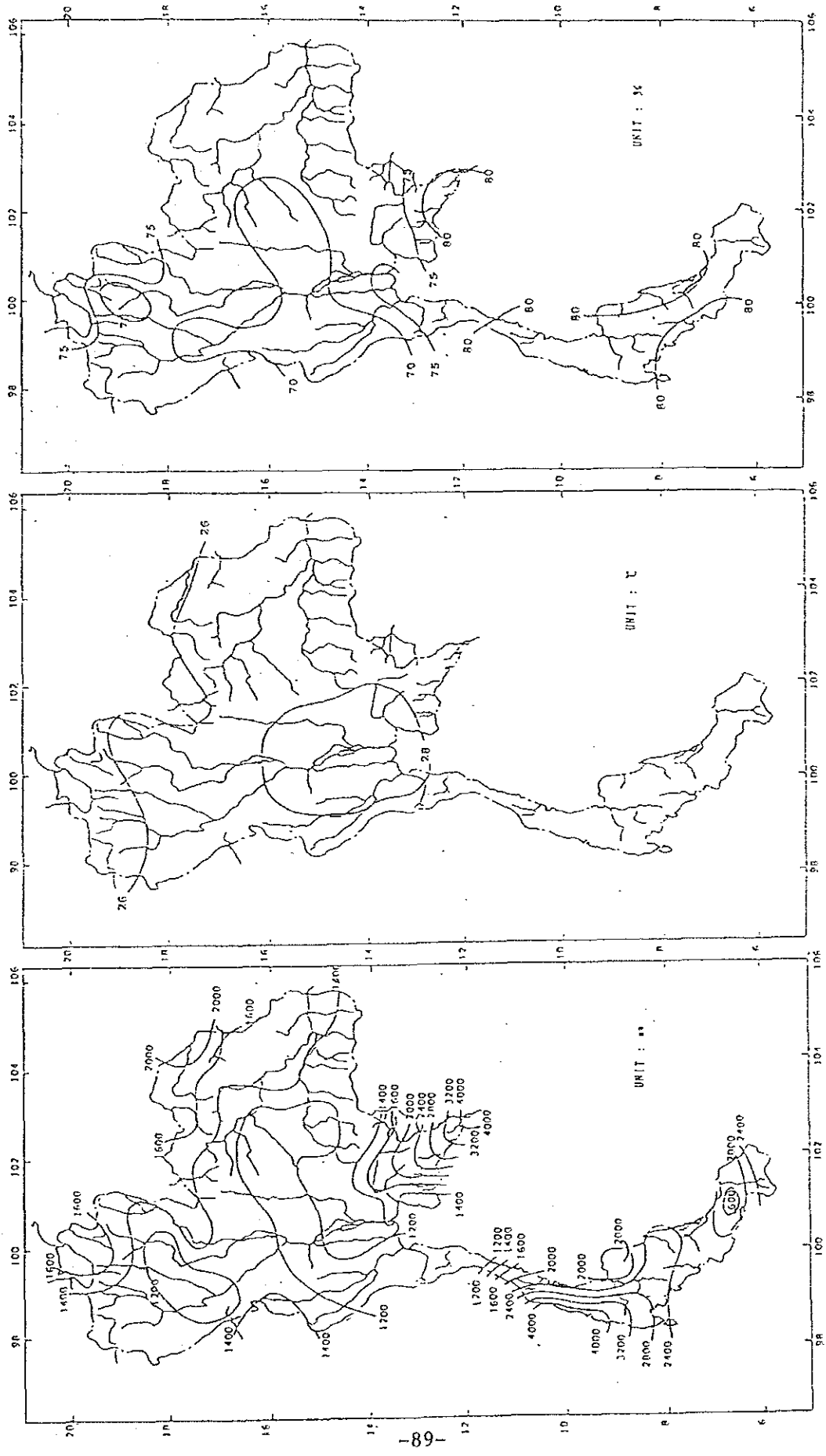
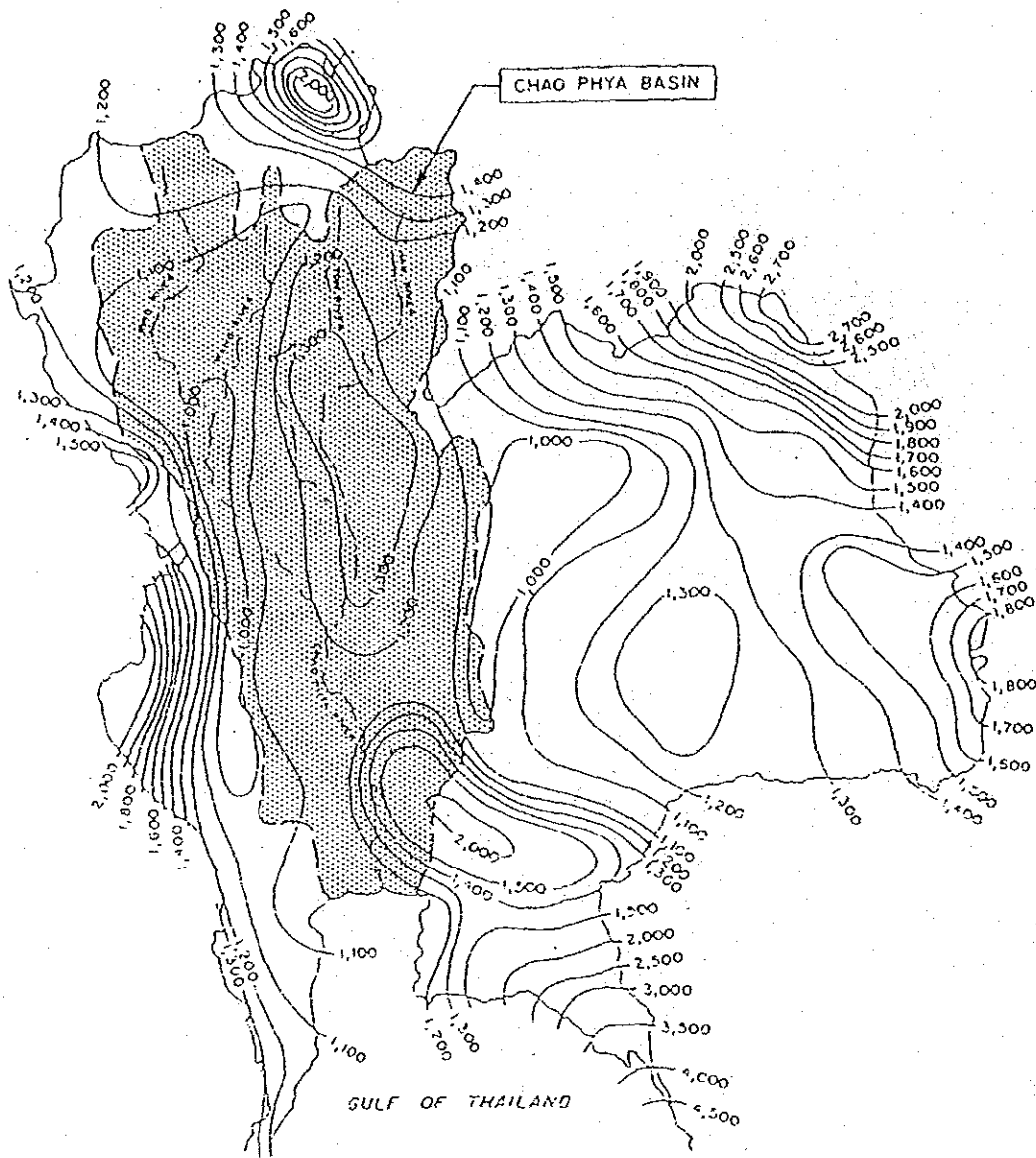


Figure 1-1 METEOROLOGY IN THAILAND



LEGEND :

- WATERSHED BOUNDARY
- 1,200— ISOHYETALS IN MILLIMETRES

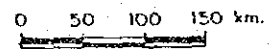


Figure 1-2 ISOHYETAL MAP OF THAILAND

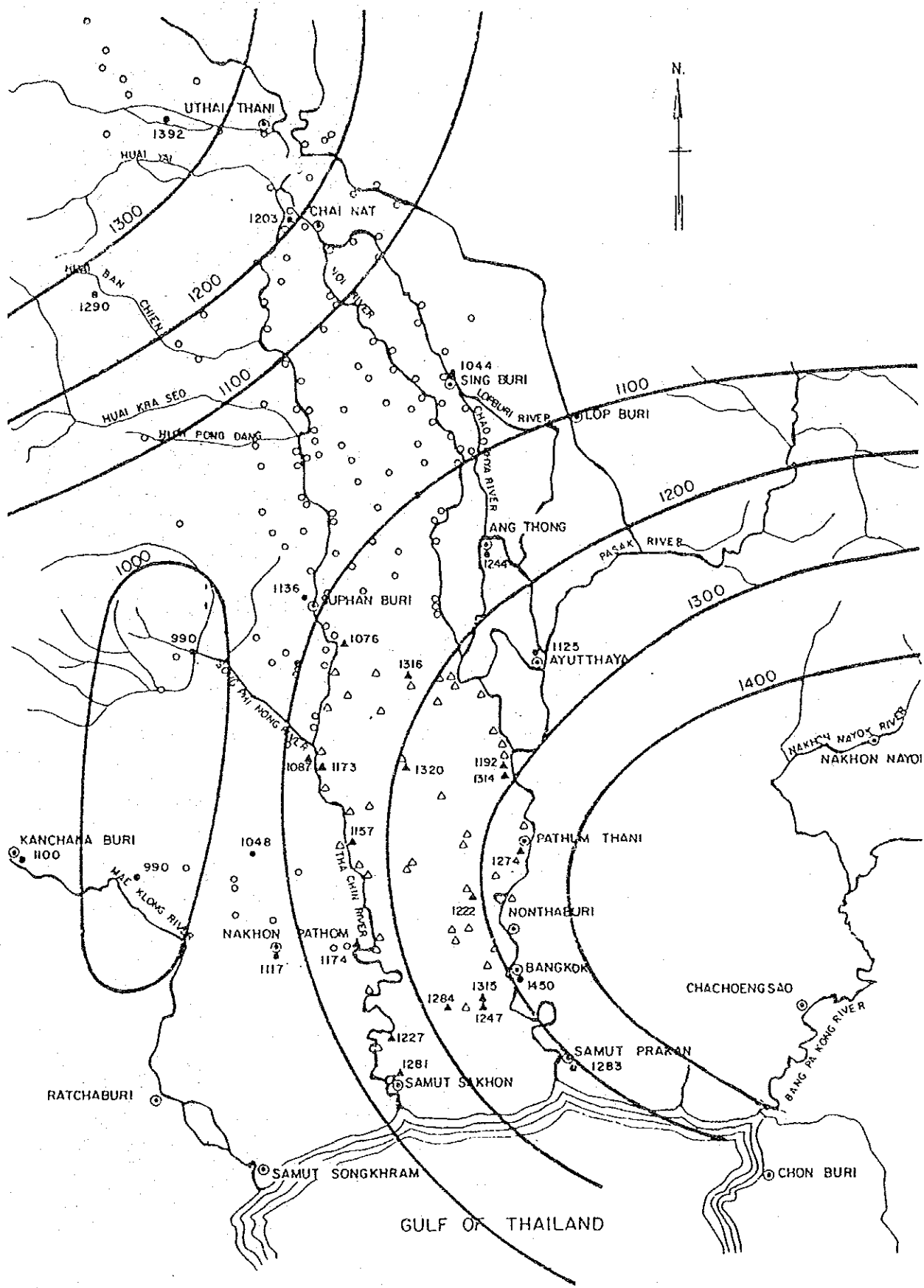
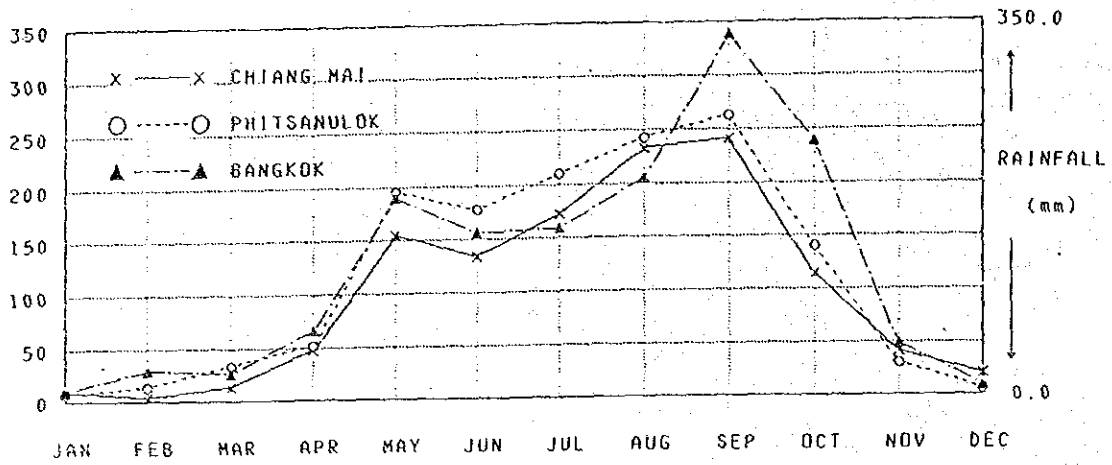
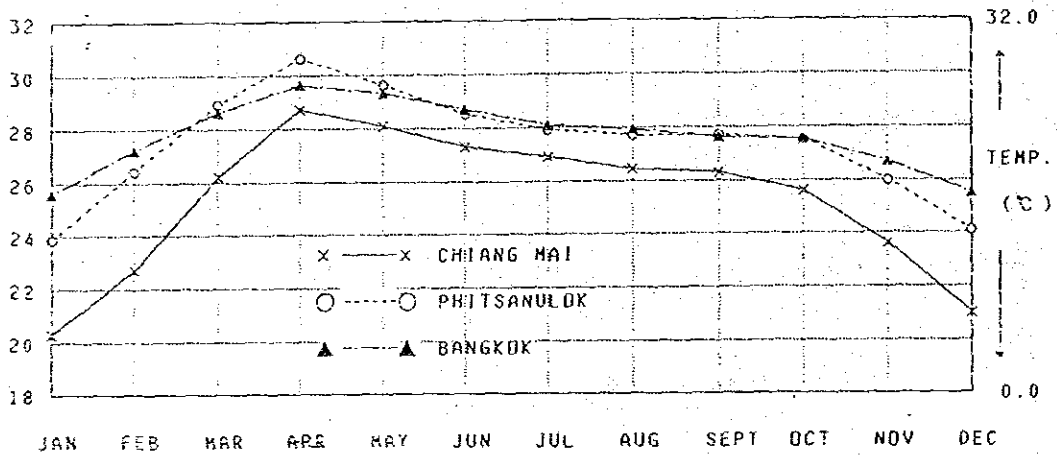


Figure 1-3 ISOHYETAL MAP OF CHAO PHRAYA DELTA

RAINFALL (AVERAGE OF 30 YEAR PERIOD : 1956-1985)



TEMPERATURE (AVERAGE OF 30 YEAR PERIOD : 1956-1985)



RELATIVE HUMIDITY (AVERAGE OF 30 YEAR PERIOD : 1956-1985)

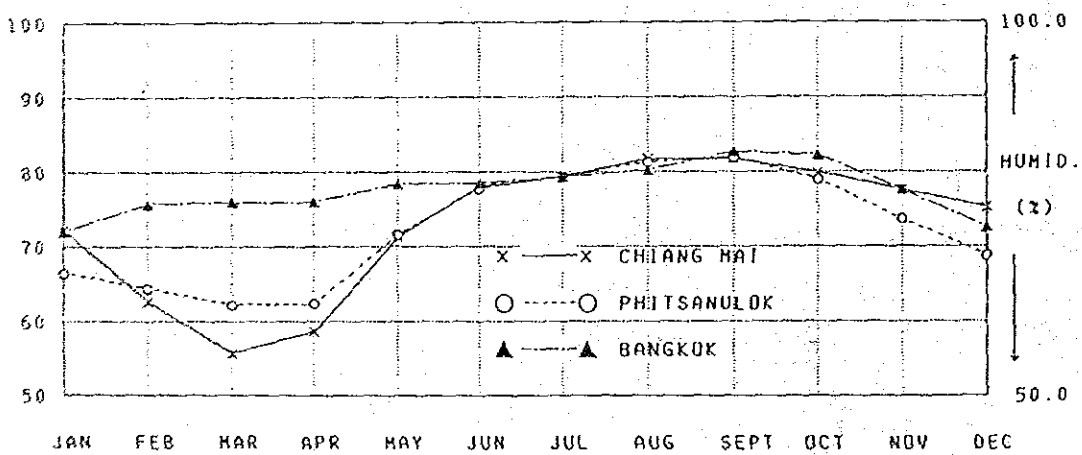
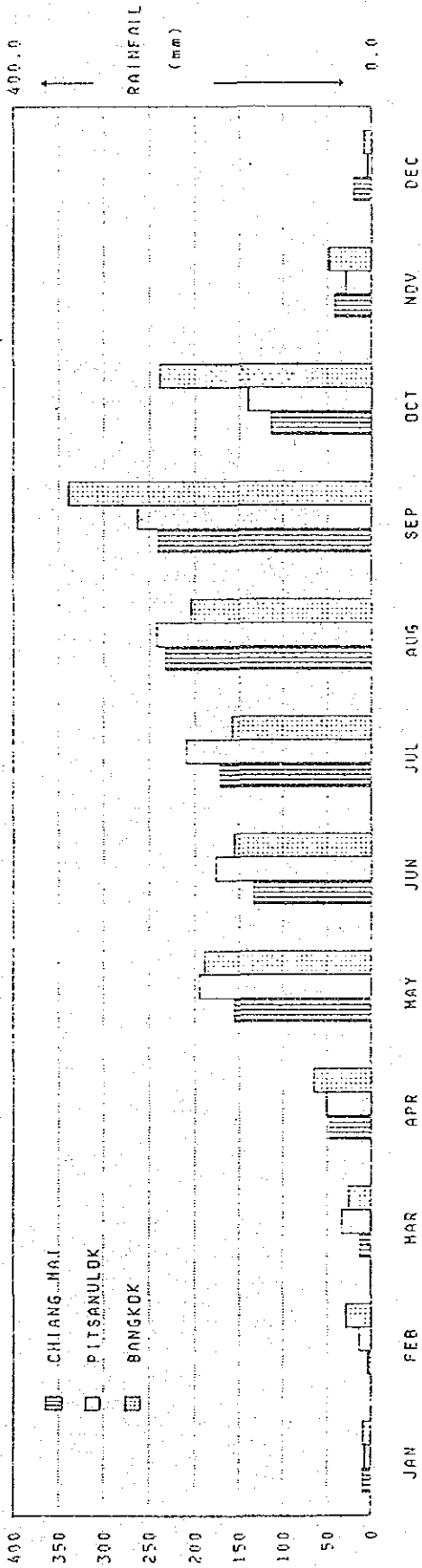


Figure 1-4 METEOROLOGY AT CHIANG MAI, PHITSANULOK AND BANGKOK

RAINFALL (AVERAGE OF 30 YEAR PERIOD : 1956-1985)



FLUCTUATION OF YEARLY RAINFALL, 30-YEAR PERIOD (1956-1985)

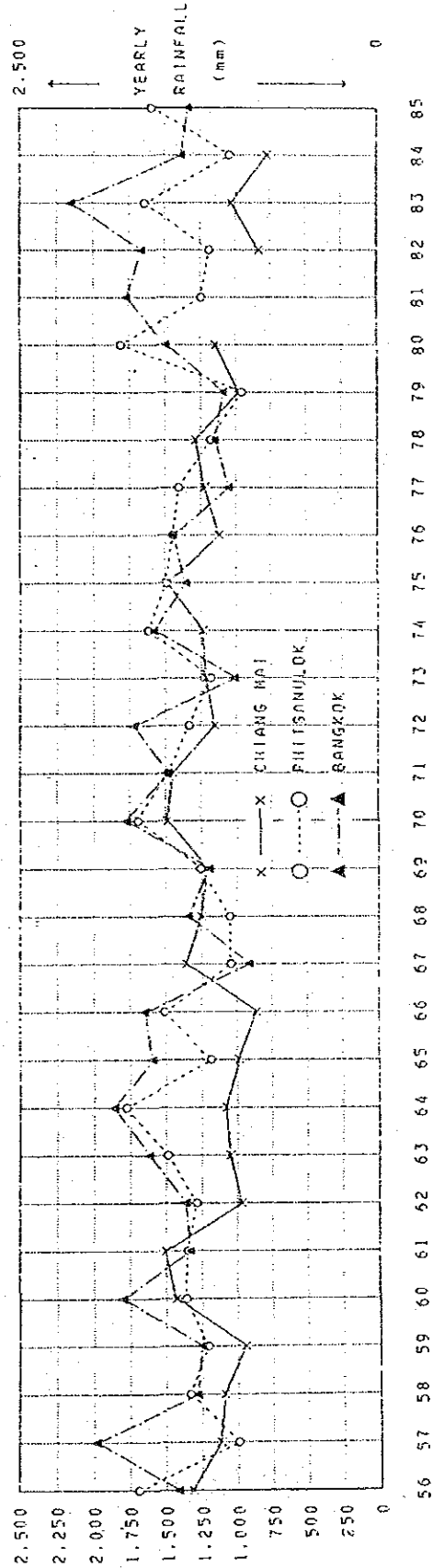


Figure 1-5 MONTHLY AND YEARLY RAINFALL DATA AT CHIANG MAI, PHITSANULOK AND BANGKOK (1956 - 1985)

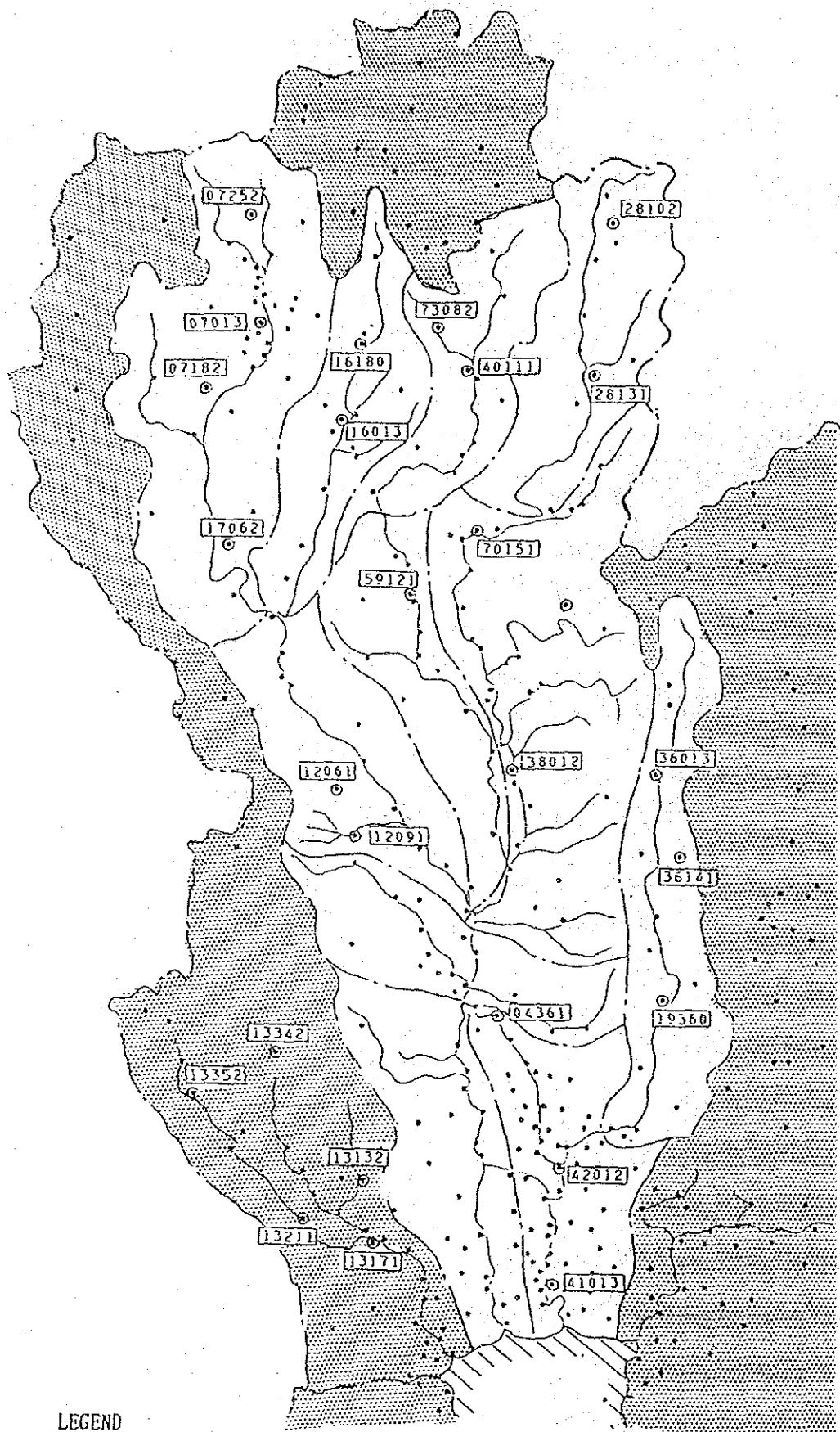
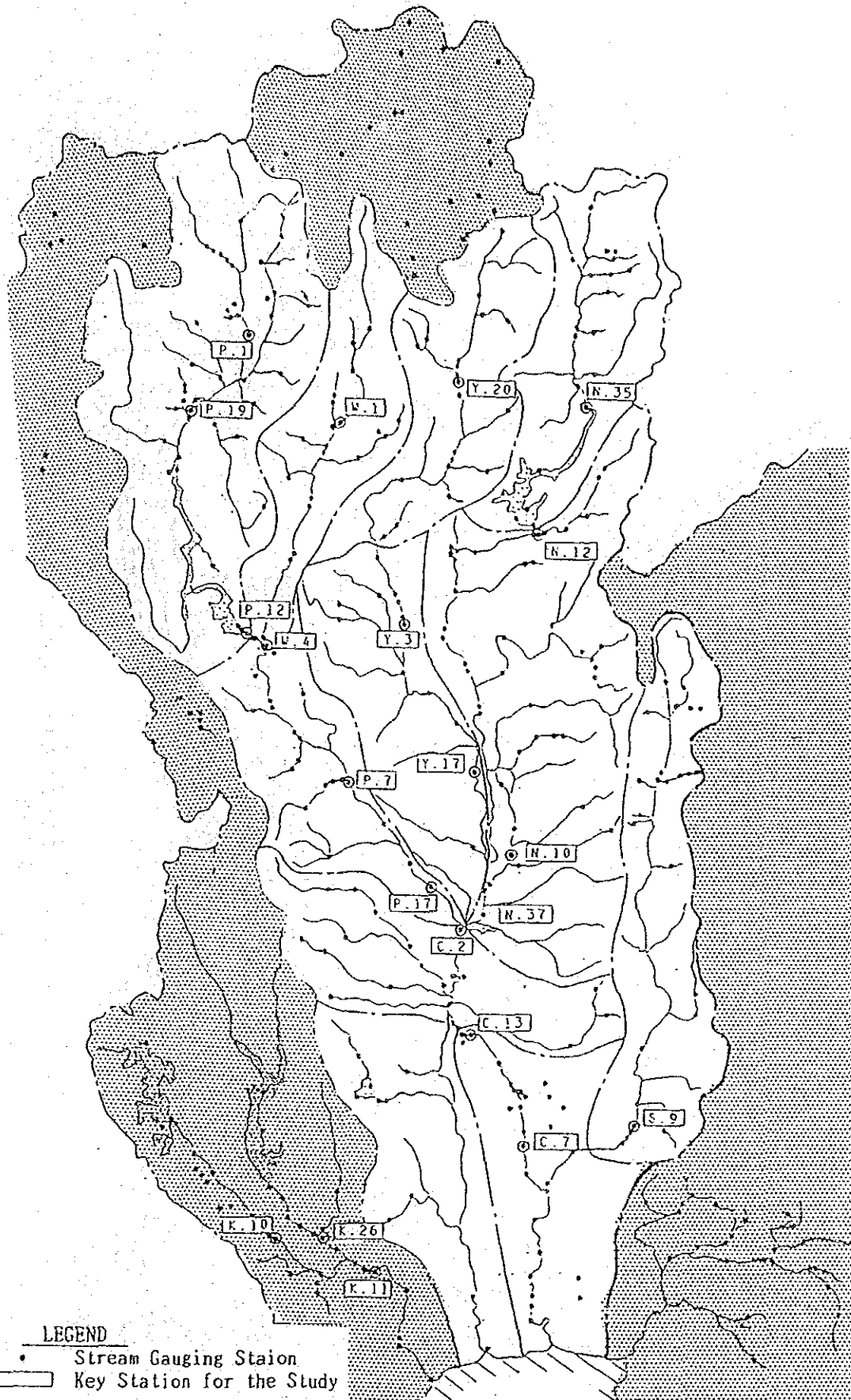


Figure 2-1 LOCATION MAP OF KEY RAINFALL STATIONS



LEGEND

- Stream Gauging Station
- ▭ Key Station for the Study

Figure 2-2 LOCATION MAP OF STREAM GAUGING STATIONS

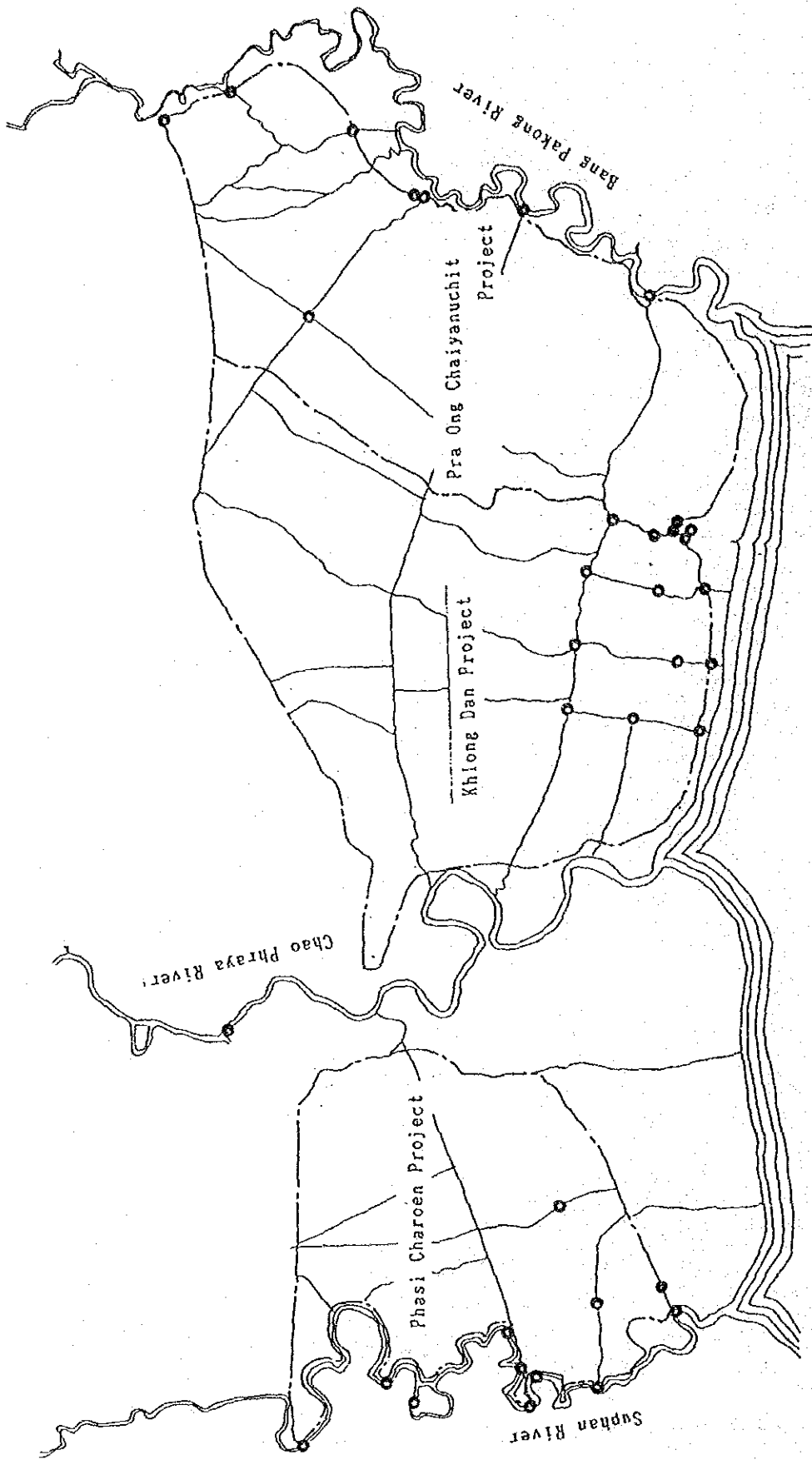


Figure 2-3 LOCATION MAP OF SALINITY MEASUREMENT SITES IN LOWER DELTA

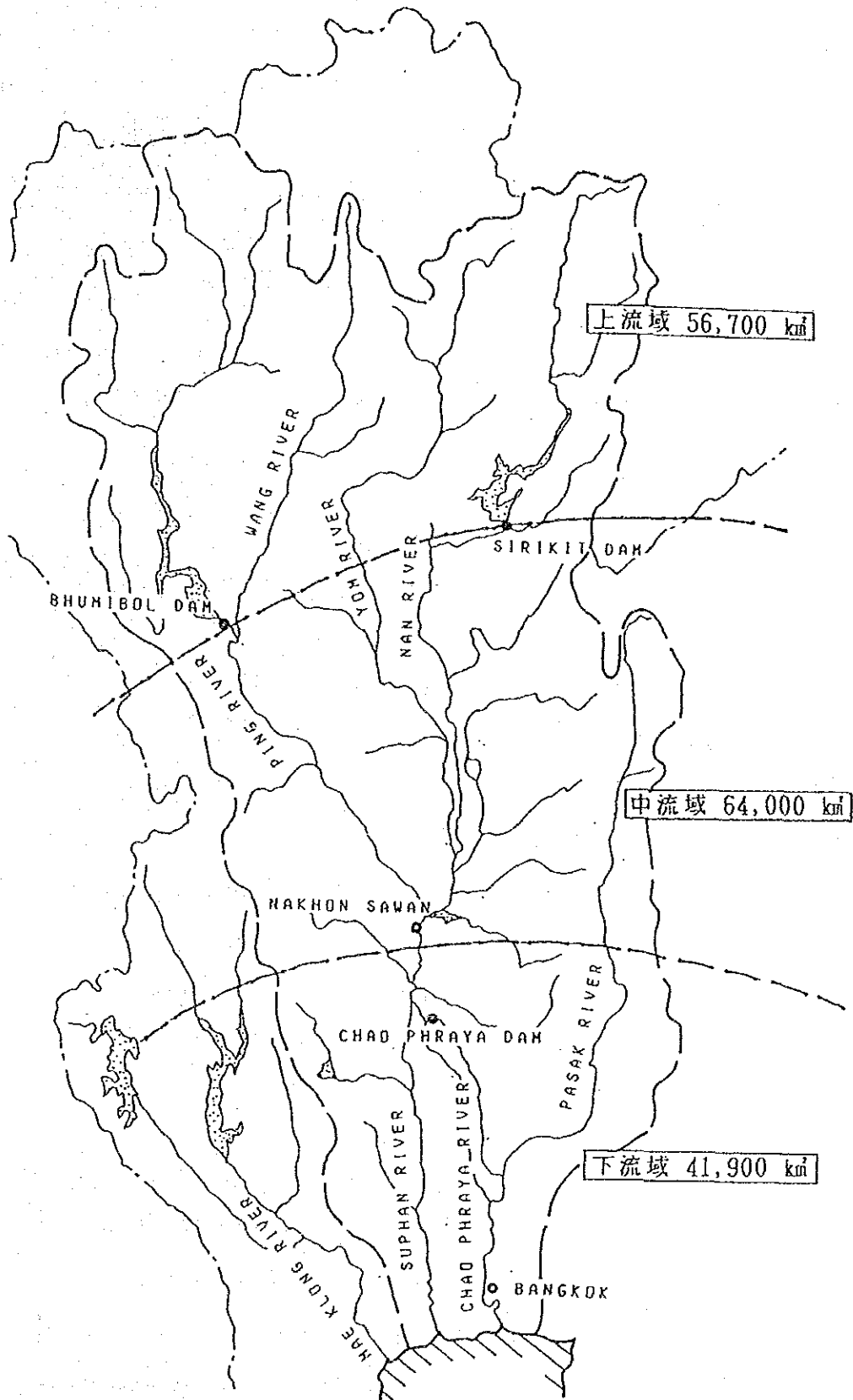


Figure 2-4 LOCATION MAP OF CHAO PHRAYA RIVER BASIN

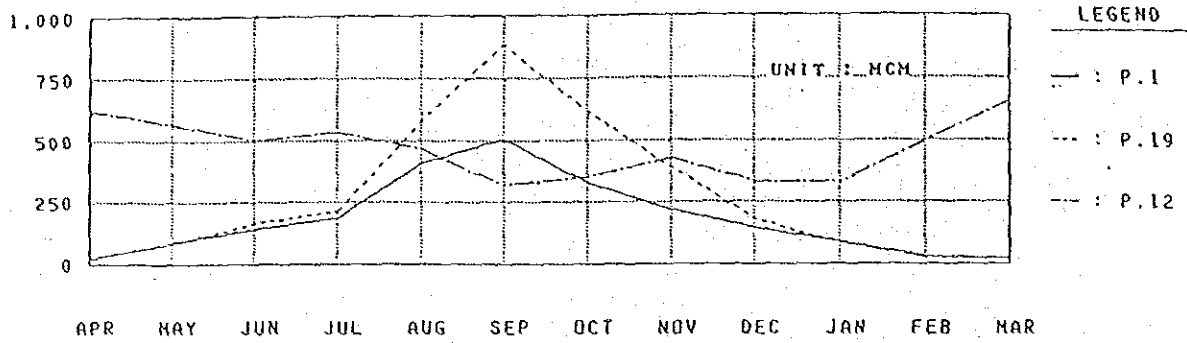


Figure 2-5 HYDROGRAPH AT P.1, P.19 AND P.12 IN PING RIVER

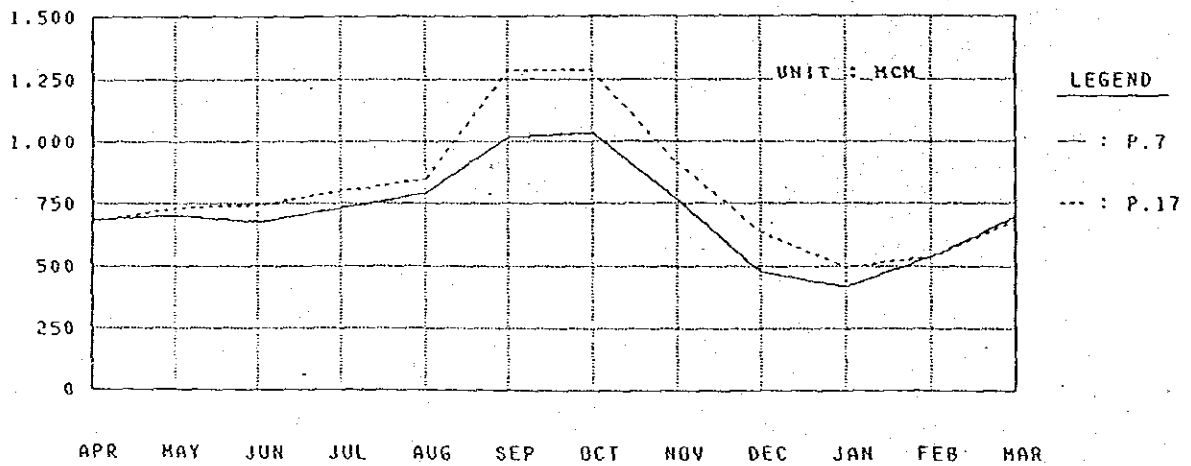


Figure 2-6 HYDROGRAPH AT P.7 AND P.17 IN PING RIVER

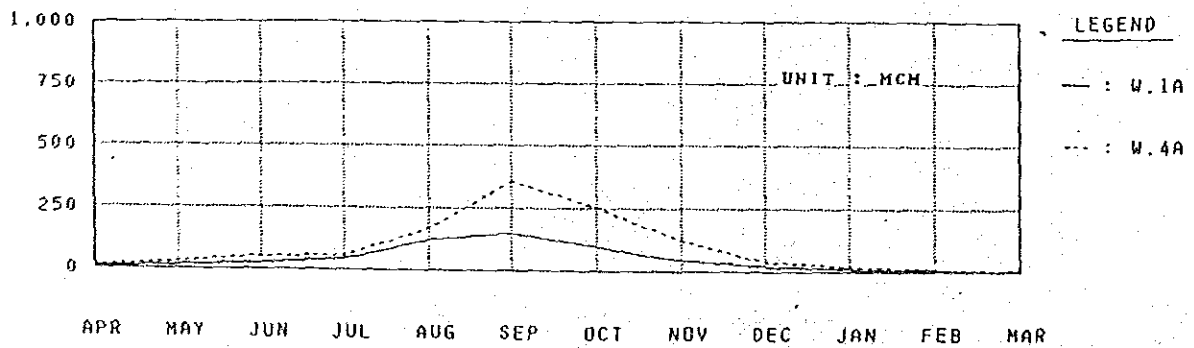


Figure 2-7 HYDROGRAPH AT W.1 AND W.4 IN WANG RIVER

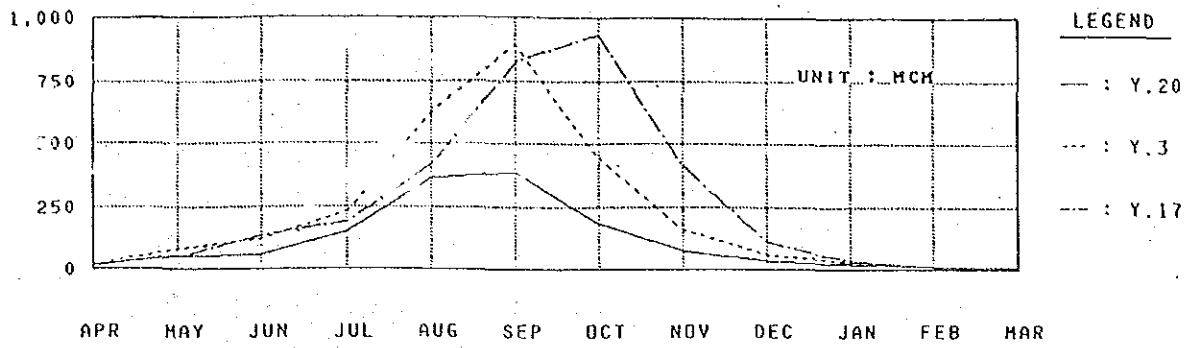


Figure 2-8 HYDROGRAPH AT Y.20, Y.3 AND Y.17 IN YOM RIVER

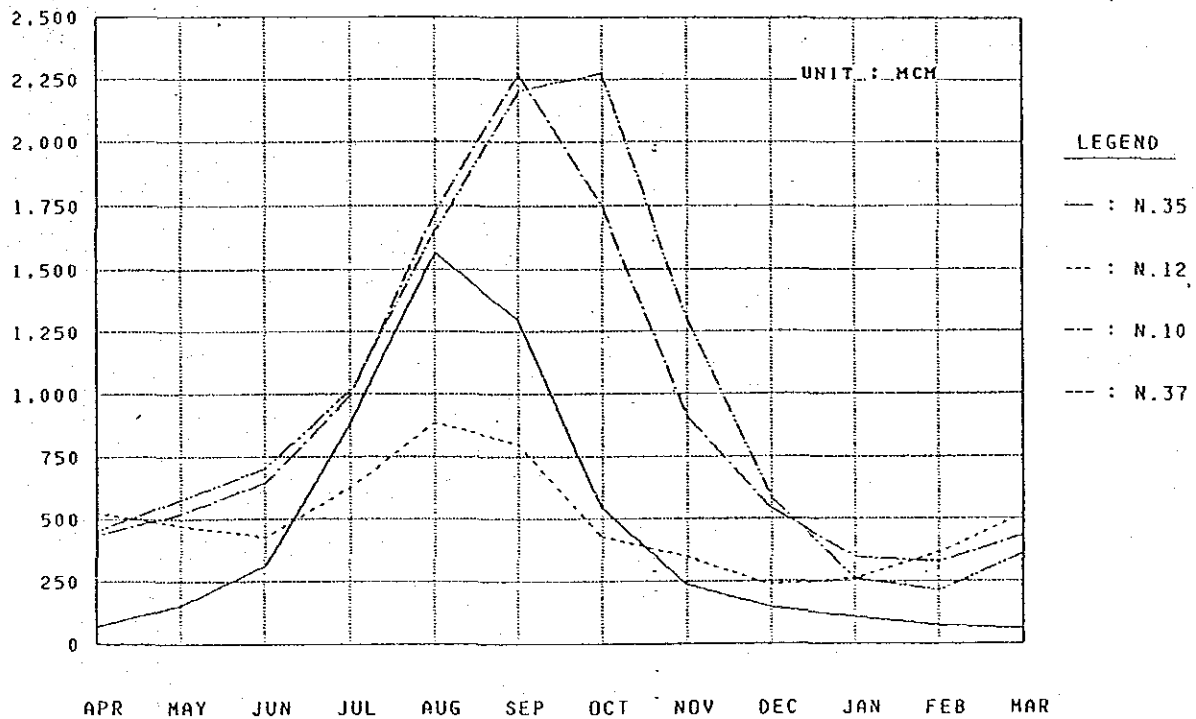


Figure 2-9 HYDROGRAPH AT N.35, N.12, N.10 AND N.37 IN NAN RIVER

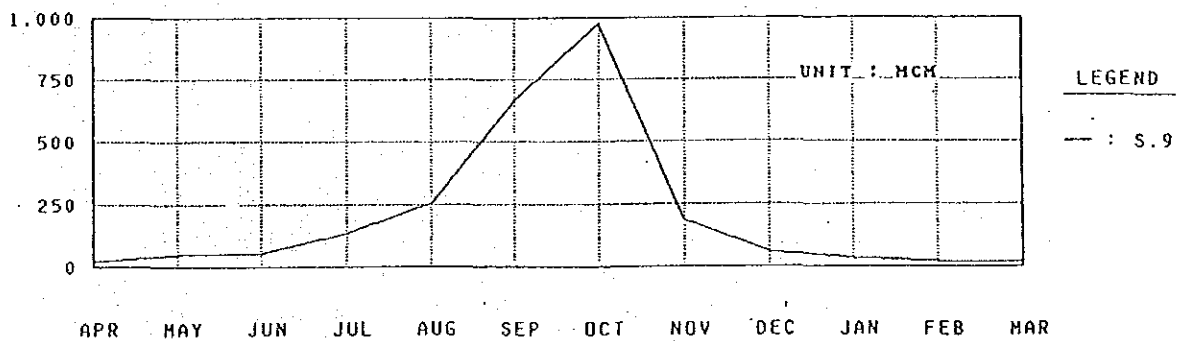


Figure 2-10 HYDROGRAPH AT S.9 IN PASAK RIVER

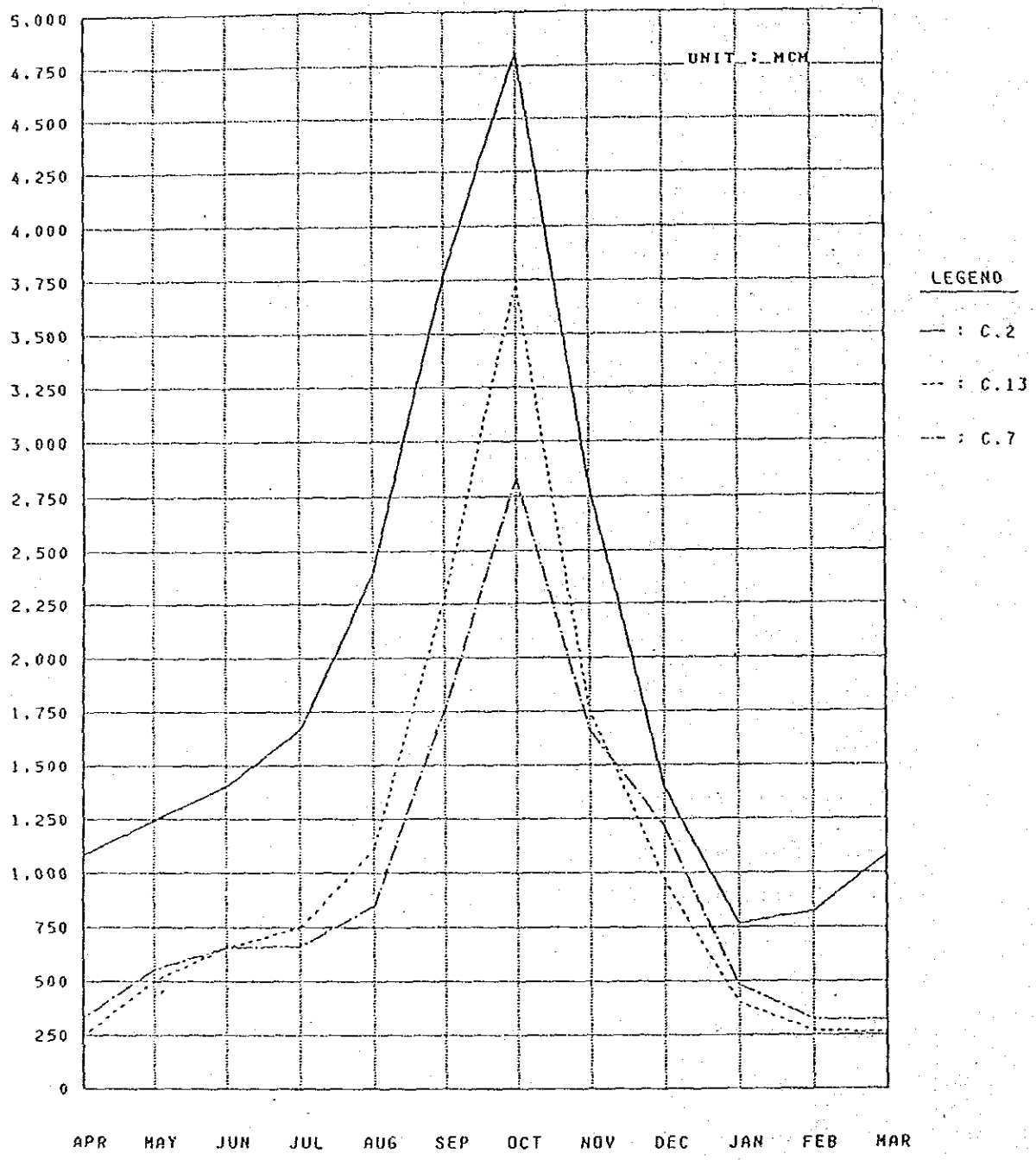


Figure 2-11 HYDROGRAPH AT C2, C13 & C7 IN CHAO PHRAYA RIVER

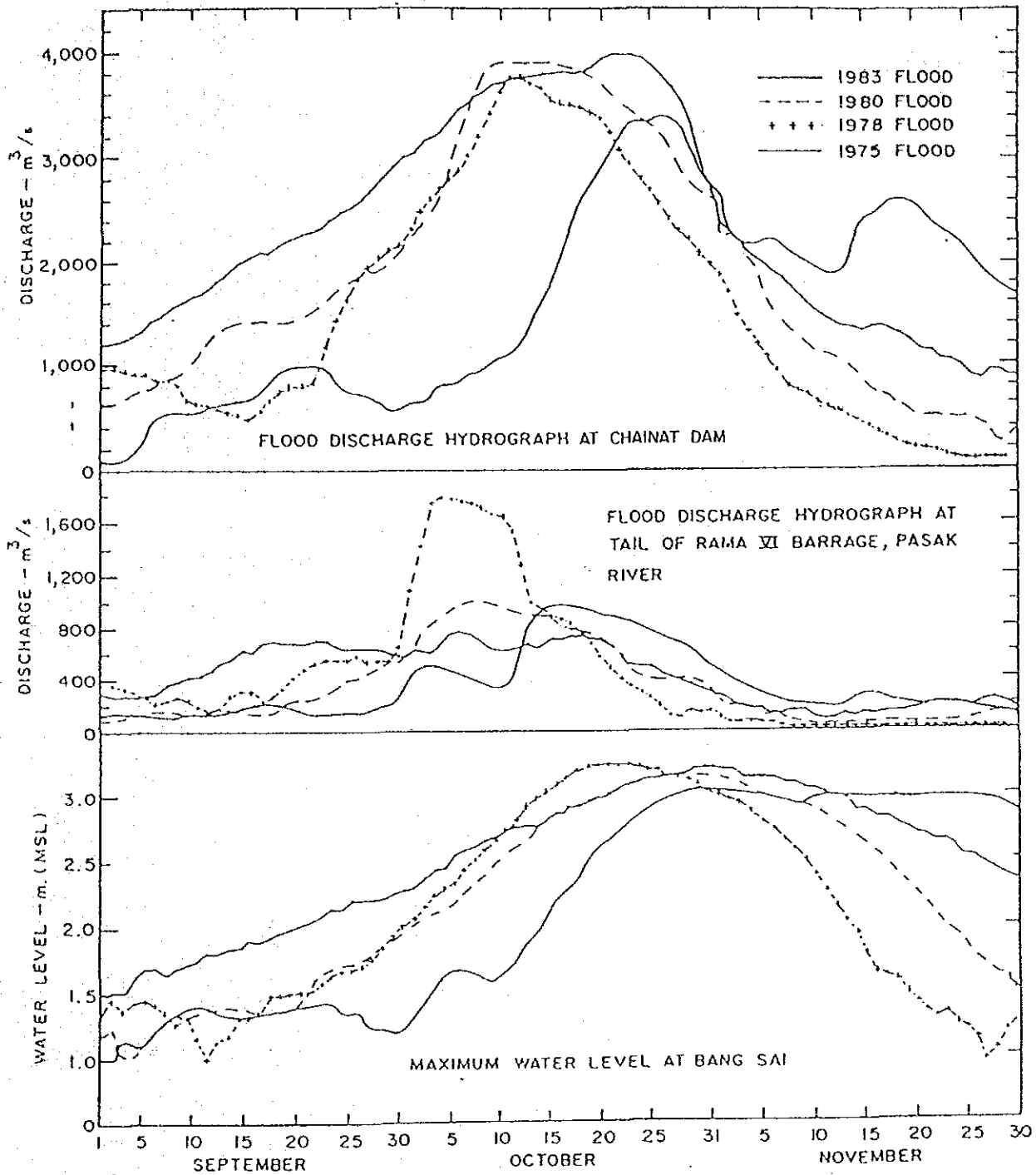


Figure 2-12 RECENT FLOOD HYDROGRAPH IN CHAO PHRAYA RIVER

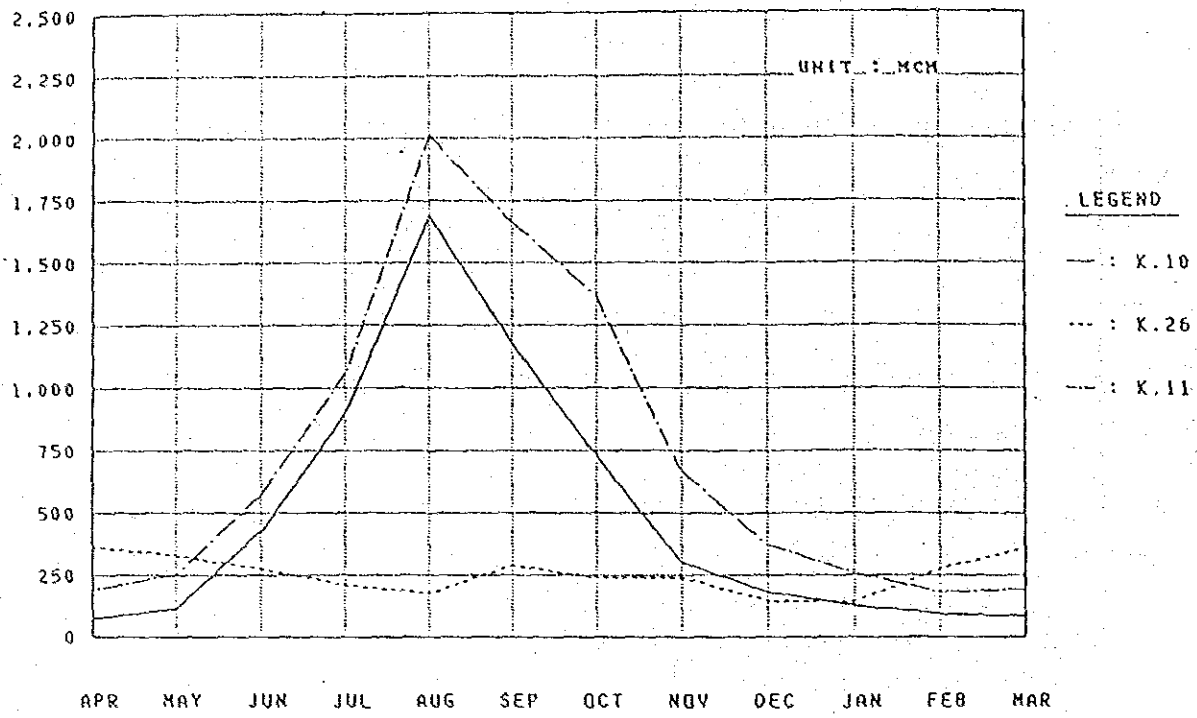
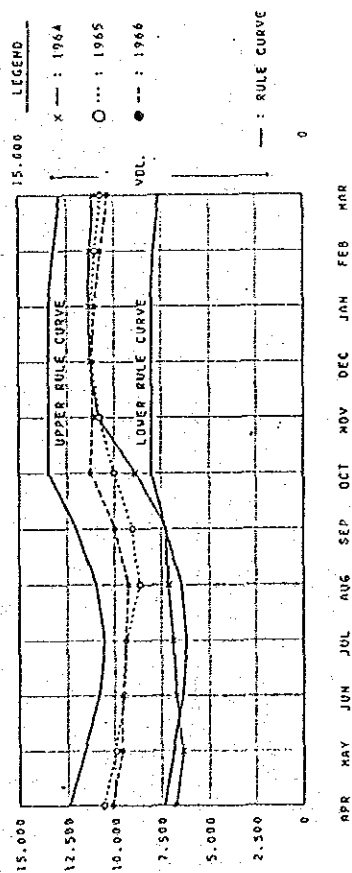
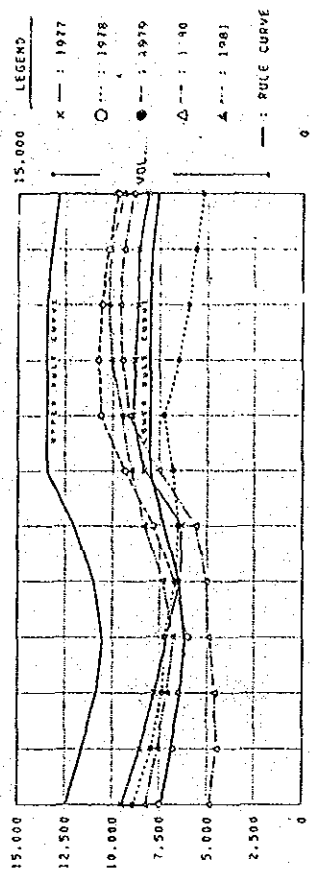


Figure 2-13 HYDROGRAPH AT K.10, K.26 & K.11 IN MAE KLONG RIVER

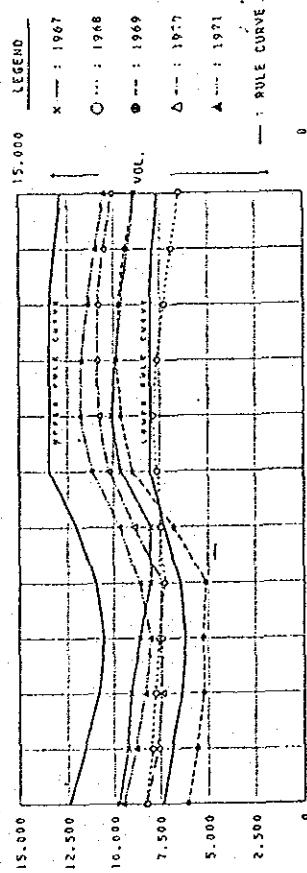
FLUCTUATION OF BHUMPHOL DAM STORAGE VOLUME (1964 - 1966)



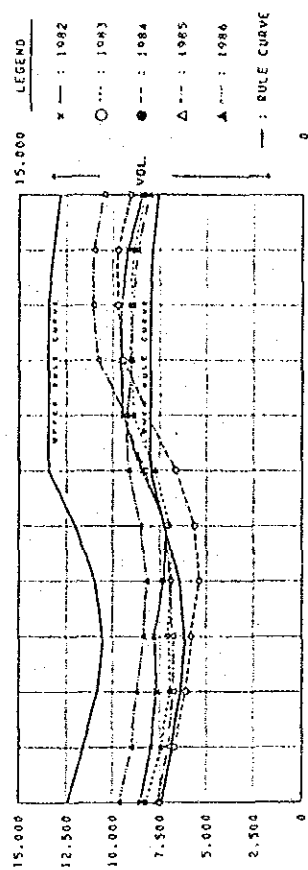
FLUCTUATION OF BHUMPHOL DAM STORAGE VOLUME (1977 - 1981)



FLUCTUATION OF BHUMPHOL DAM STORAGE VOLUME (1967 - 1971)



FLUCTUATION OF BHUMPHOL DAM STORAGE VOLUME (1982 - 1986)



FLUCTUATION OF BHUMPHOL DAM STORAGE VOLUME (1972 - 1976)

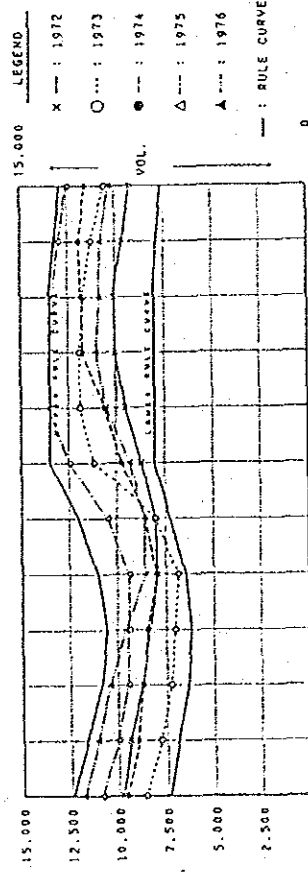
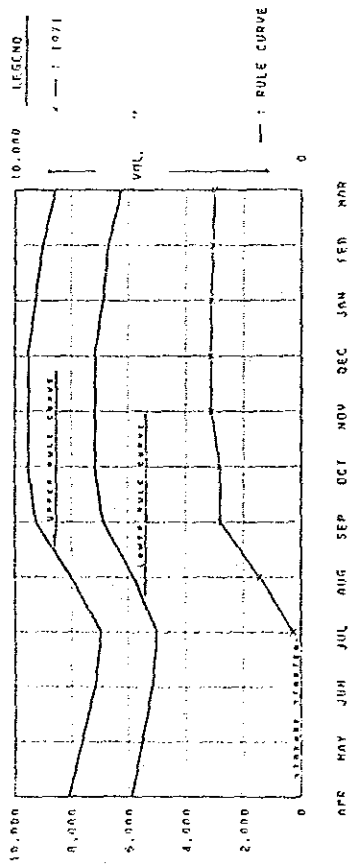
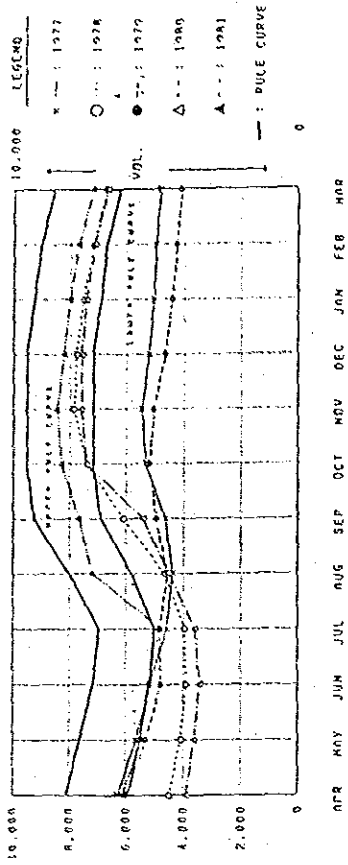


Figure 2-14 (1) FLUCTUATION OF BHUMIBOL DAM STORAGE VOLUME

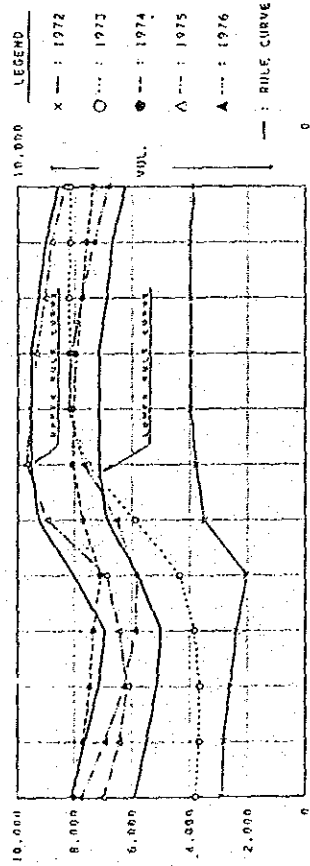
FLUCTUATION OF SIRIKIT DAM STORAGE VOLUME (1971)



FLUCTUATION OF SIRIKIT DAM STORAGE VOLUME (1977 - 1981)



FLUCTUATION OF SIRIKIT DAM STORAGE VOLUME (1972 - 1976)



FLUCTUATION OF SIRIKIT DAM STORAGE VOLUME (1982 - 1986)

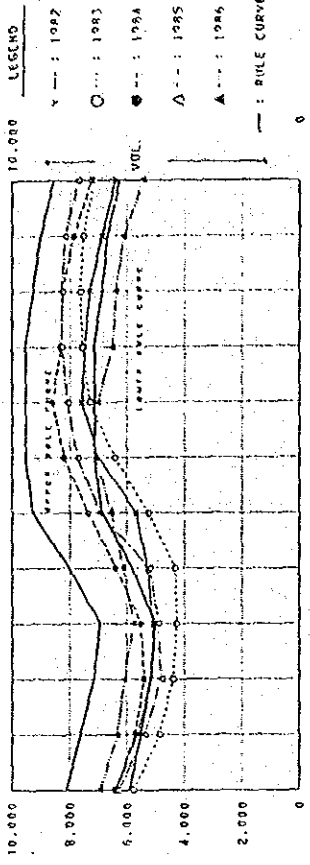
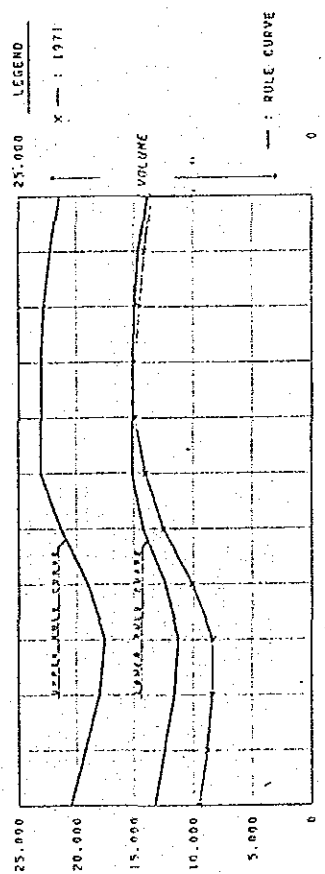
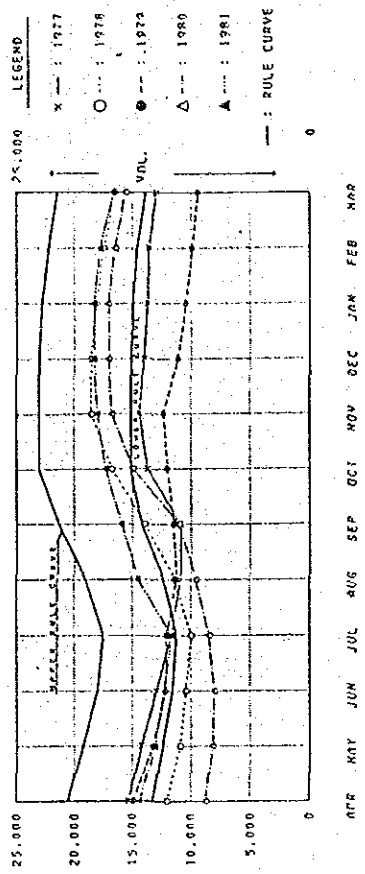


Figure 2-14 (2) FLUCTUATION OF SIRIKIT DAM STORAGE VOLUME

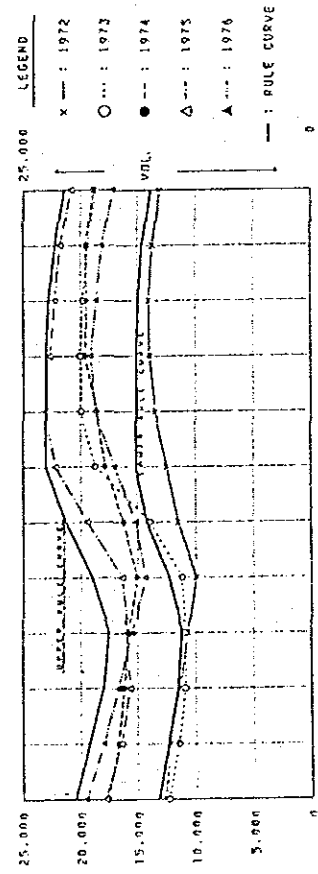
FLUCTUATION OF BHUMIPHOL AND SIRIKIT DAMS' STORAGE VOLUME (1971)



FLUCTUATION OF BHUMIPHOL AND SIRIKIT DAMS' STORAGE VOLUME (1977 - 1981)



FLUCTUATION OF BHUMIPHOL AND SIRIKIT DAMS' STORAGE VOLUME (1972 - 1976)



FLUCTUATION OF BHUMIPHOL AND SIRIKIT DAMS' STORAGE VOLUME (1982 - 1986)

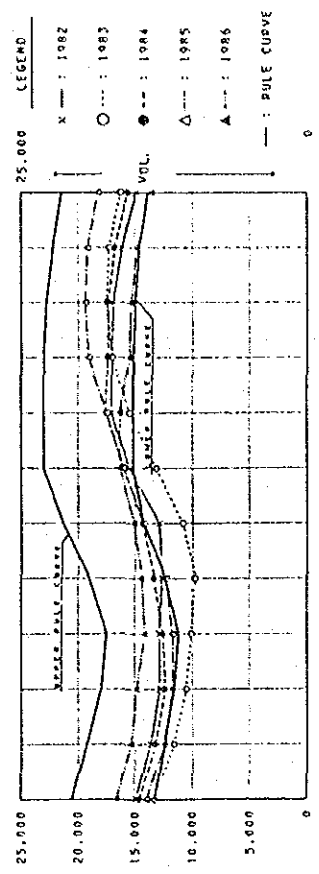


Figure 2-14 (3) FLUCTUATION OF BHUMIBOL AND SIRIKIT DAM STORAGE VOLUME

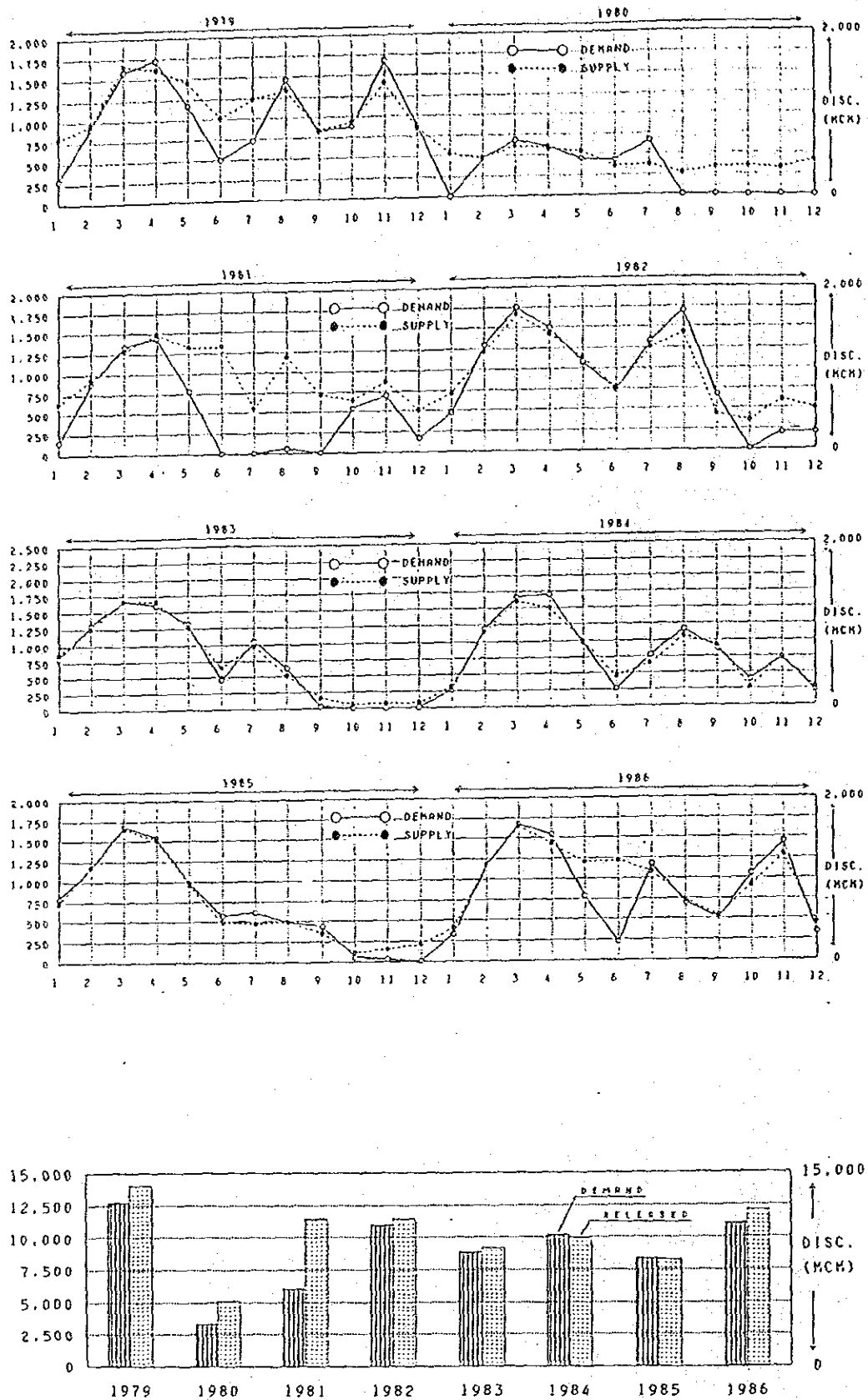


Figure 2-15 RID'S DEMAND AND ACTUAL RELEASED DISCHARGE FROM BHUMIBOL AND SIRIKIT DAMS

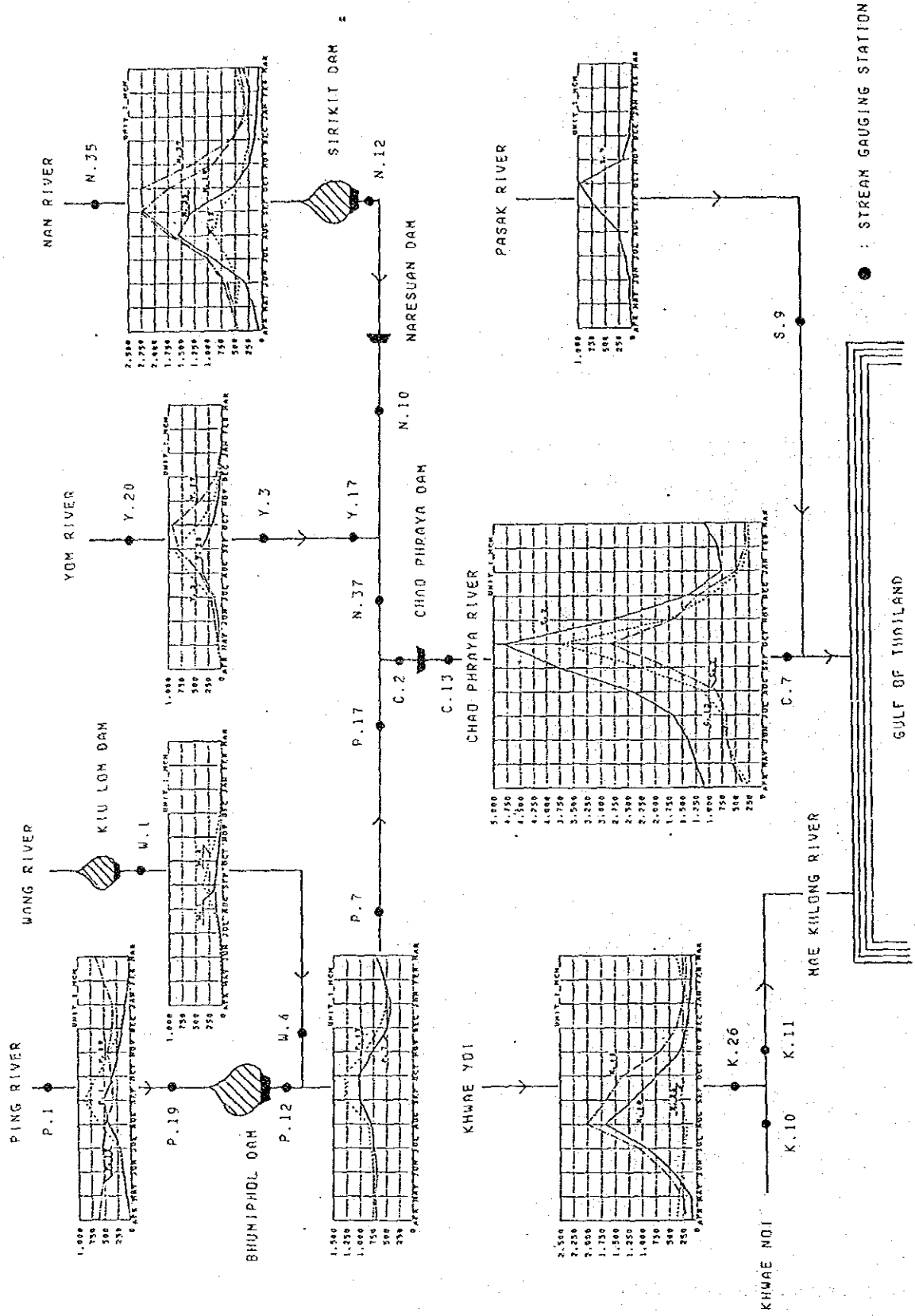


Figure 2-17 HYDROGRAPH AT MAIN STATIONS IN CHAO PHRAYA BASIN

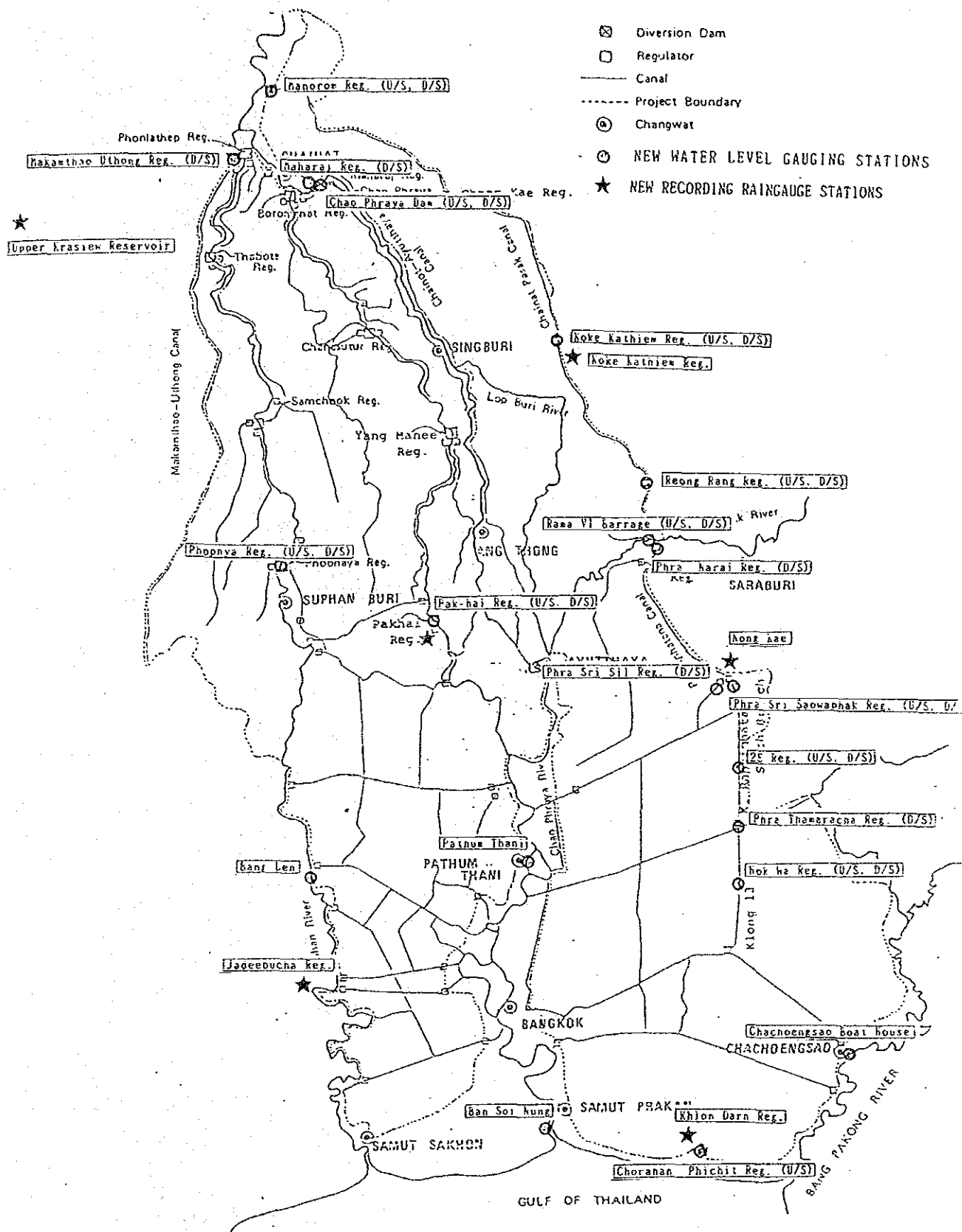


Figure 3-1 LOCATION MAP OF NEW WATER LEVEL GAUGING AND RECORDING RAINGAUGE STATIONS

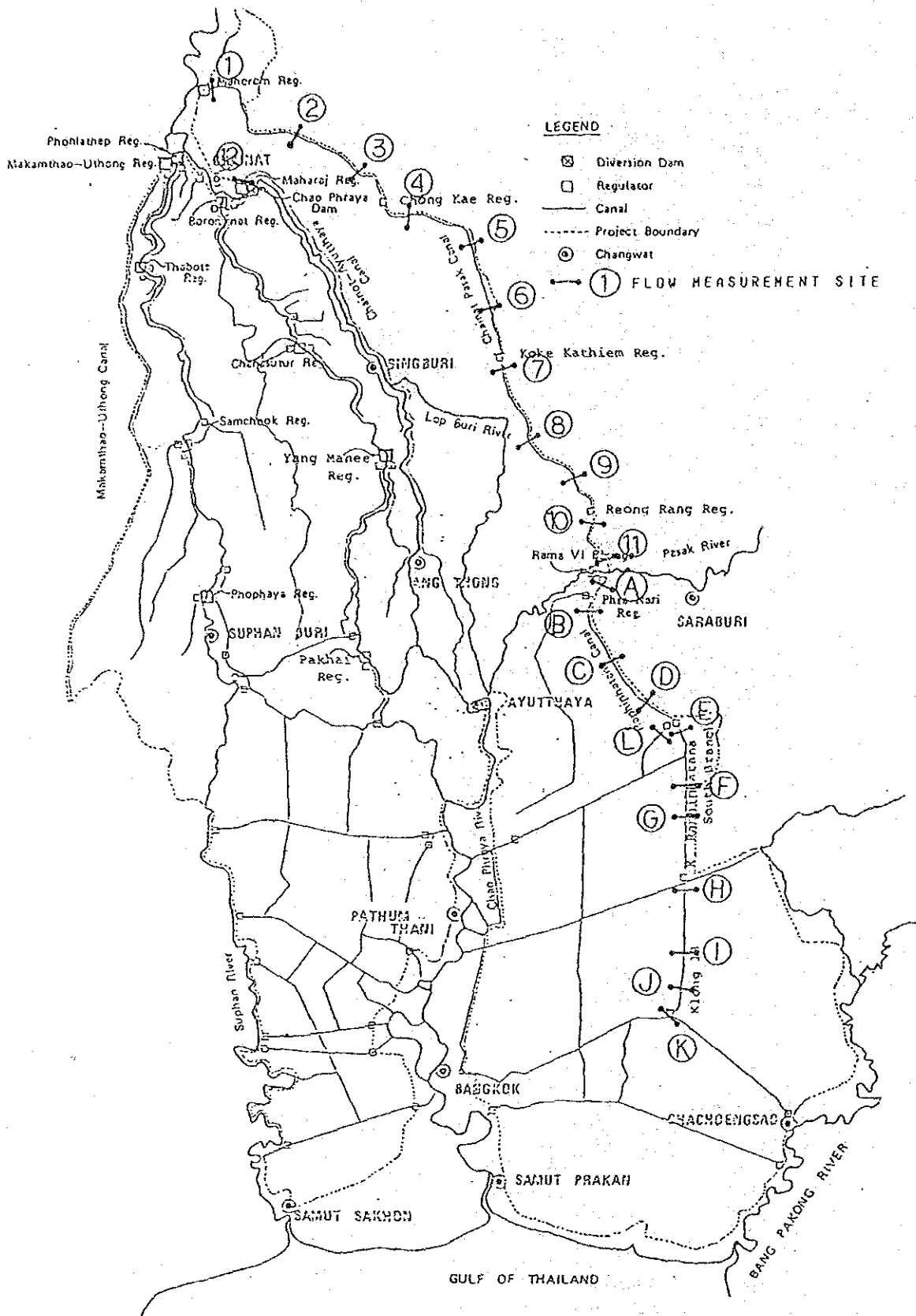


Figure 3-2 LOCATION MAP OF FLOW MEASUREMENT SITES

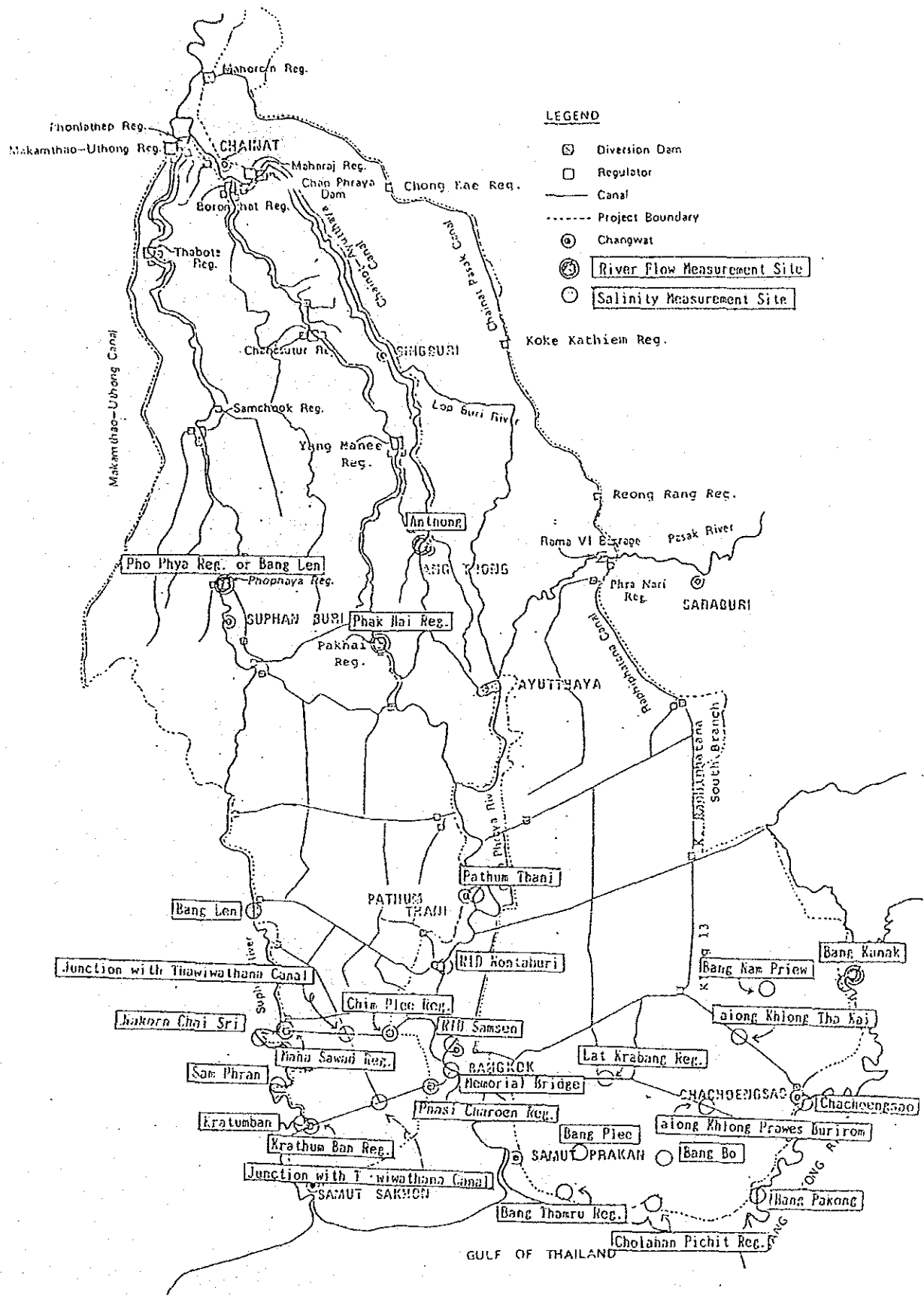


Figure 3-3 LOCATION MAP OF SALINITY MEASUREMENT SITES

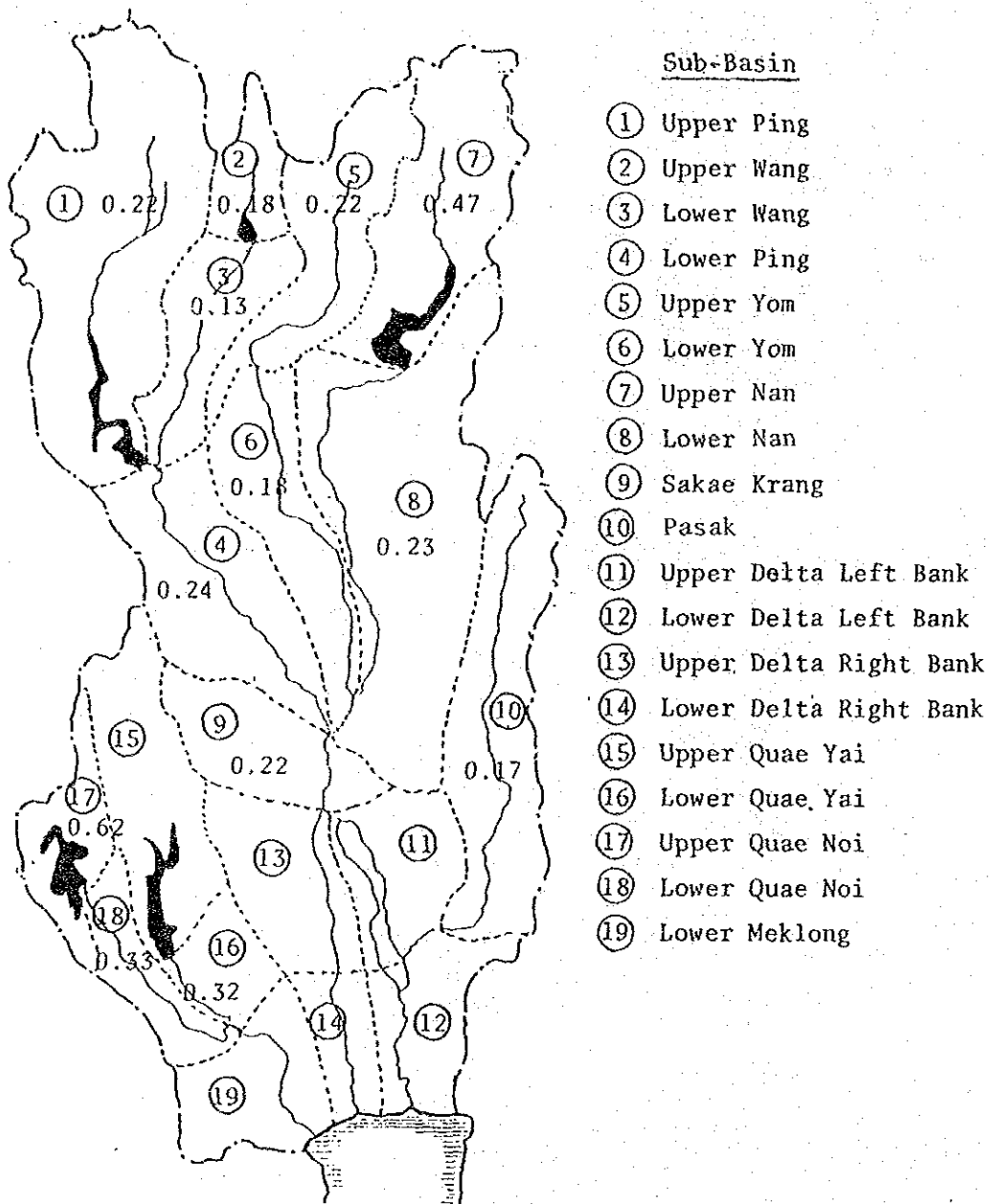


Figure 4-1 ANNUAL RUNOFF COEFFICIENT IN THE CHAO PHRAYA RIVER AND MAE KLONG BASINS

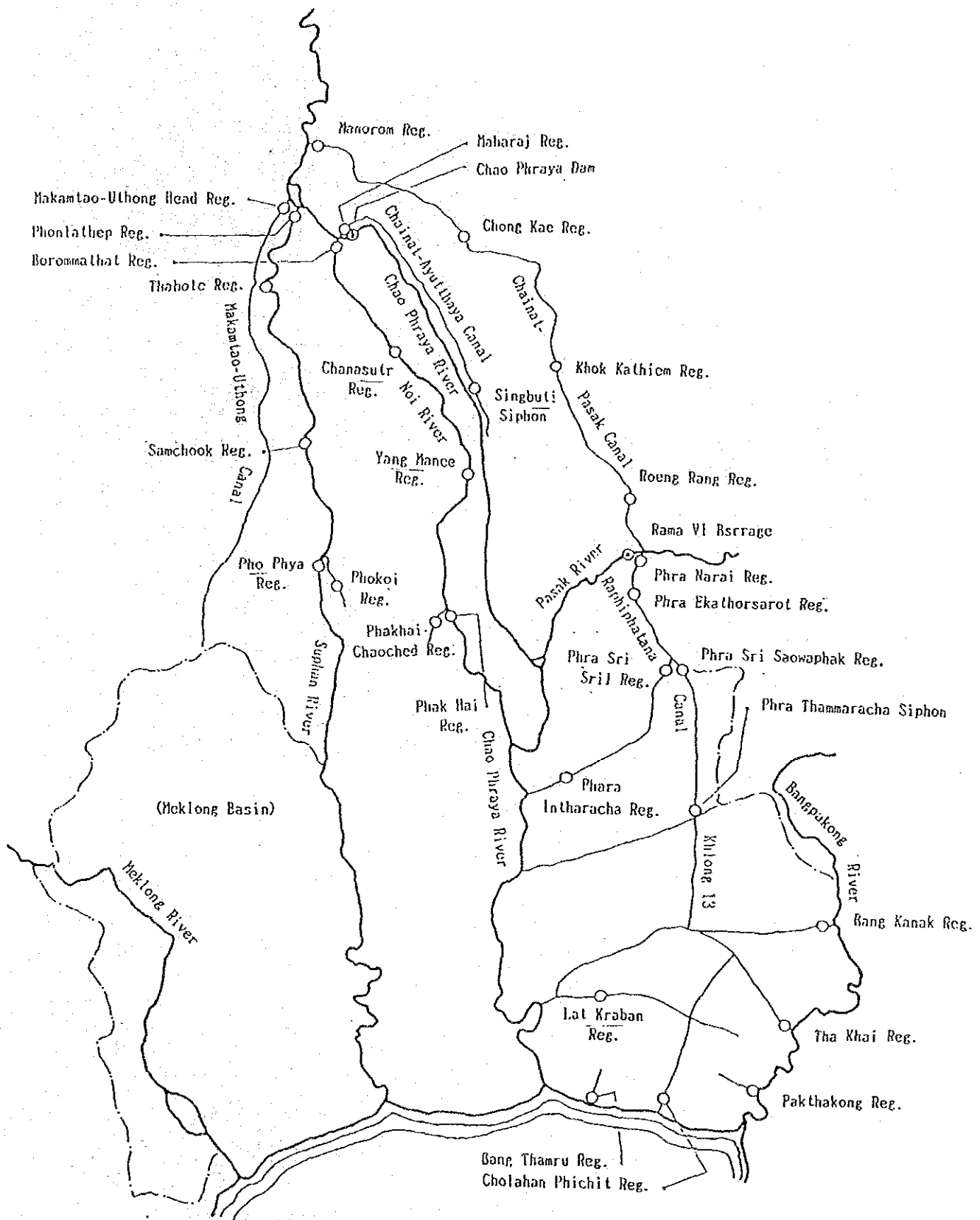


Figure 4-2 LOCATION MAP OF KEY STATIONS IN THE DELTA FOR STUDY ON WATER BEHAVIOR

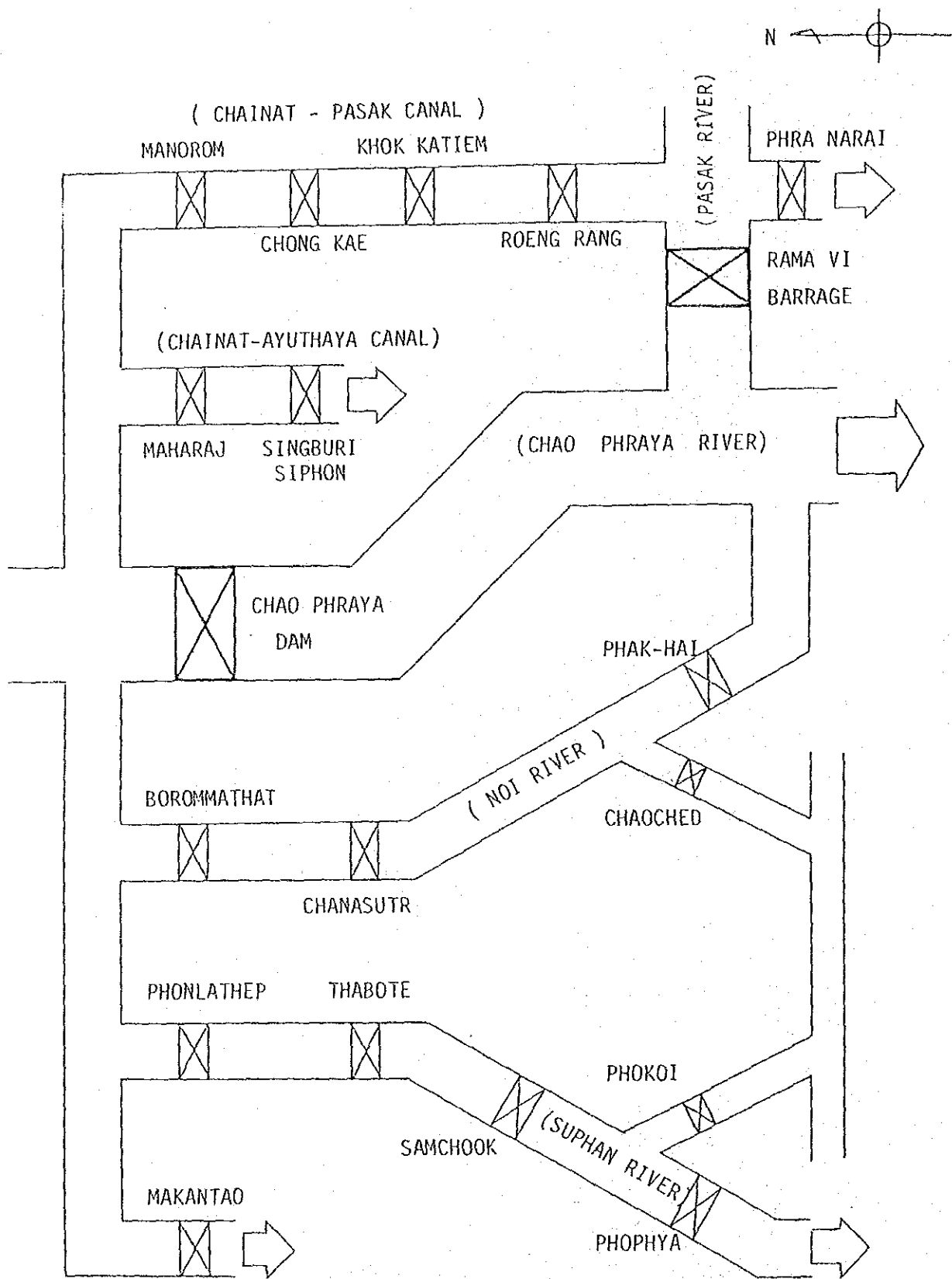


Figure 4-3 (1) BI-MONTHLY WATER LEVEL AND FLOW FLUCTUATION
 --- LOCATION OF MAJOR REGULATORS ---

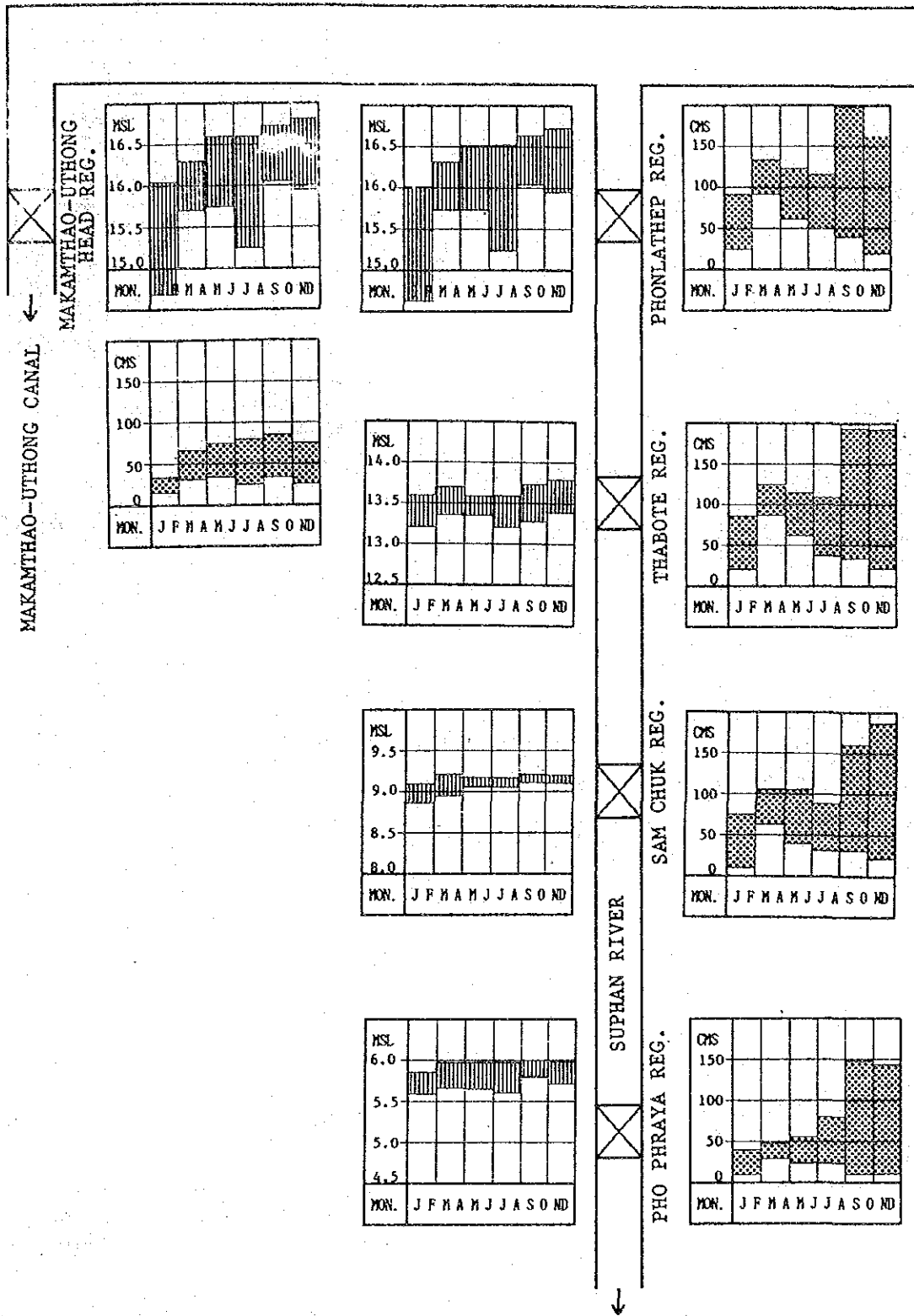


Figure 4-3 (2) BI-MONTHLY WATER LEVEL AND FLOW FLUCTUATION ALONG SUPHAN RIVER AND AT MAKAMTHAO-ÜTHONG HEAD REG.

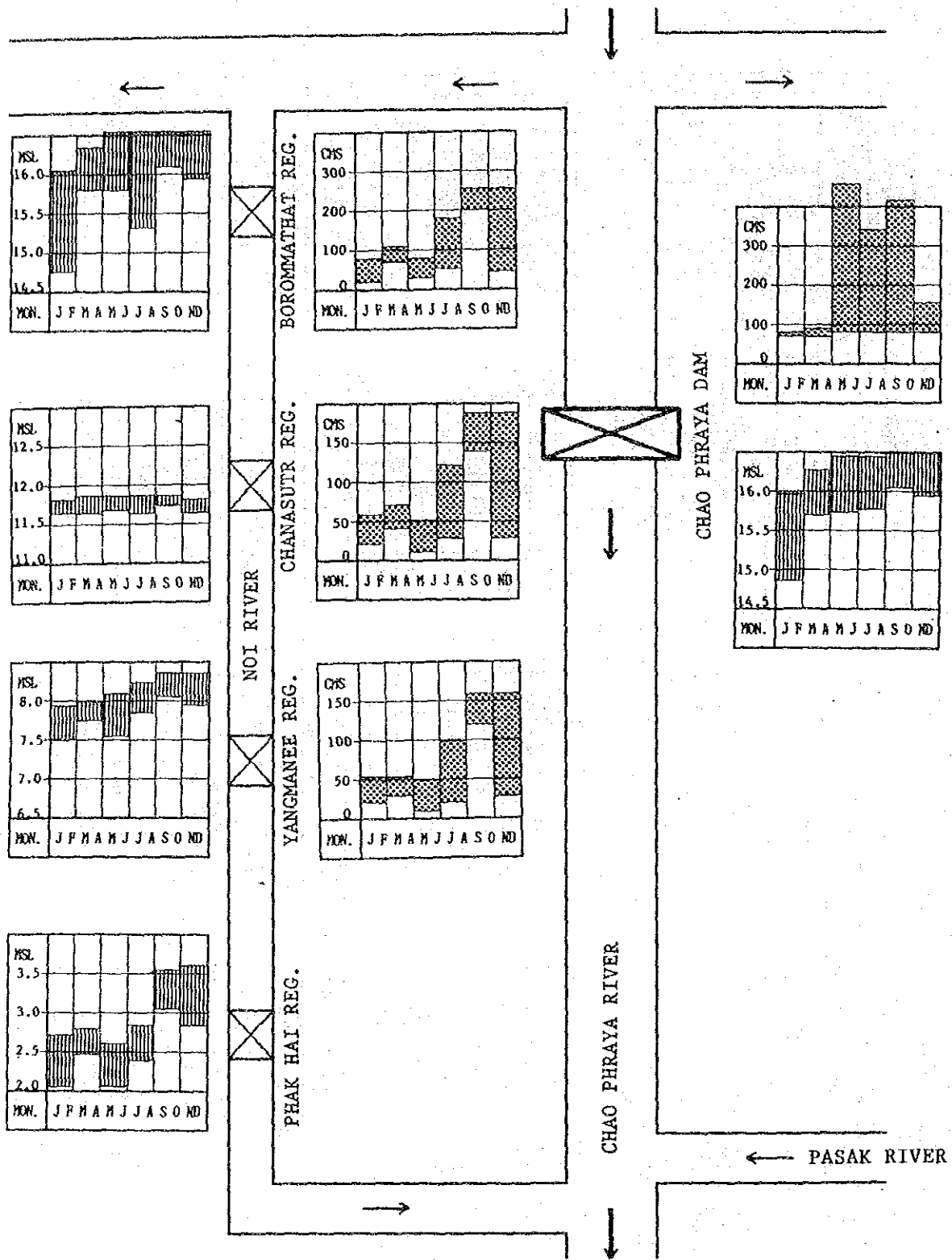


Figure 4-3 (3) BI-MONTHLY WATER LEVEL AND FLOW FLUCTUATION AT CHAO PHRAYA DAM AND ALONG NOI RIVER

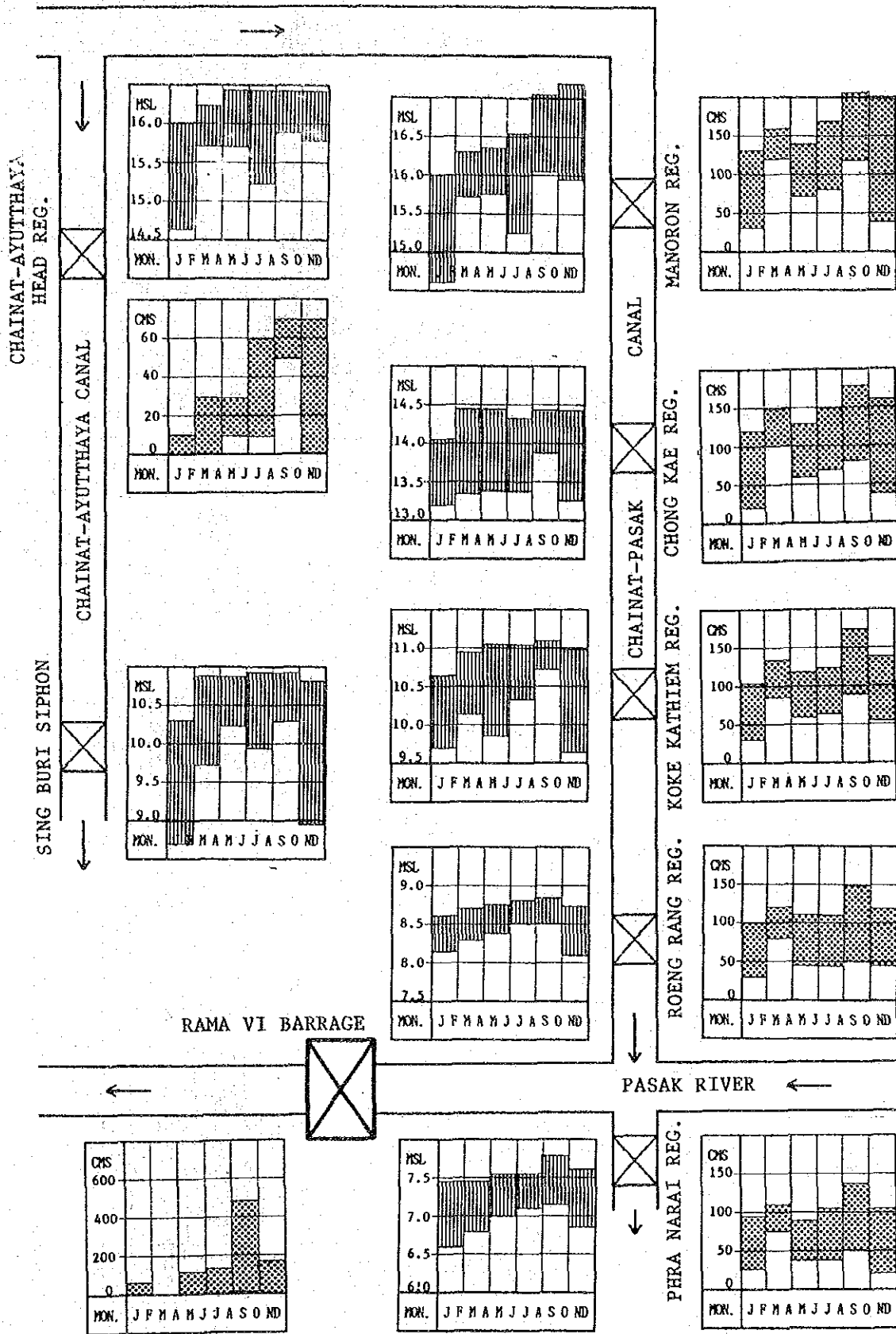


Figure 4-3 (4) BI-MONTHLY WATER LEVEL AND FLOW FLUCTUATION ALONG CHAINAT-PASAK AND CHAINAT AYUTTHAYA CANAL

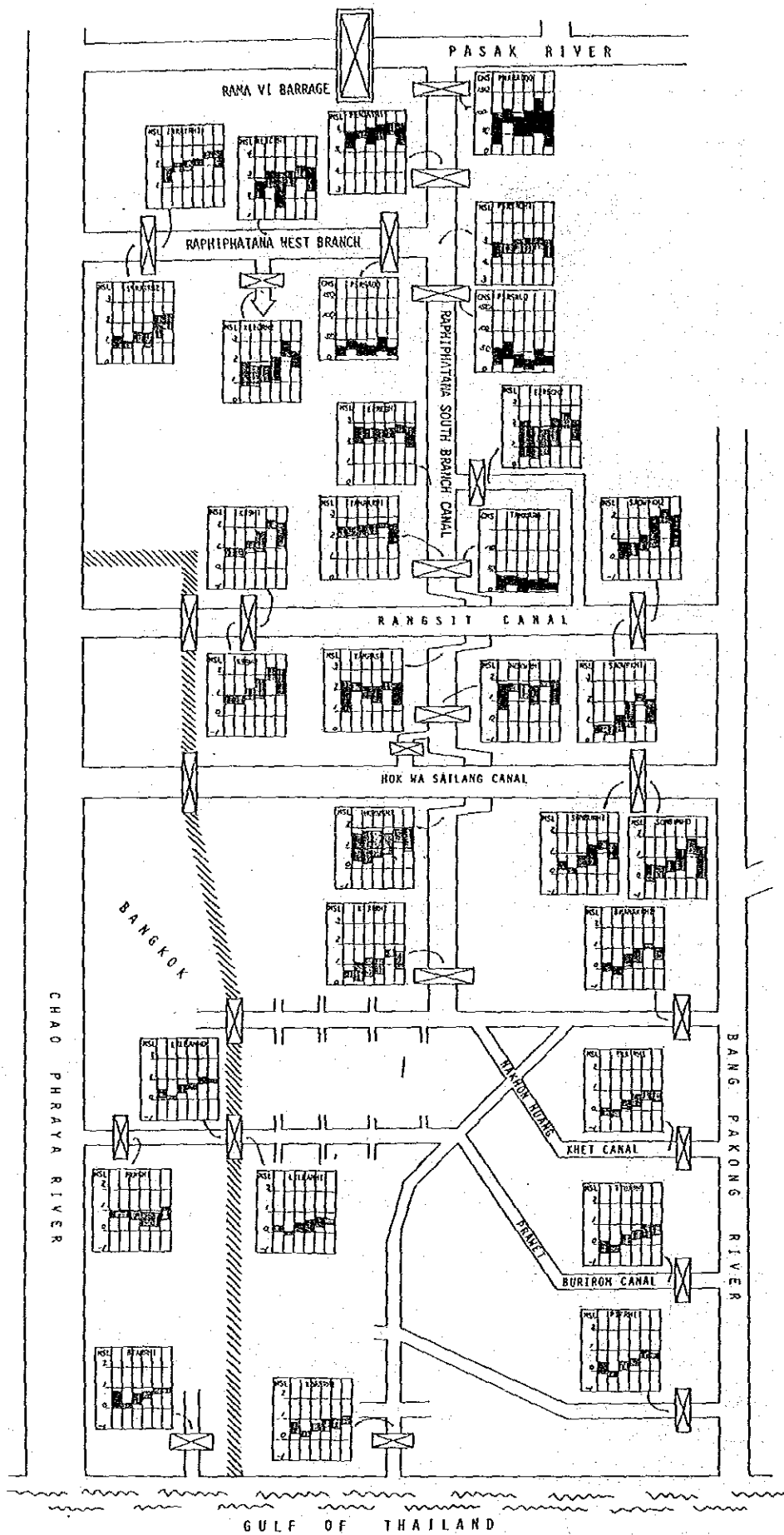


Figure 4-3 (5) BI-MONTHLY WATER LEVEL AND FLOW FLUCTUATION IN THE LOWER EAST AREA

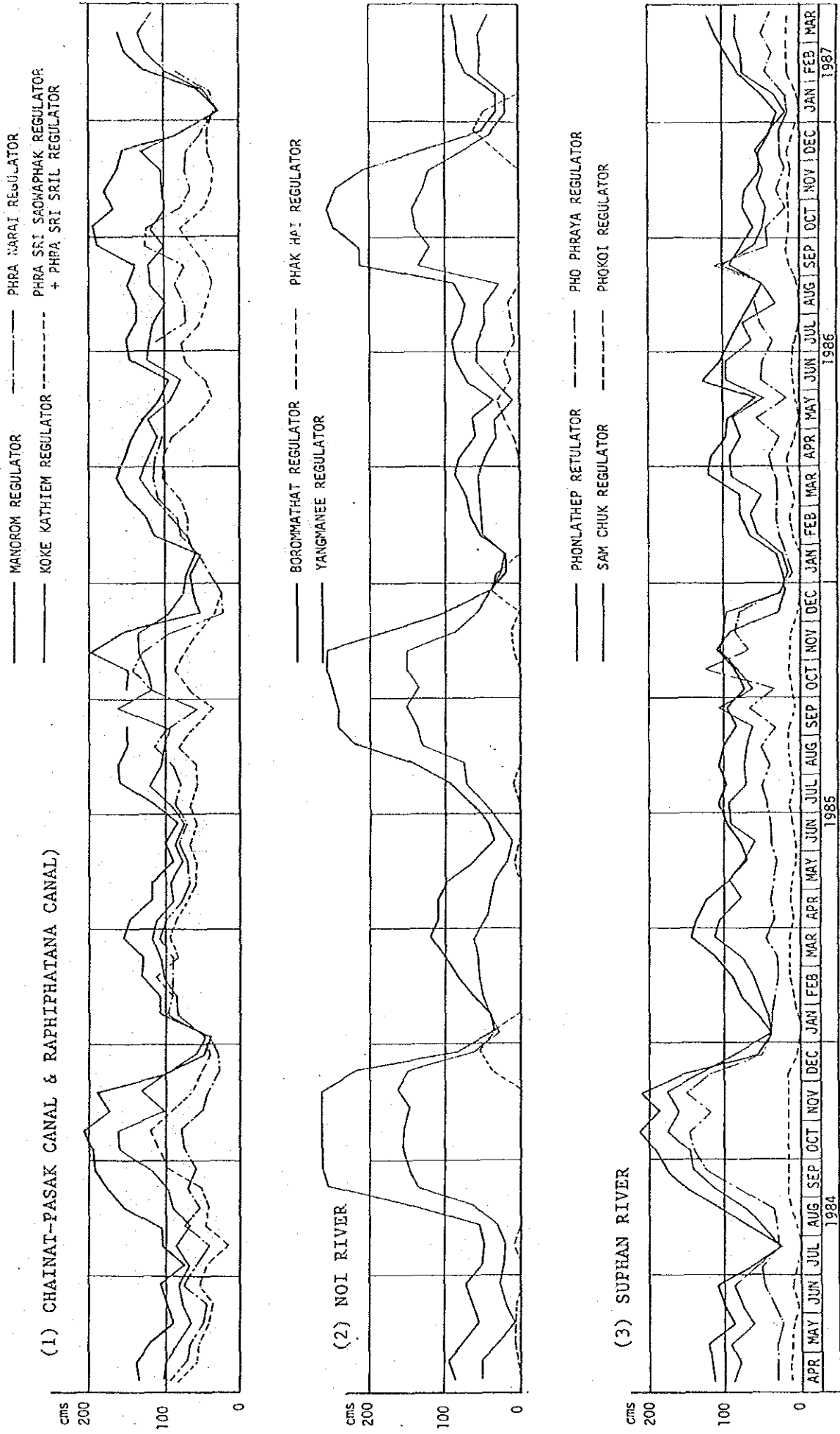
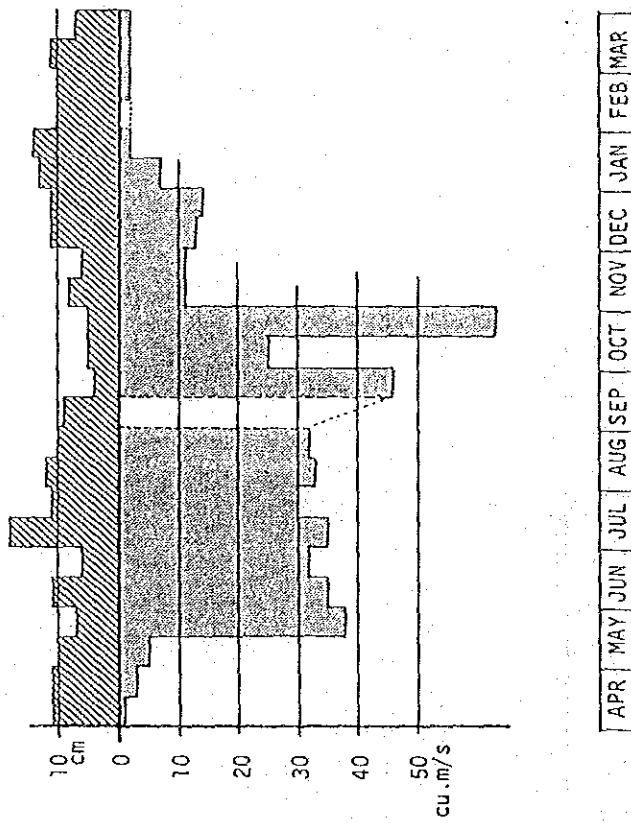
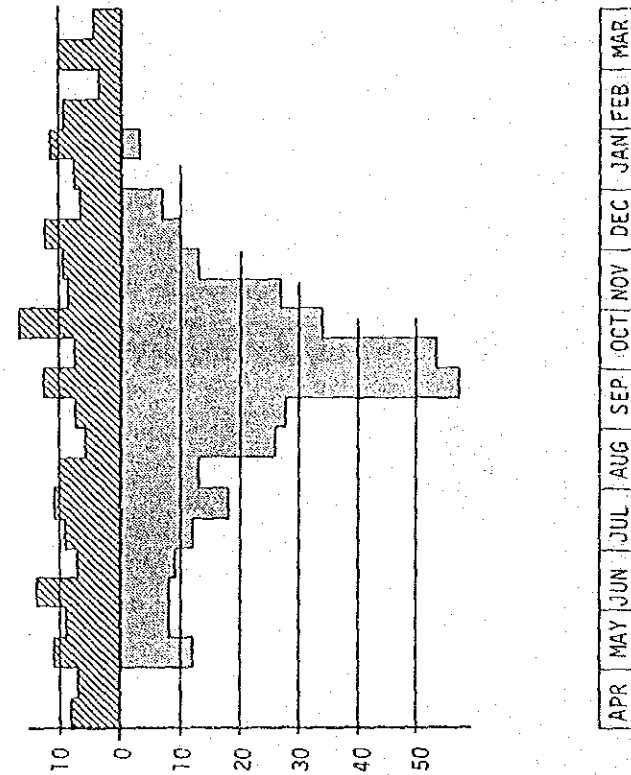


Figure 4-4 HALF-MONTHLY MEAN DISCHARGE

CHAO PHRAYA DAM



RAMA VI BARRAGE






 Mean daily water level fluctuation (cm)
 Mean daily discharge fluctuation (cu.m/s)
 (data not sufficient for indication)

Figure 4-5 (1) HALF-MONTHLY MEAN DAILY WATER LEVEL AND DISCHARGE FLUCTUATION ALONG RIVER/CANAL SYSTEM

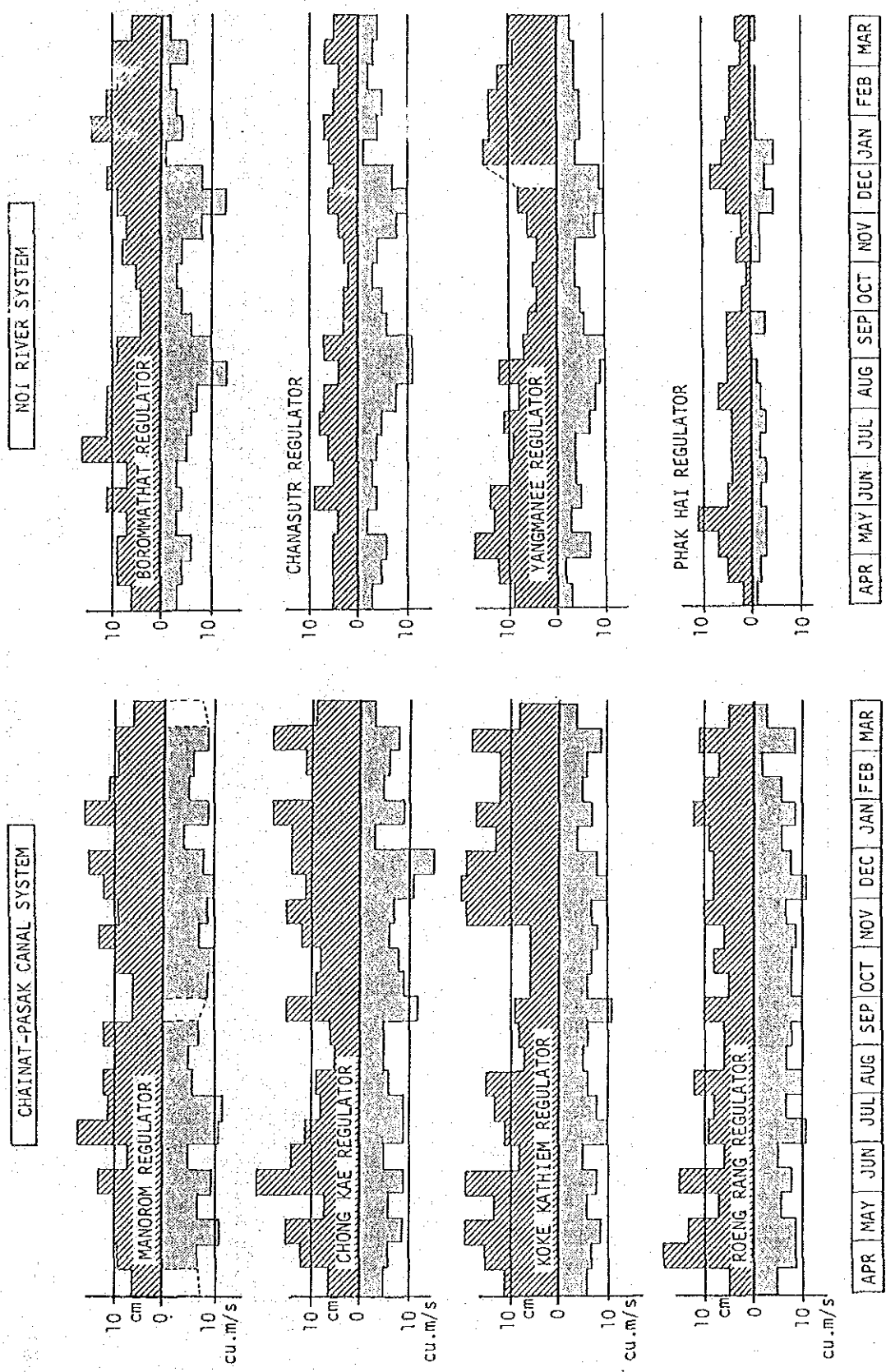


Figure 4-5 (2) HALF-MONTHLY MEAN DAILY WATER LEVEL AND DISCHARGE FLUCTUATION ALONG RIVER/CANAL SYSTEM



Figure 4-5 (3) HALF-MONTHLY MEAN DAILY WATER LEVEL AND DISCHARGE FLUCTUATION ALONG RIVER/CANAL SYSTEM

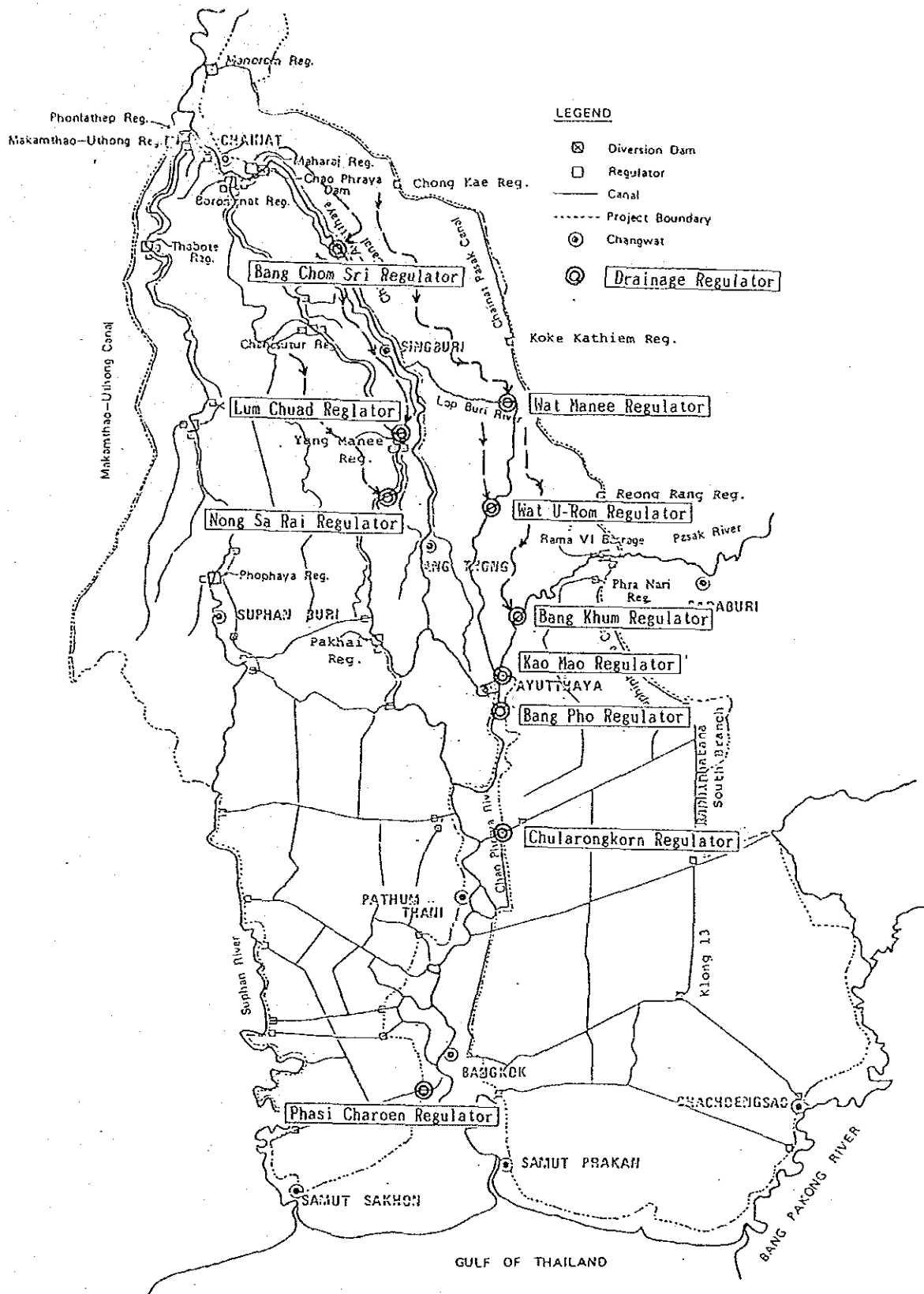


Figure 4-6 LOCATION MAP OF DRAINAGE REGULATORS FOR FLOW MEASUREMENT

Figure 4-7 (1) SCATTERGRAMS FOR CHAO PHRAYA RIVER FLOW AT PHATHUM THANI

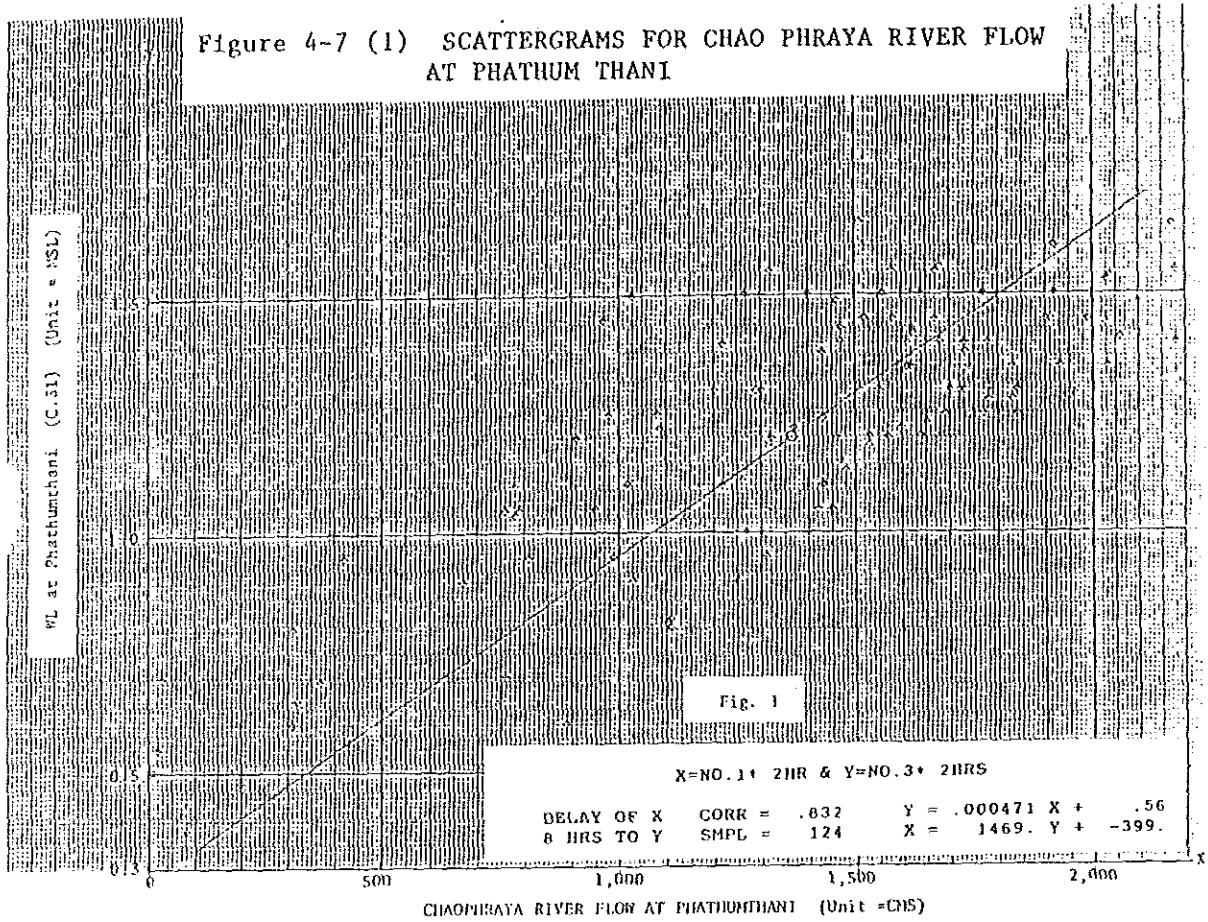
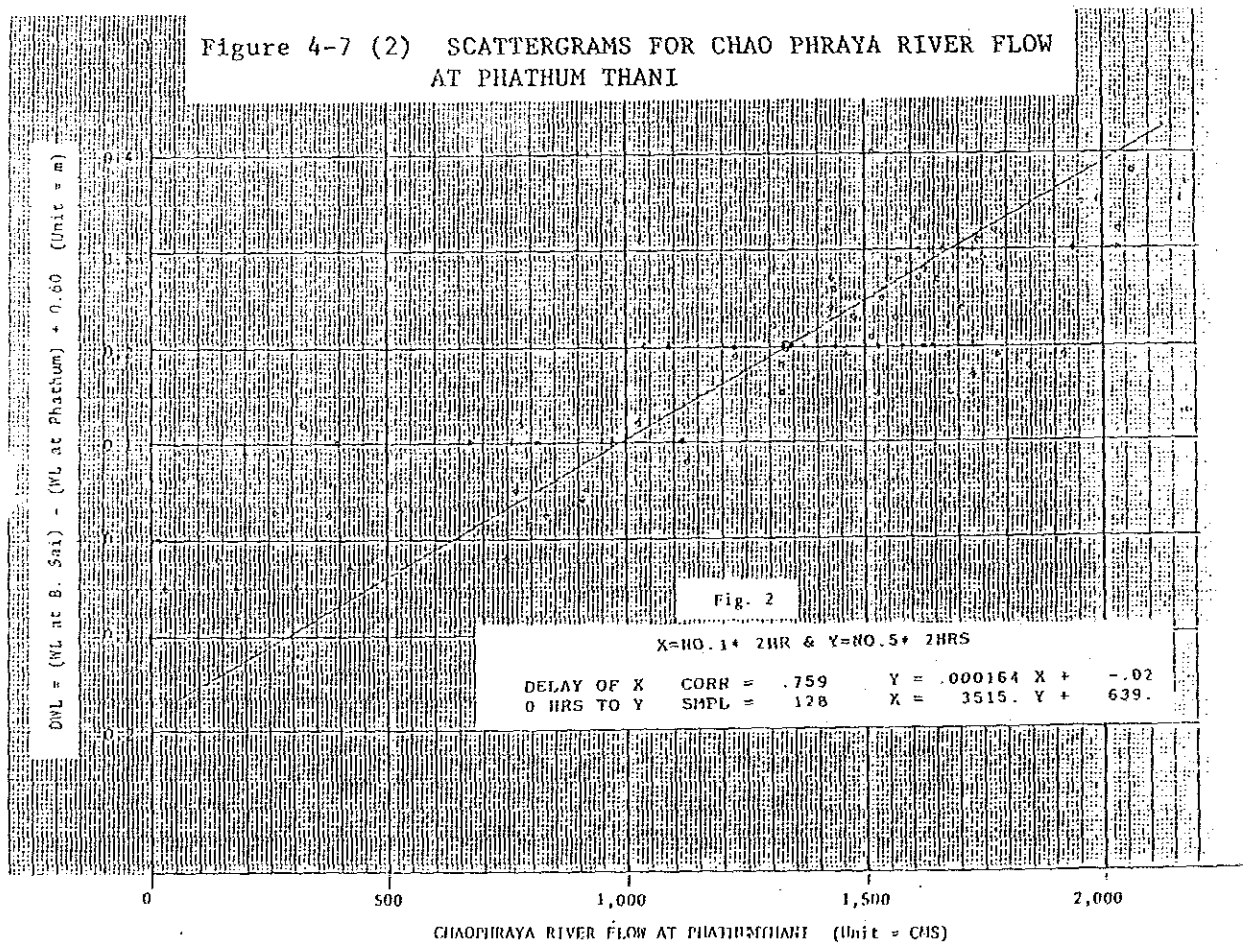


Figure 4-7 (2) SCATTERGRAMS FOR CHAO PHRAYA RIVER FLOW AT PHATHUM THANI



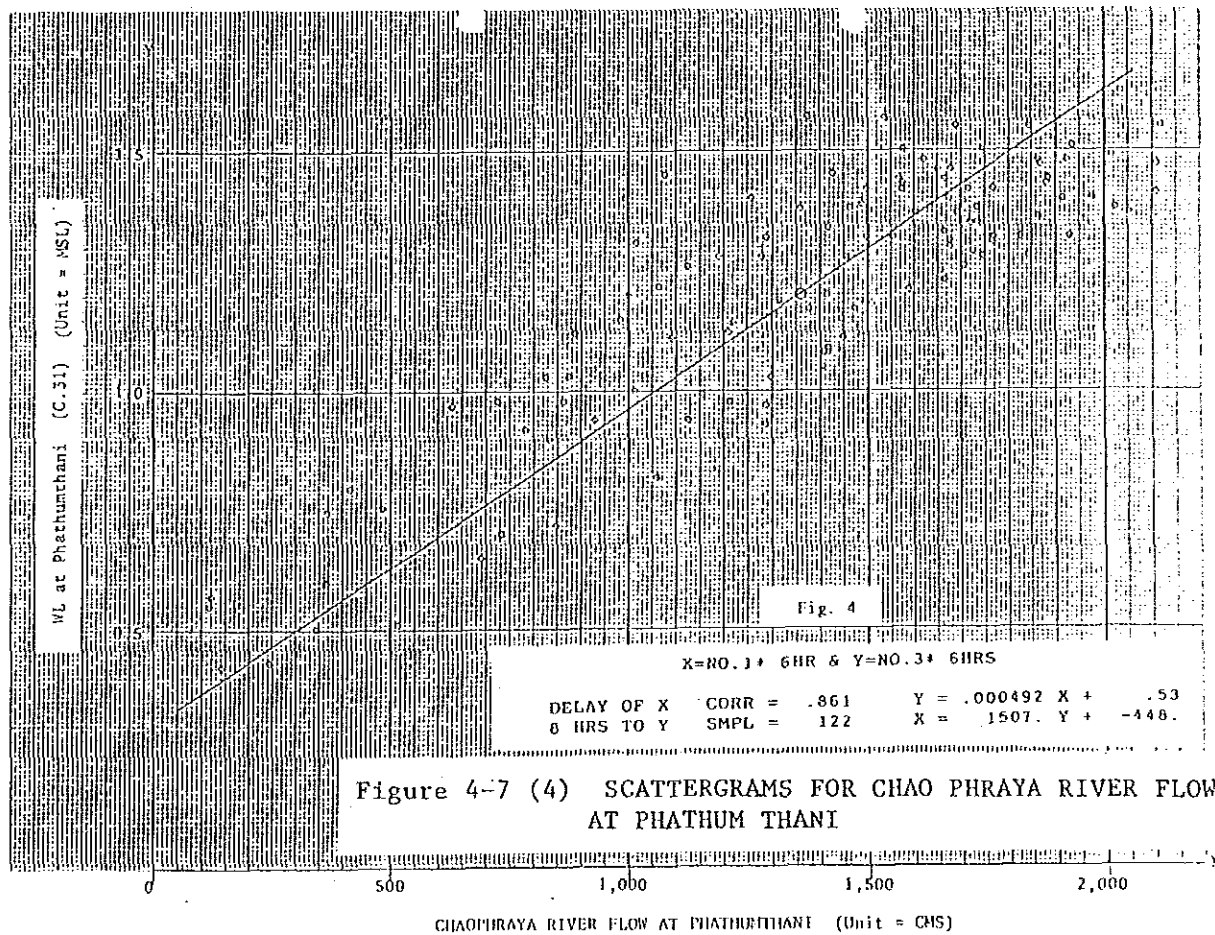
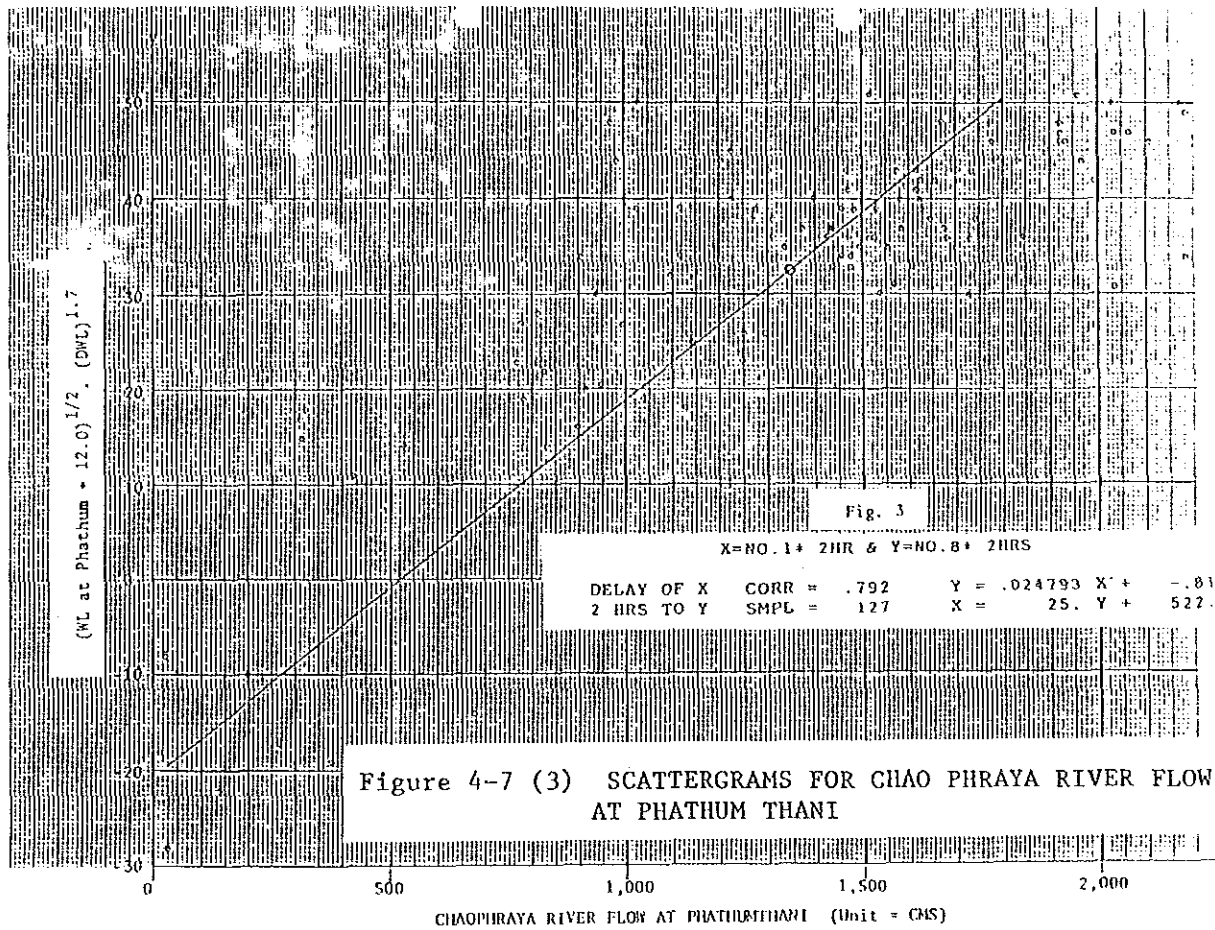


Figure 4-7 (5)

SCATTERGRAMS FOR CHAO PHRAYA RIVER FLOW AT PHATHUM THANI

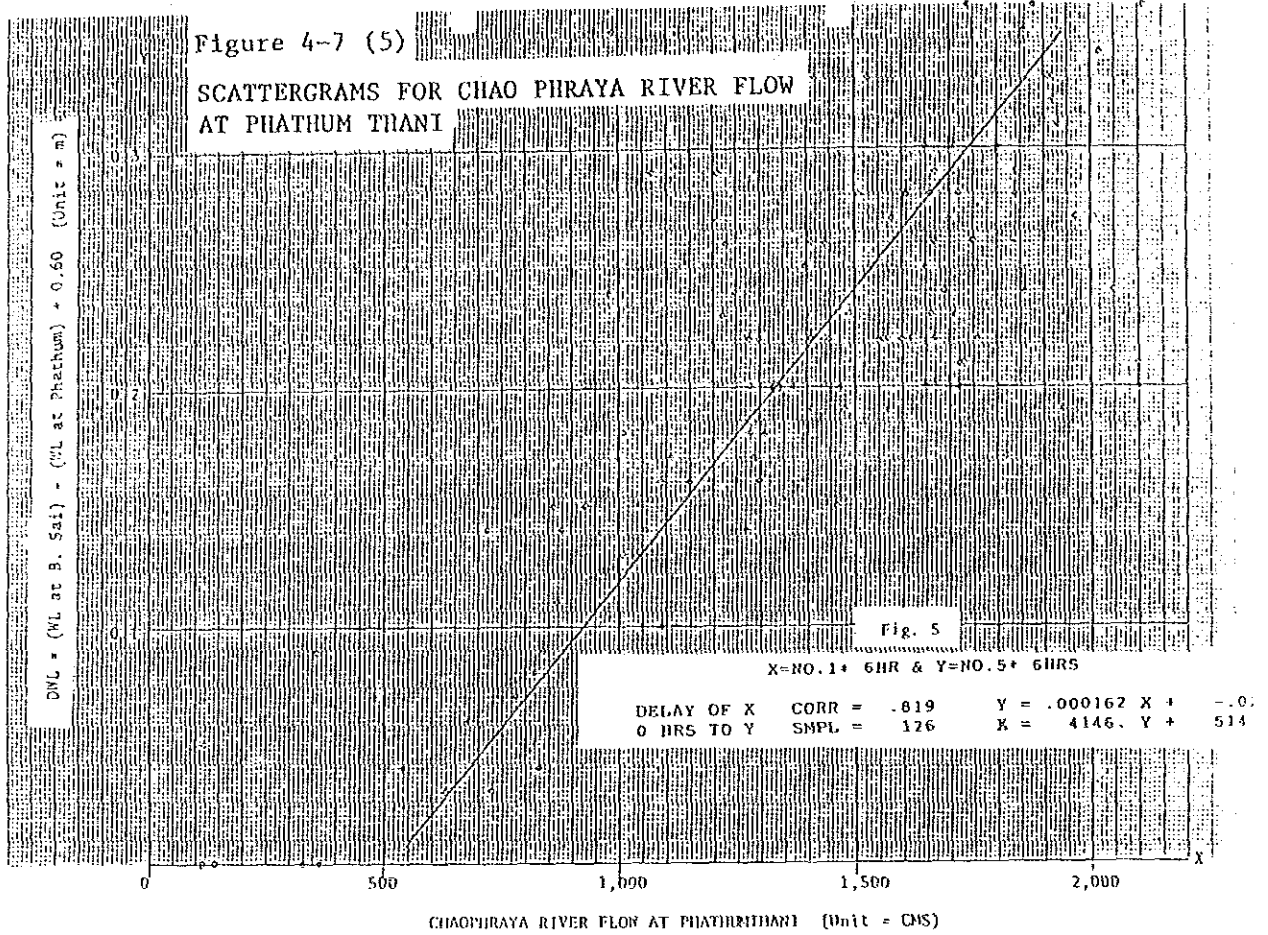


Figure 4-7 (6) SCATTERGRAMS FOR CHAO PHRAYA RIVER FLOW AT PHATHUM THANI

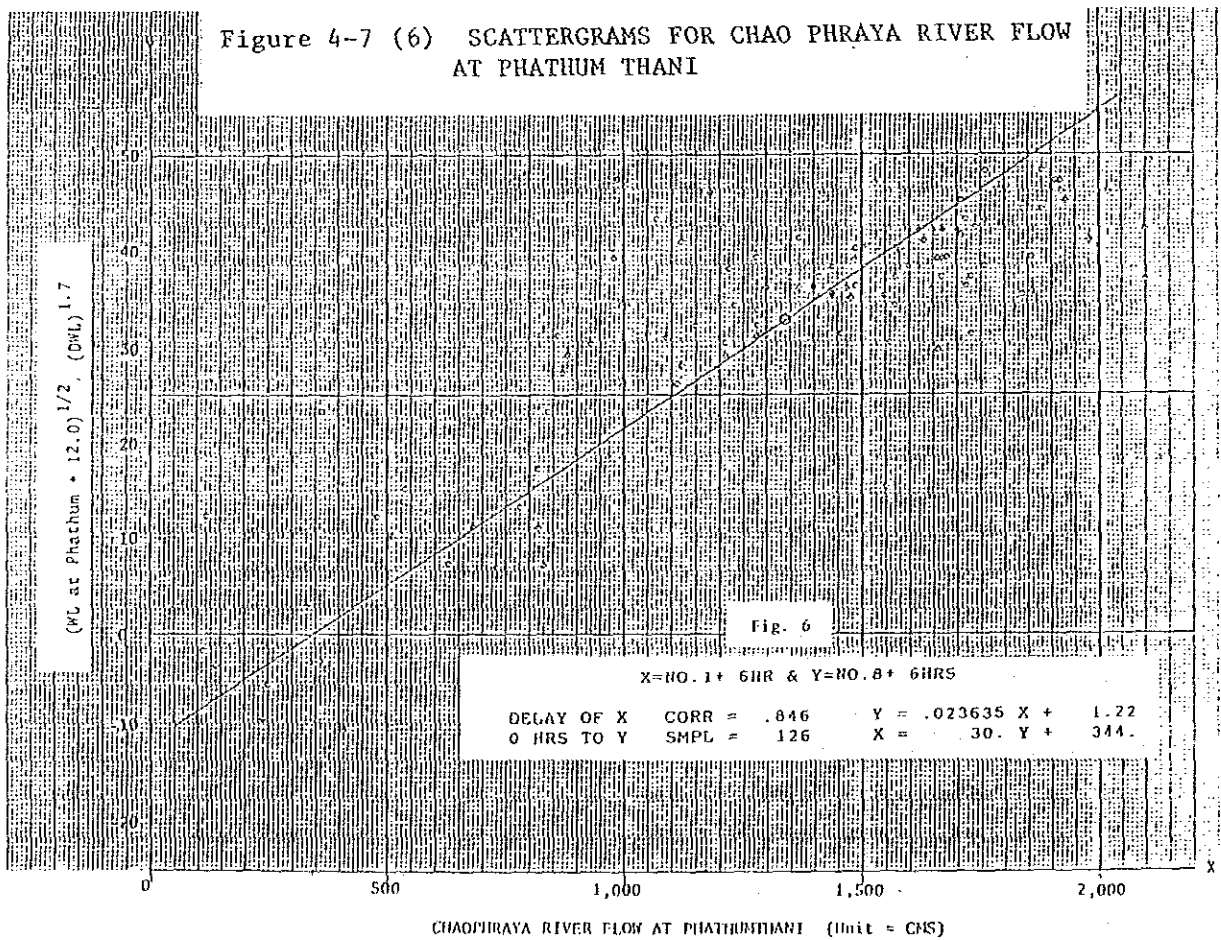


Figure 4-7 (7) SCATTERGRAMS FOR CHAO PHRAYA RIVER FLOW AT PHATHUM THANI

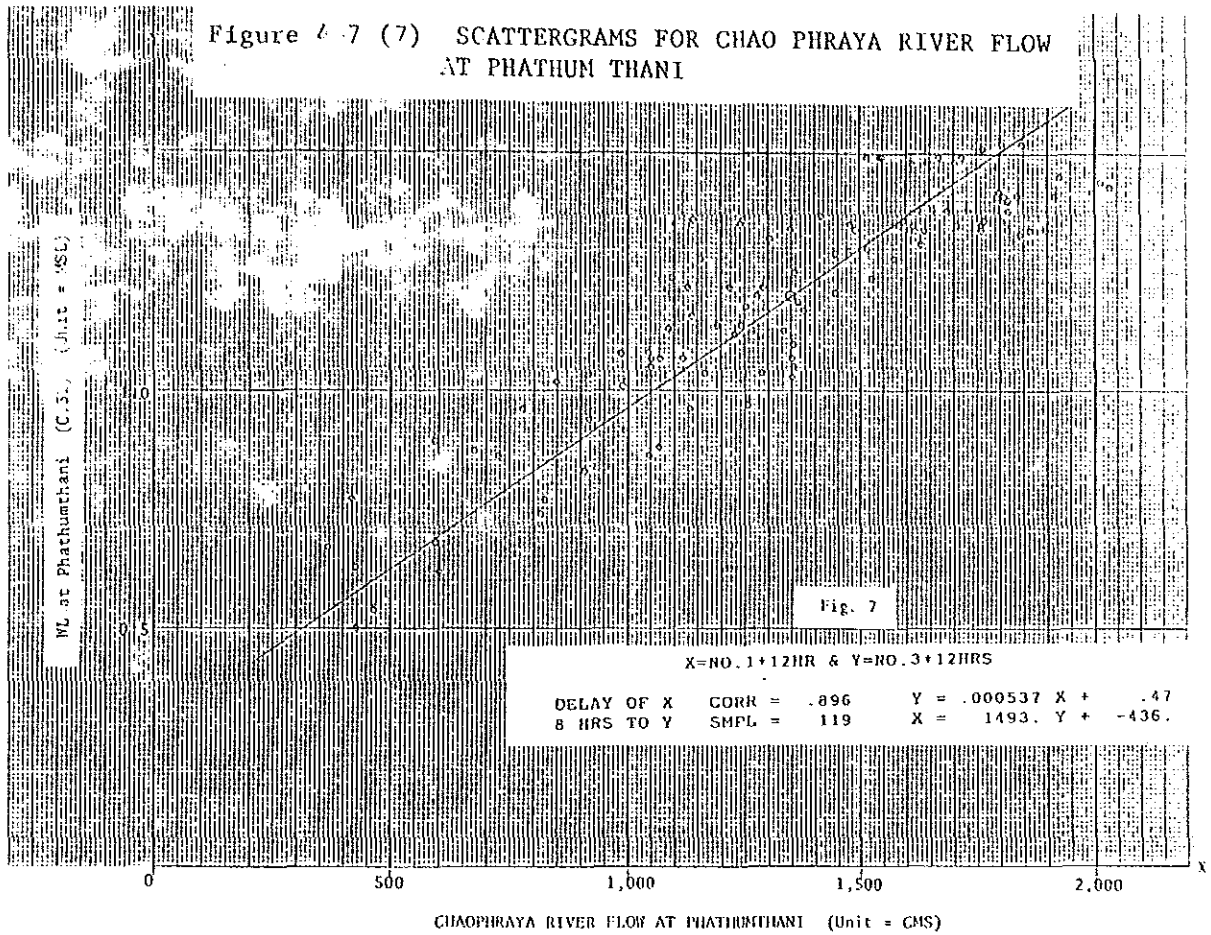


Figure 4-7 (8) SCATTERGRAMS FOR CHAO PHRAYA RIVER FLOW AT PHATHUM THANI

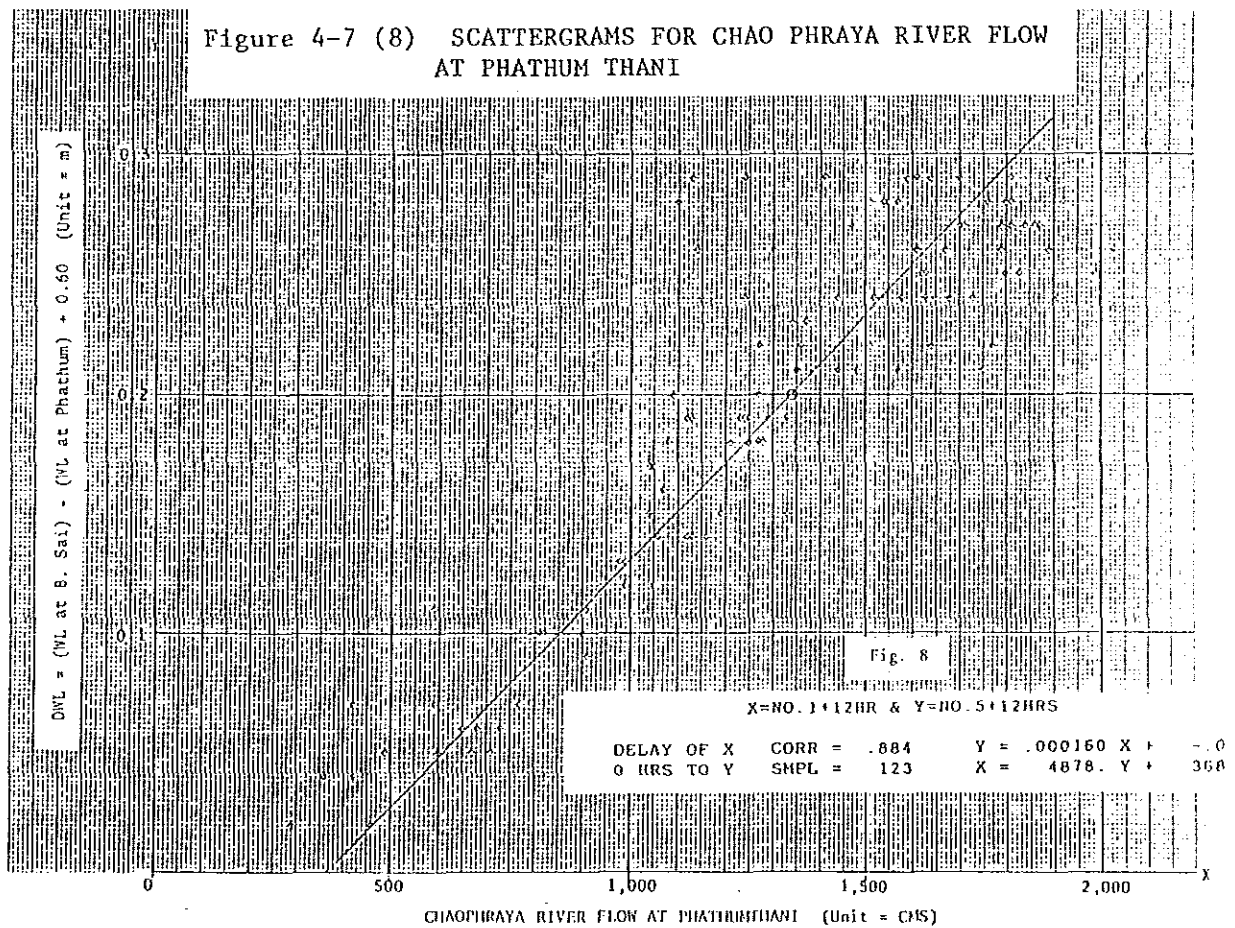


Figure 4-7 (9) SCATTERGRAMS FOR CHAO PHRAYA RIVER FLOW AT PHATHUM THANI

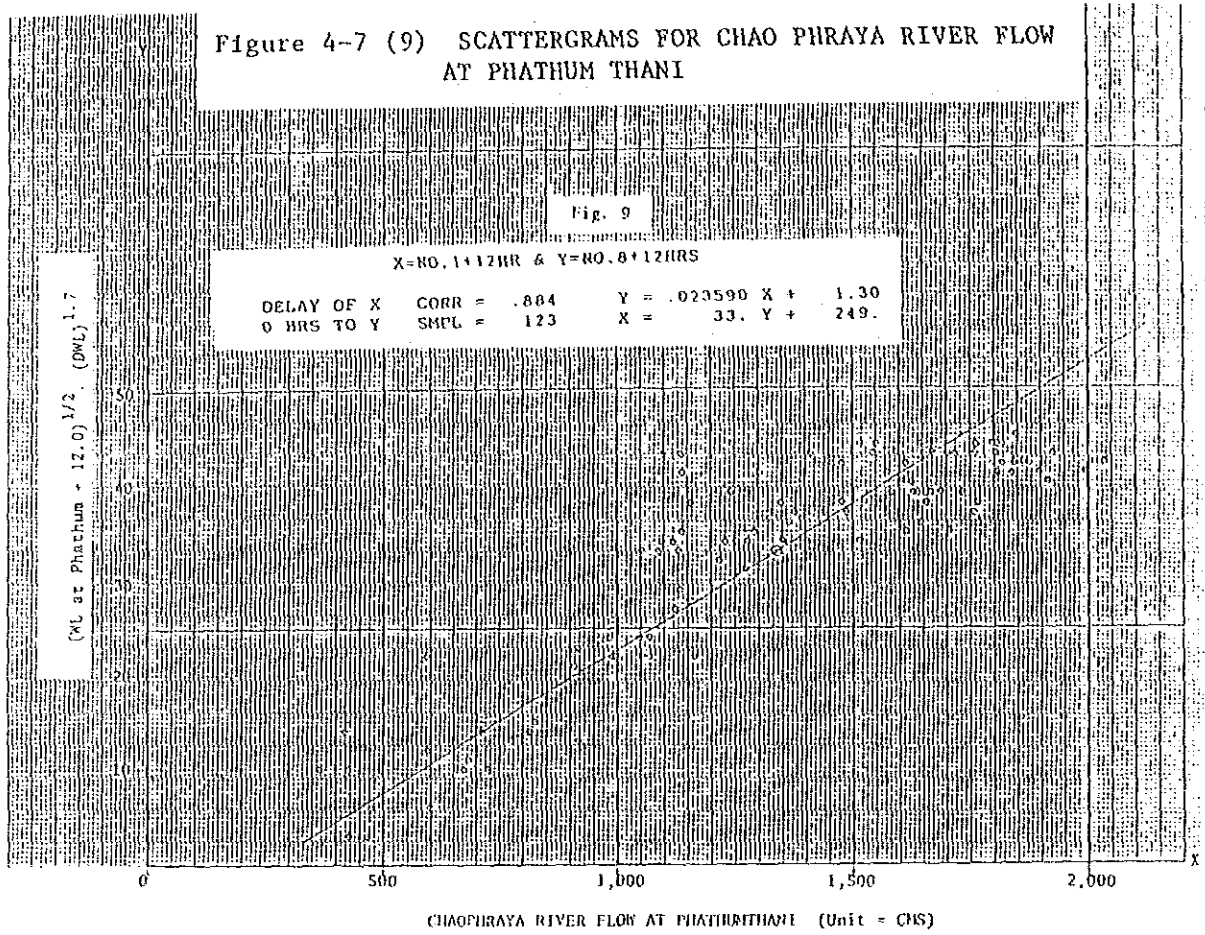


Figure 4-7 (10) SCATTERGRAMS FOR CHAO PHRAYA RIVER FLOW AT PHATHUM THANI

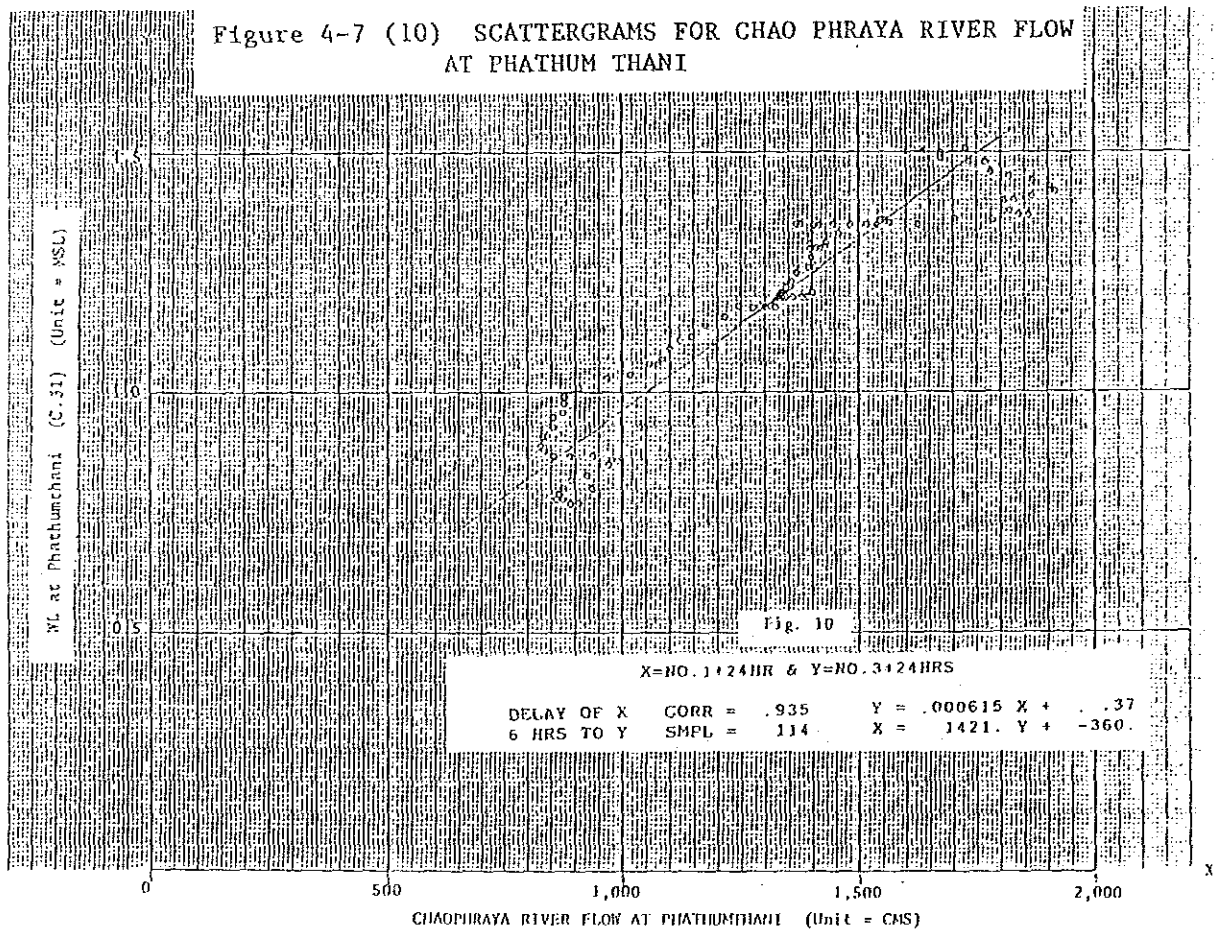


Figure 4-7 (11) SCATTERGRAMS FOR CHAO PHRAYA RIVER FLOW AT PHATHUM THANI

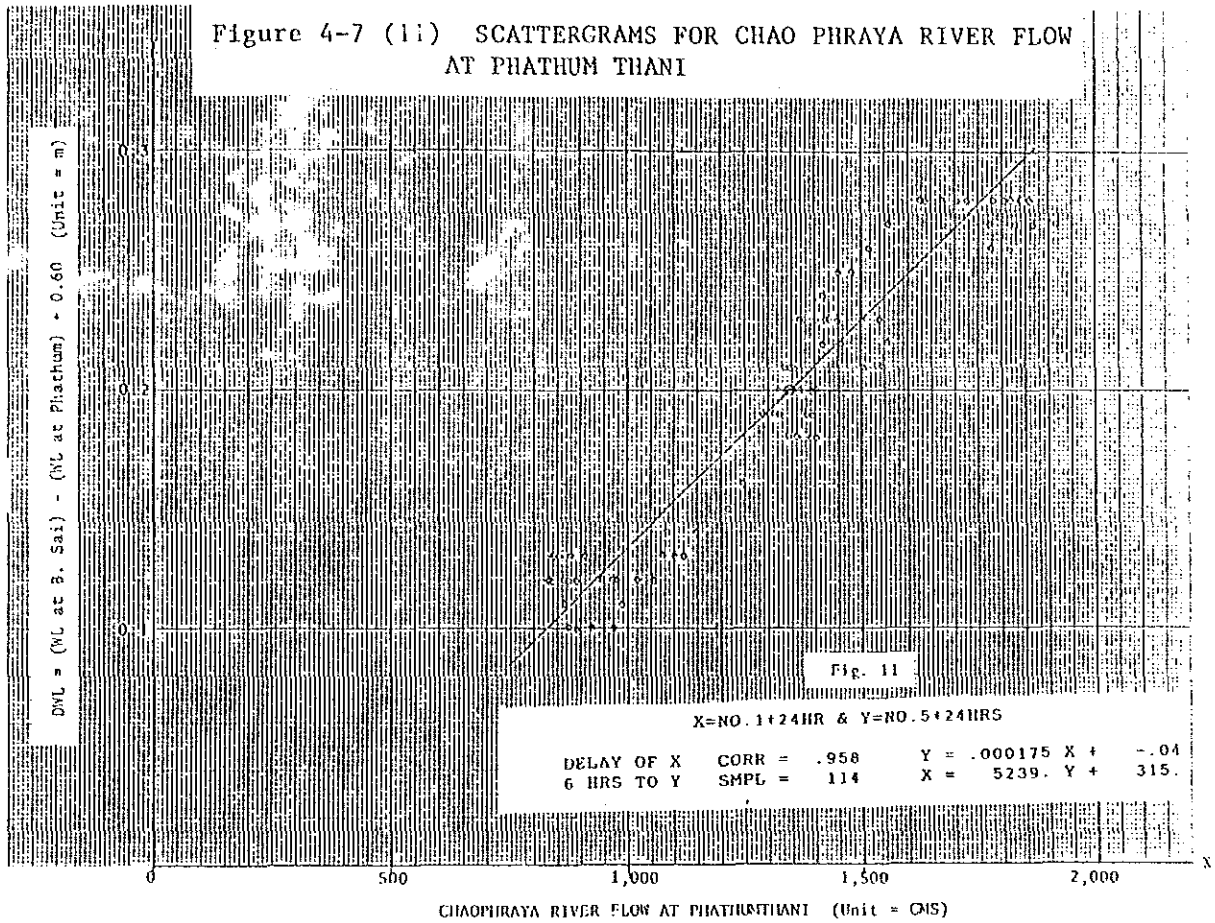
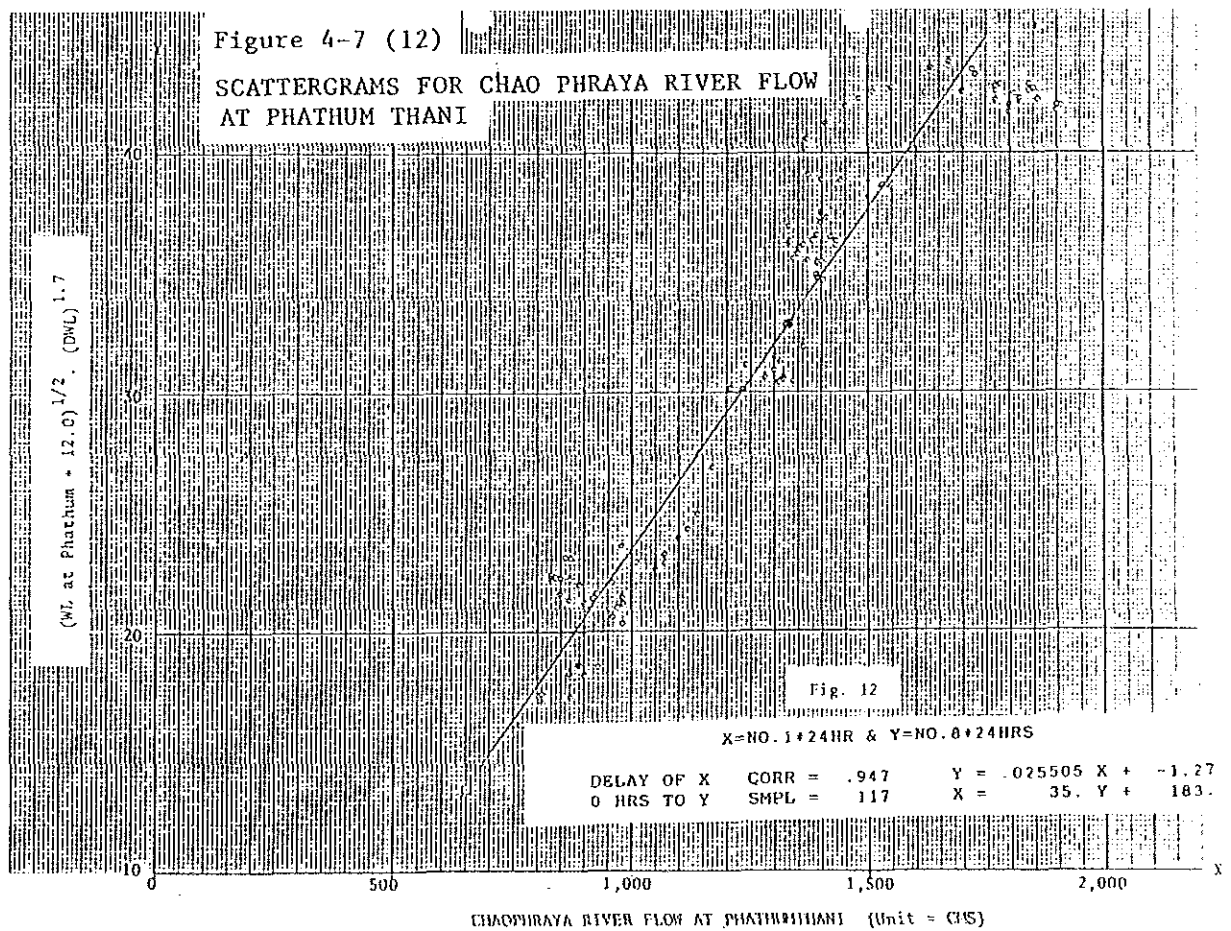


Figure 4-7 (12) SCATTERGRAMS FOR CHAO PHRAYA RIVER FLOW AT PHATHUM THANI



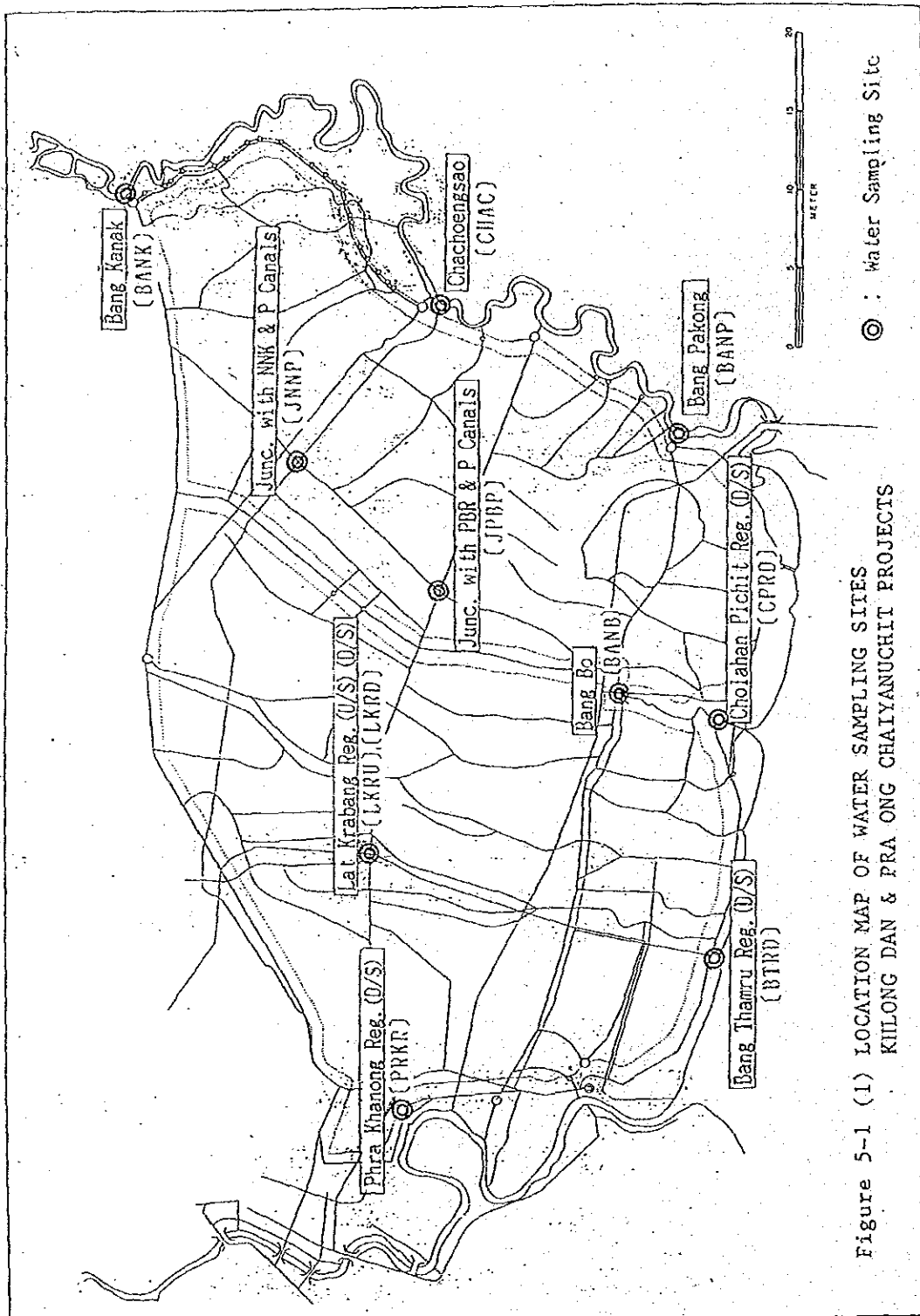


Figure 5-1 (1) LOCATION MAP OF WATER SAMPLING SITES
KILONG DAN & PRA ONG CHAIYANUCHIT PROJECTS

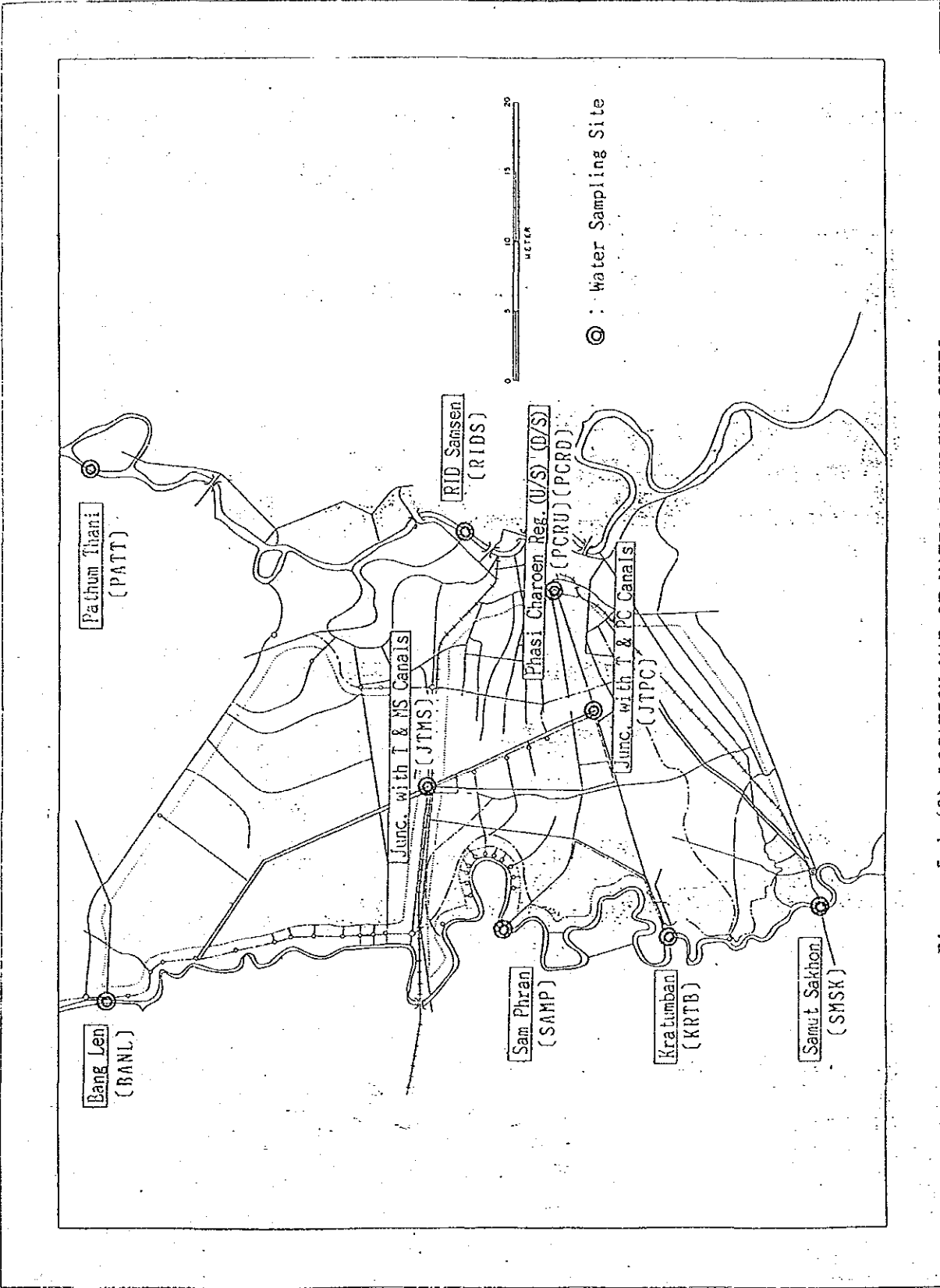


Figure 5-1 (2) LOCATION MAP OF WATER SAMPLING SITES
PHASI CHAROEN PROJECT

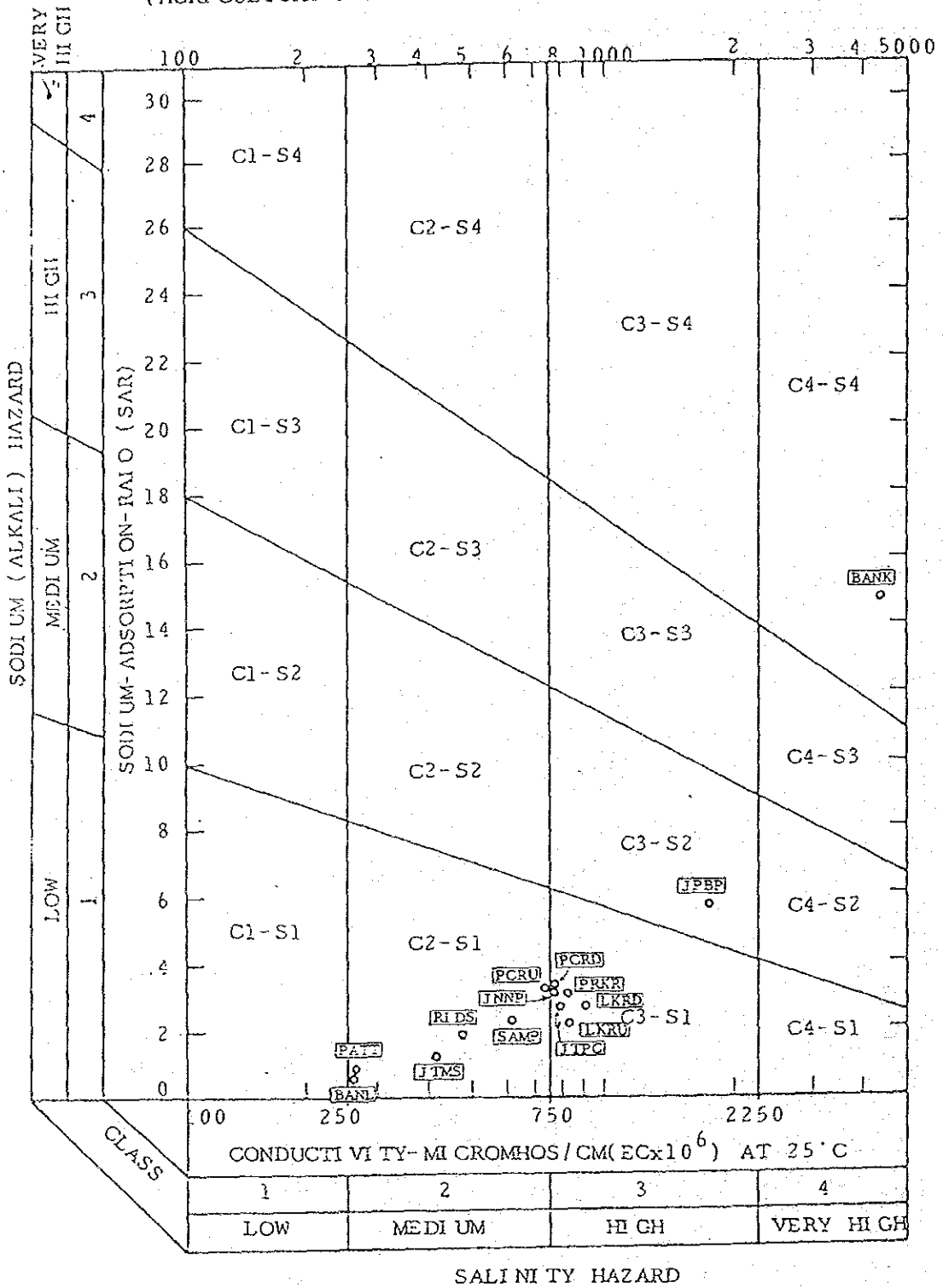
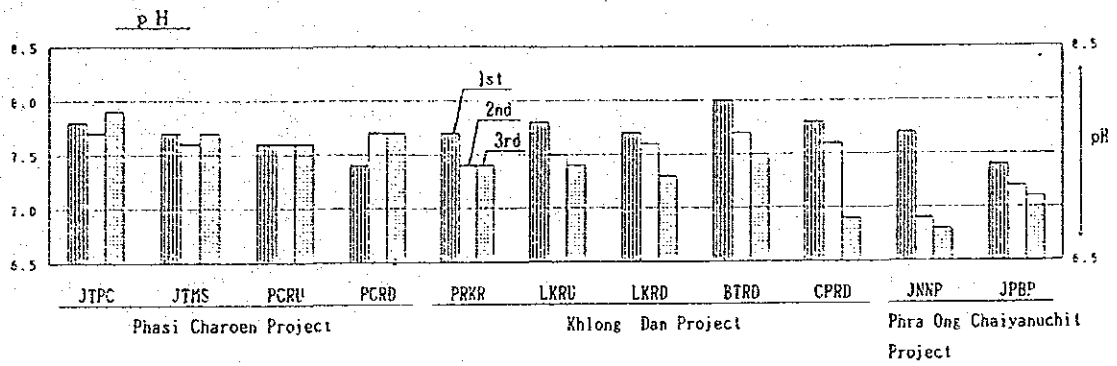
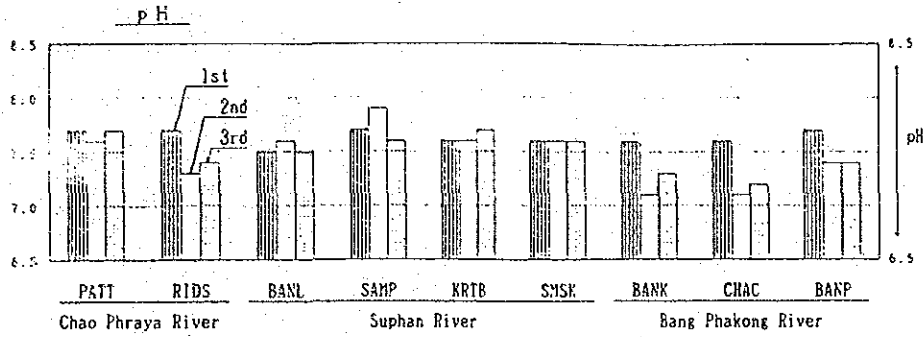


Figure 5-2 RESULT OF WATER QUALITY IN LOWER DELTA AREA



水质検査結果 (EC)

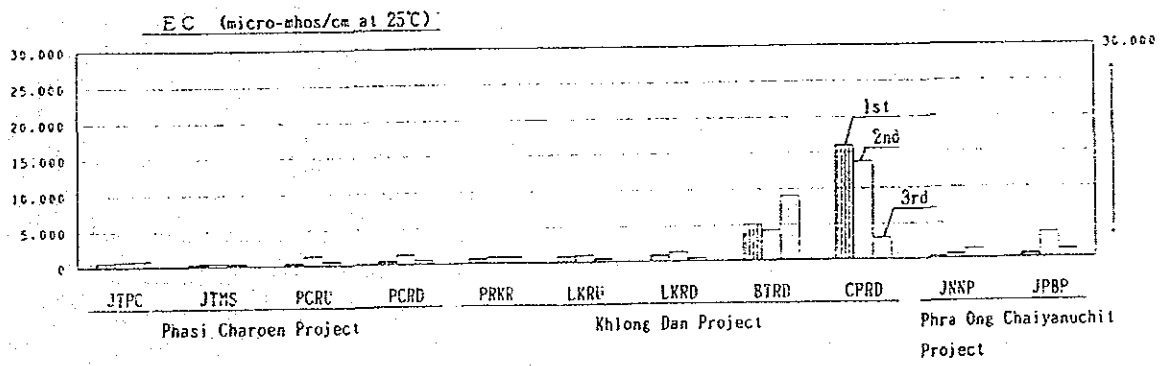
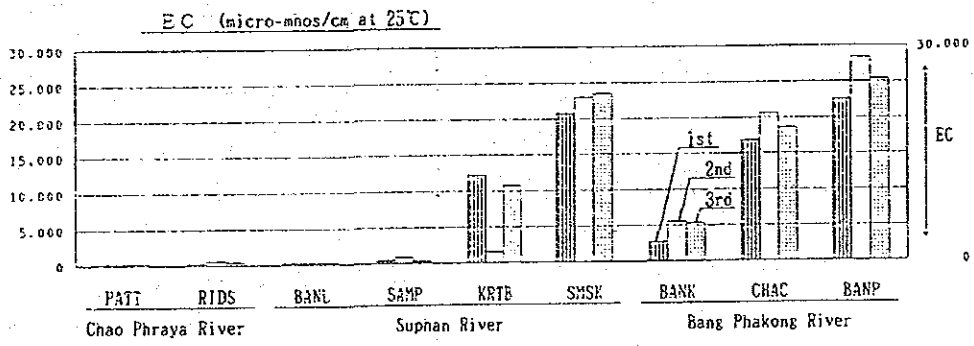
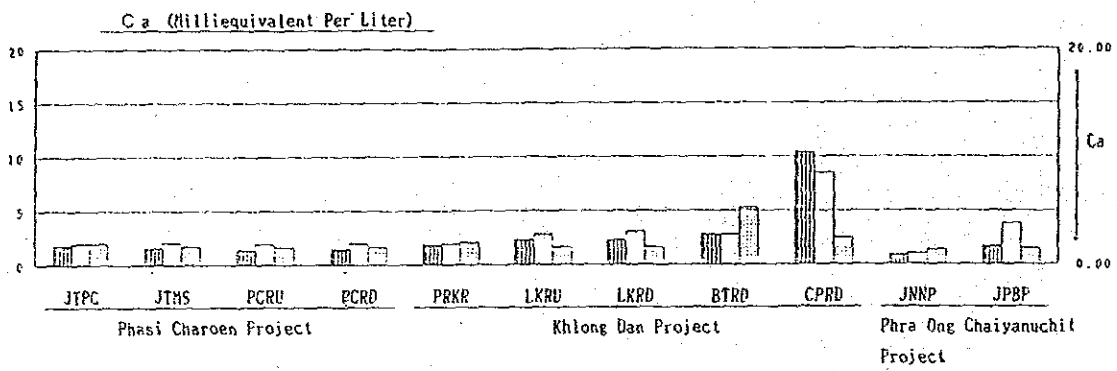
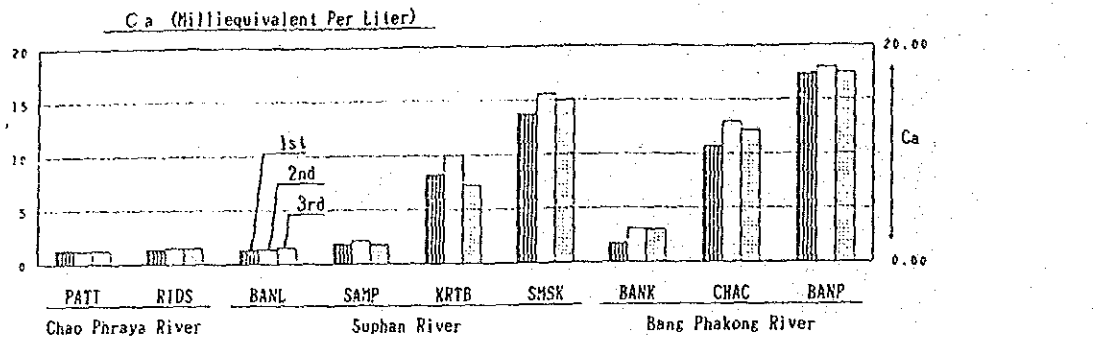


Figure 5-3 (1) RESULT OF WATER QUALITY (pH, EC)



水质検査結果 (Mg)

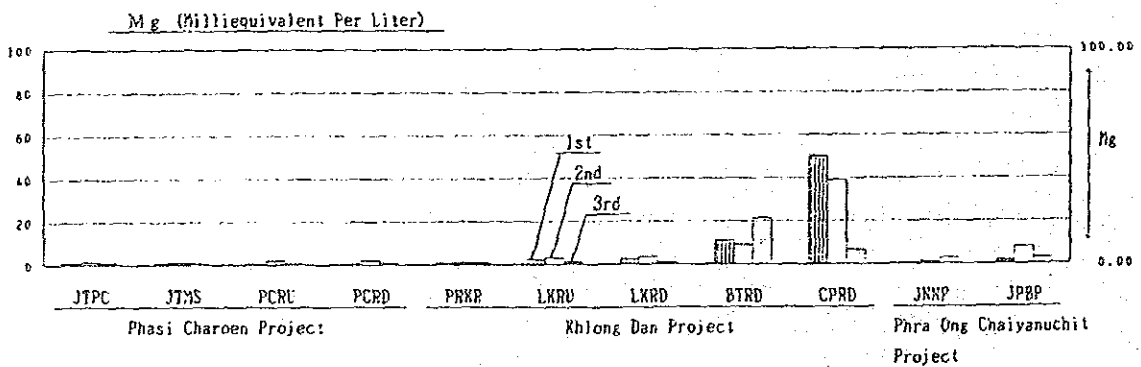
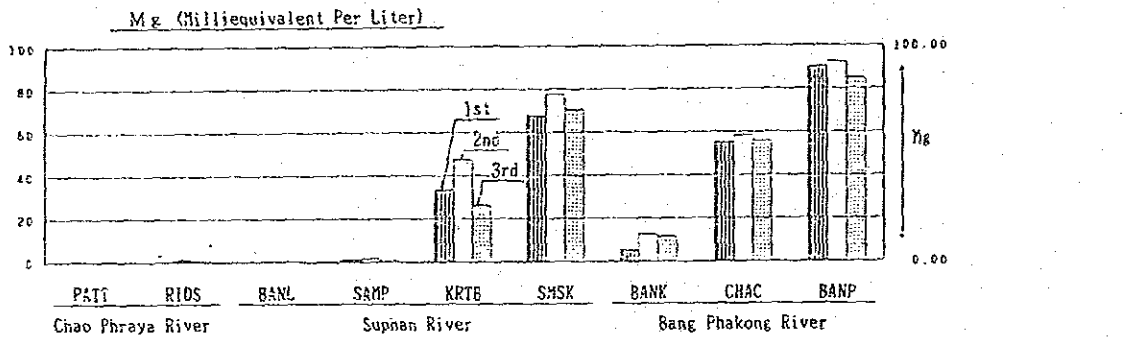
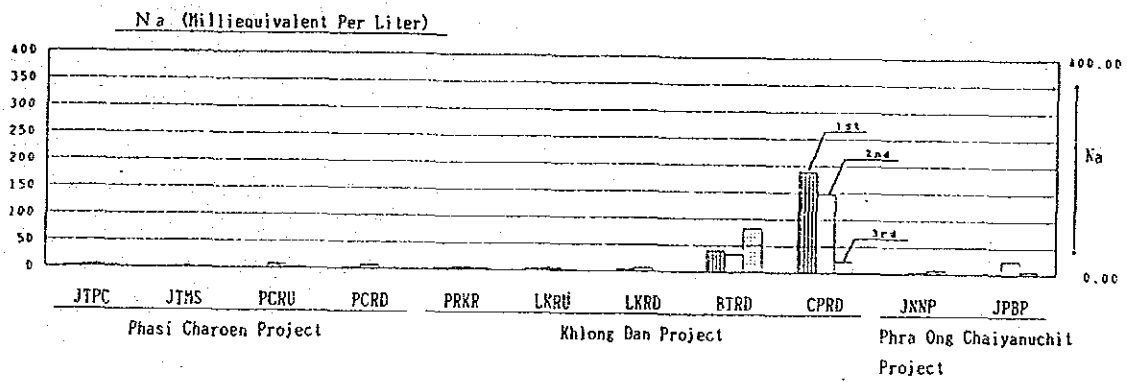
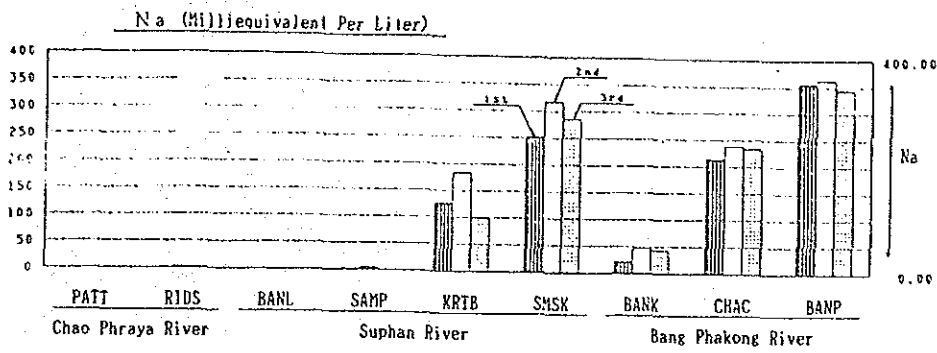


Figure 5-3 (2) RESULT OF WATER QUALITY (Ca, Mg)



水质検査結果 (K)

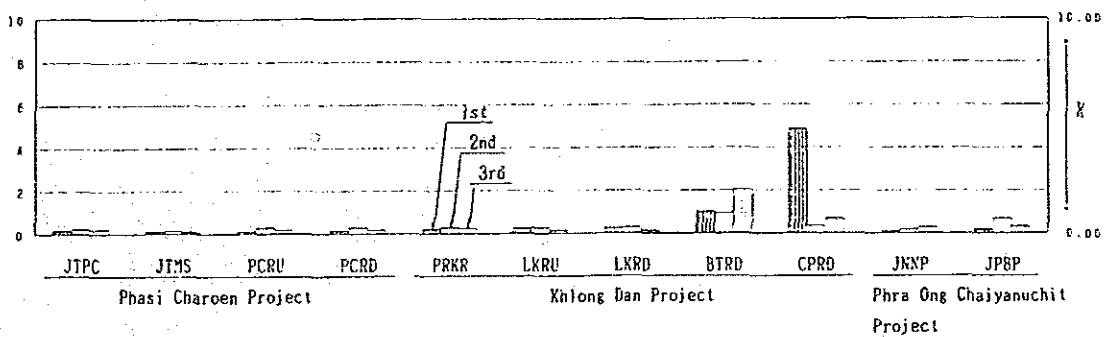
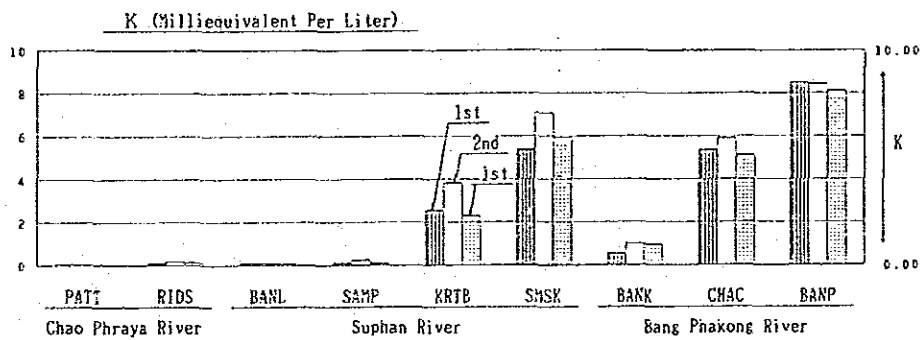
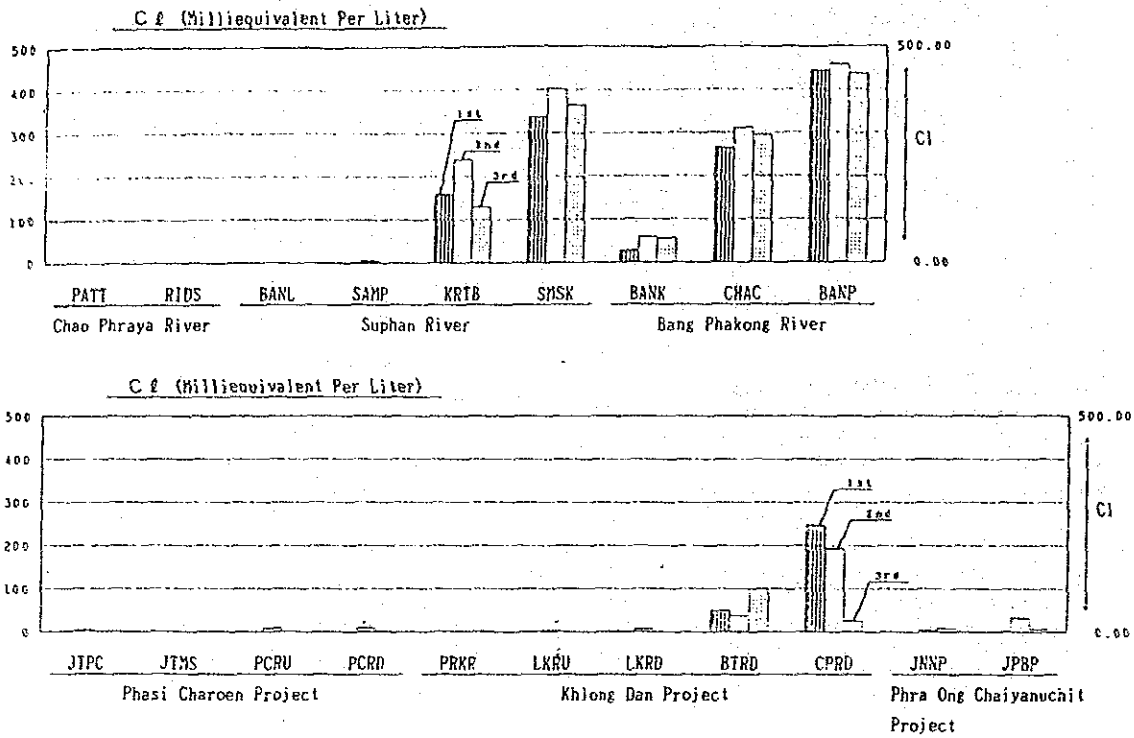


Figure 5-3 (3) RESULT OF WATER QUALITY (Na, K)



水质検査結果 (CO₂)

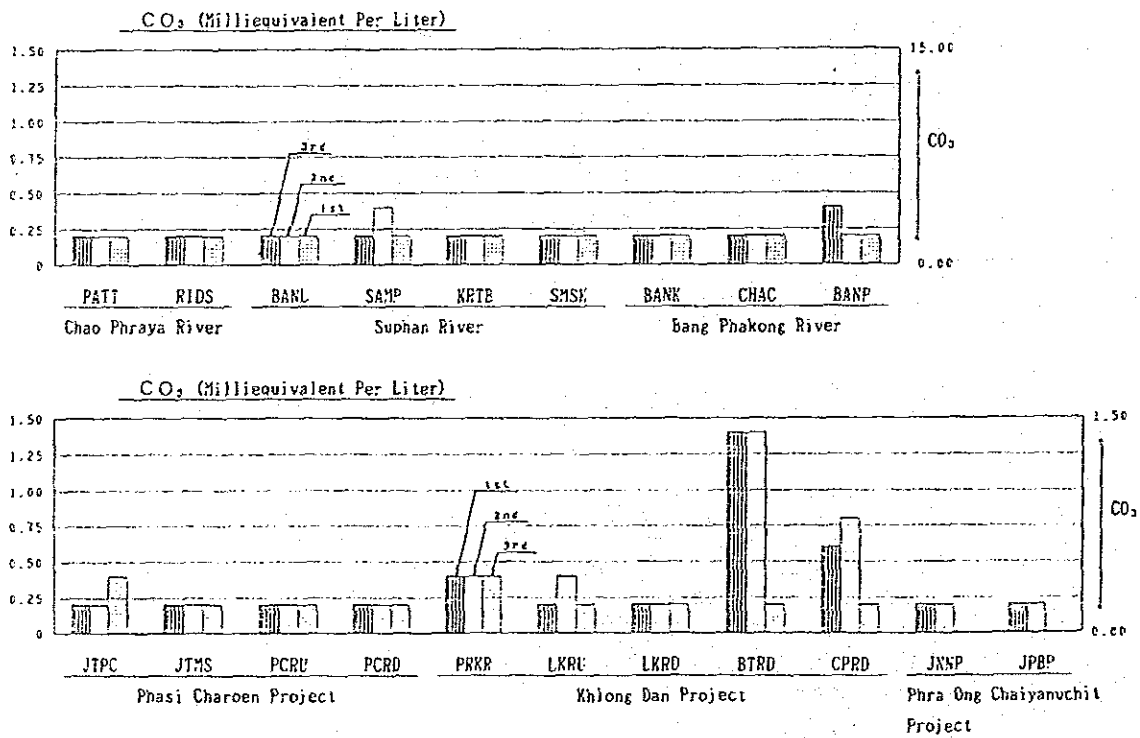
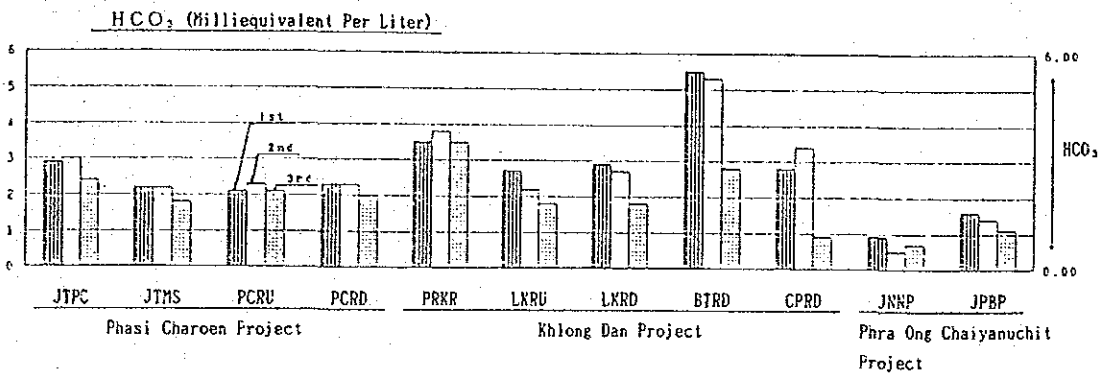
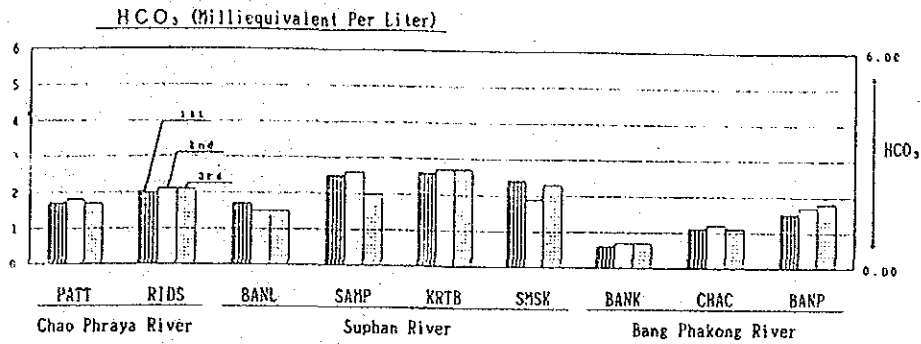


Figure 5-3 (4) RESULT OF WATER QUALITY (Cl, CO₂)



水质検査結果 (SO₄)

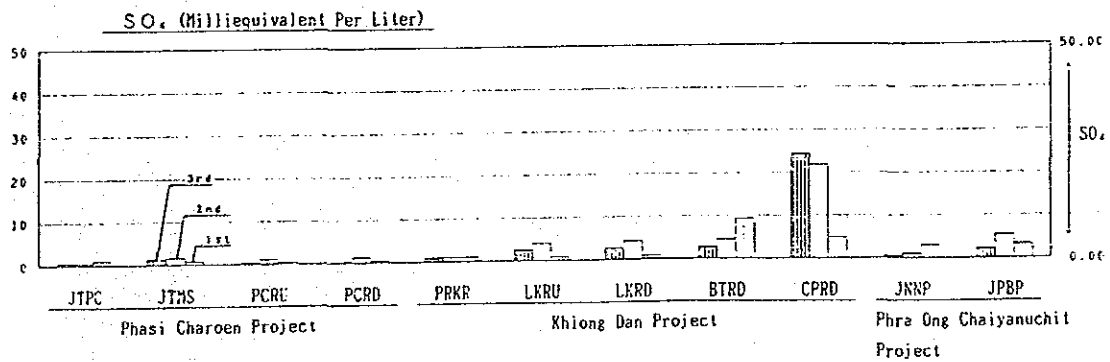
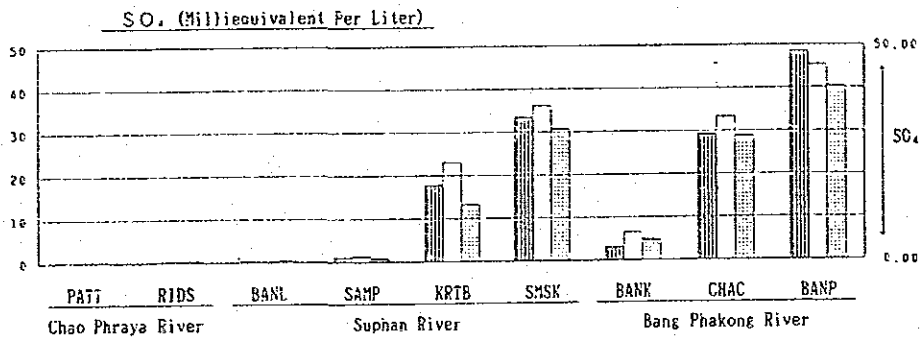
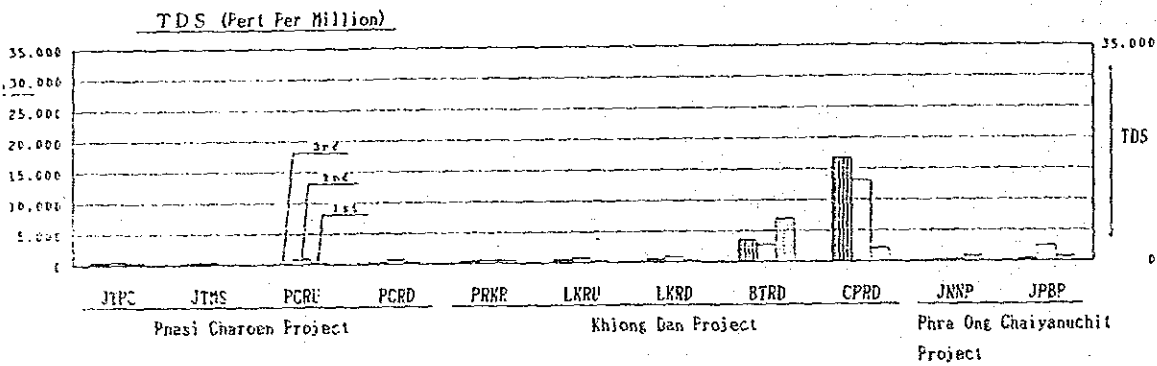
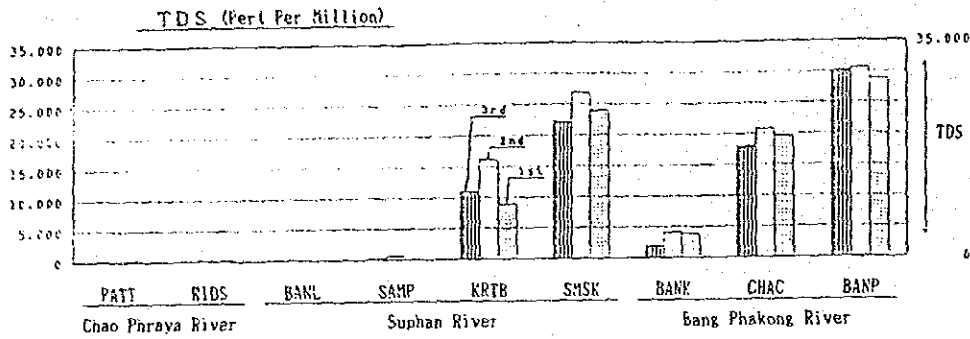


Figure 5-3 (5) RESULT OF WATER QUALITY (HCO₃, SO₄)



水質検査結果 (SSP)

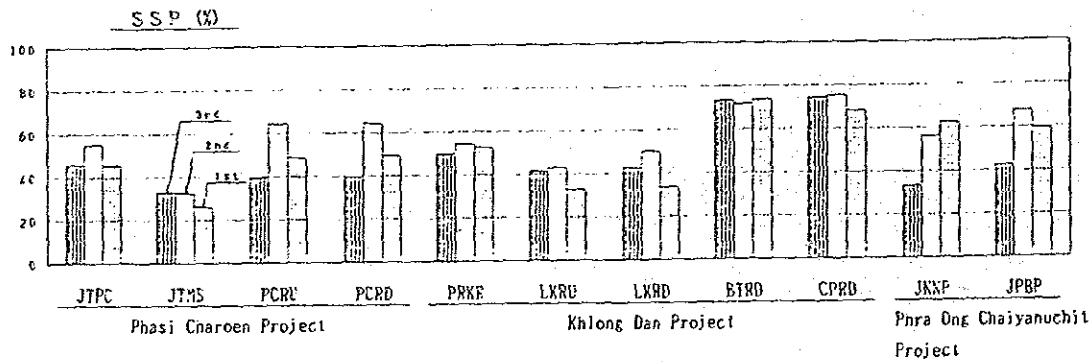
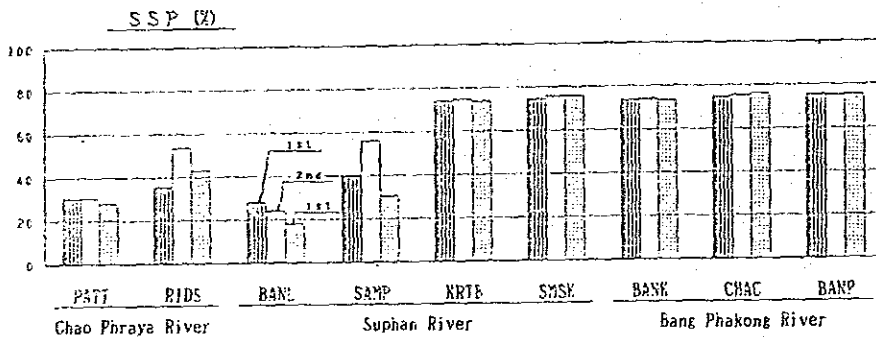
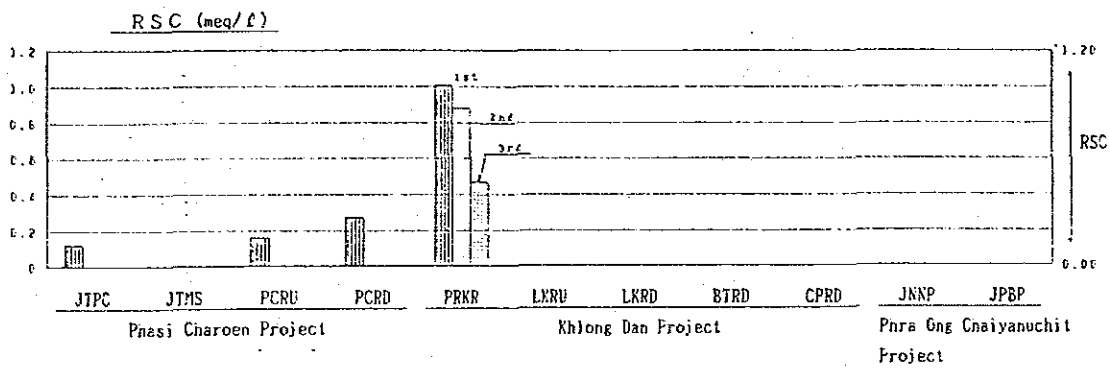
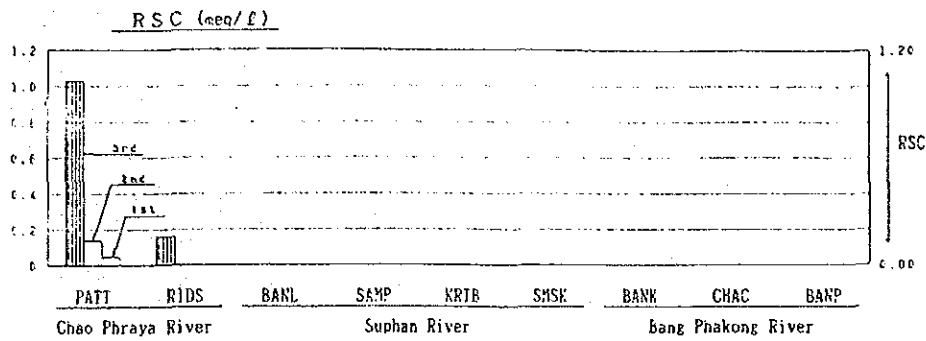


Figure 5-3 (6) RESULT OF WATER QUALITY (TDS, SSD)



水質検査結果 (SAR)

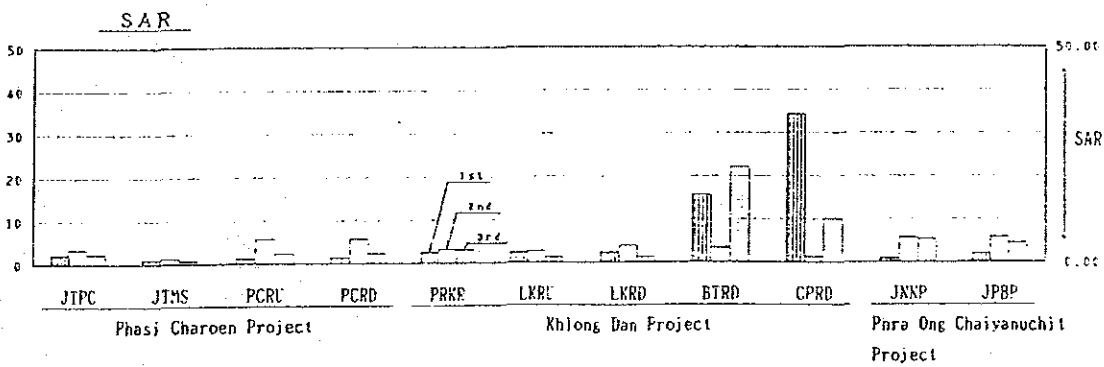
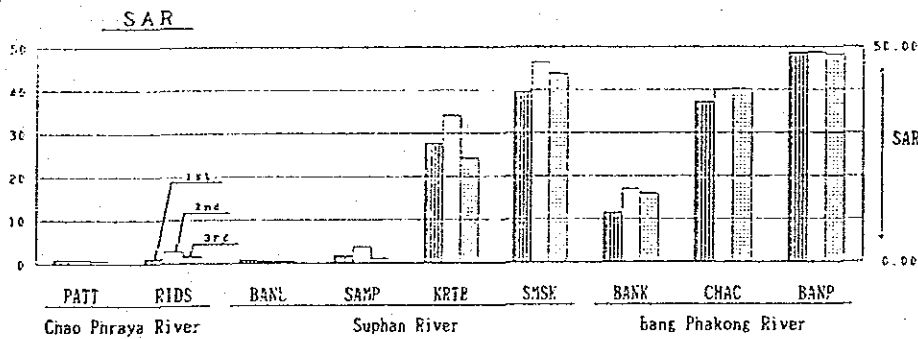
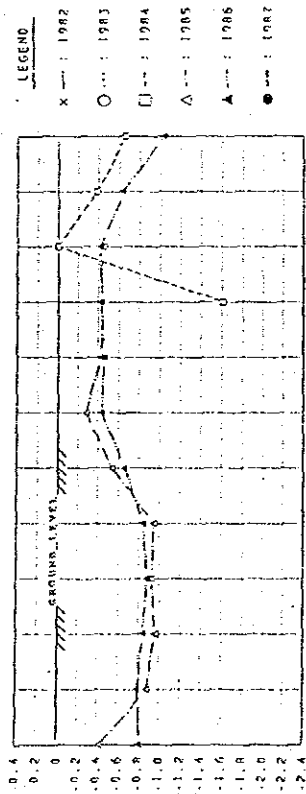


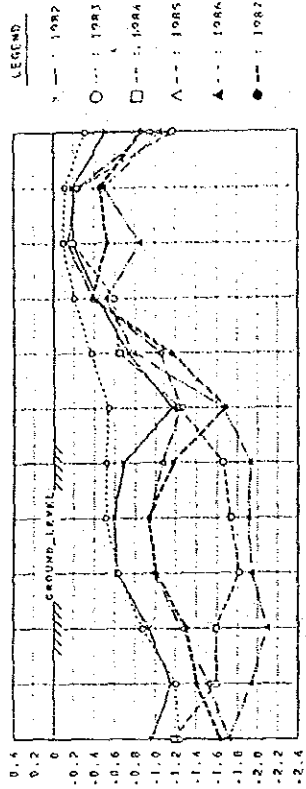
Figure 5-3 (7) RESULT OF WATER QUALITY (RSC, SAR)

GROUND WATER LEVEL IN MAE FANG - MAE NGUAD PROJECT



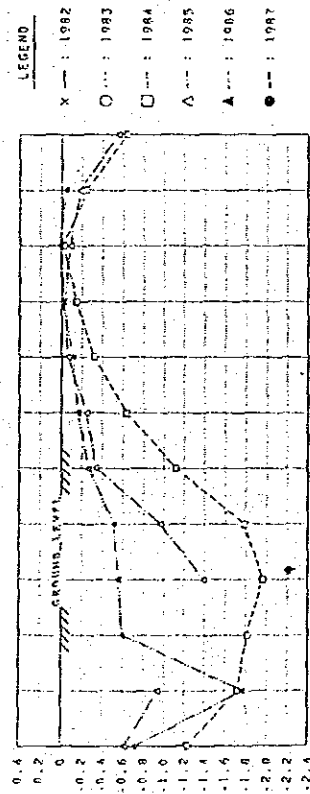
JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC

GROUND WATER LEVEL IN CHANASUTR PROJECT



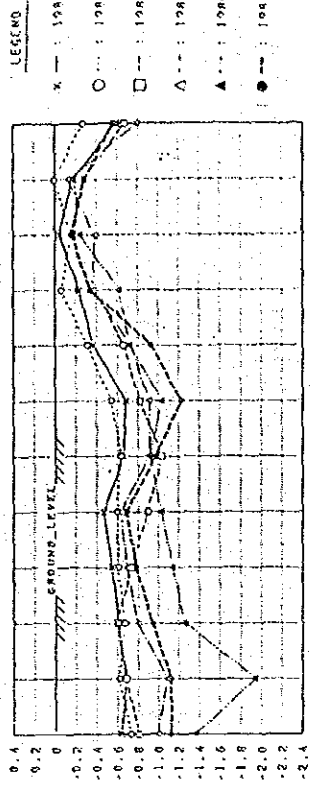
JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC

GROUND WATER LEVEL IN MAE KUANG PROJECT



JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC

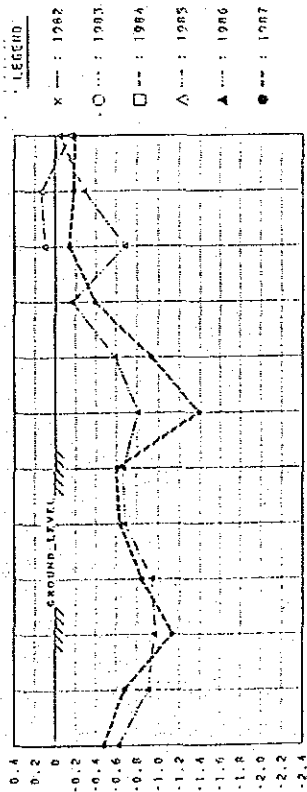
GROUND WATER LEVEL IN CHANASUTR PROJECT (INTERCEPTION DRAIN)



JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC

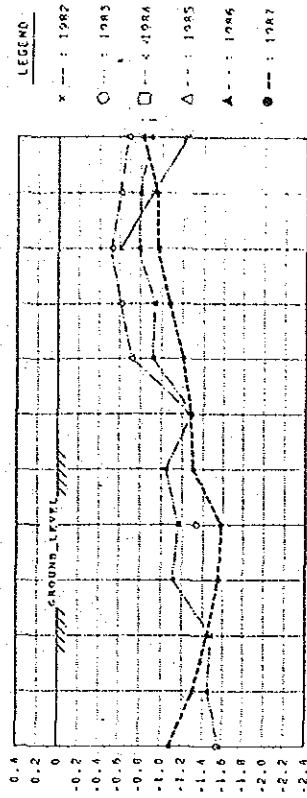
Figure 6-3 (1) FLUCTUATION OF GROUND WATER LEVEL

FIG. GROUND WATER LEVEL IN YANG MANEE PROJECT



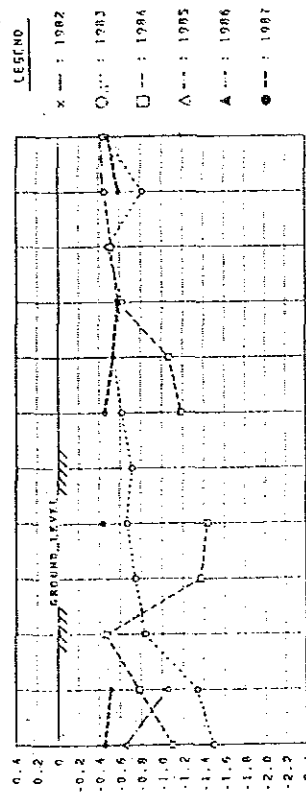
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FIG. GROUND WATER LEVEL IN SAMCHOOK PROJECT



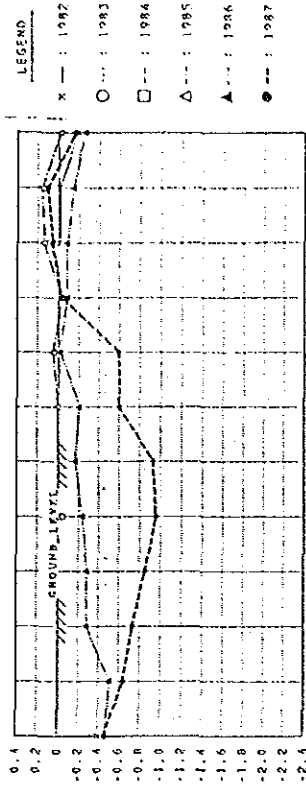
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FIG. GROUND WATER LEVEL IN DONCHERIE PROJECT



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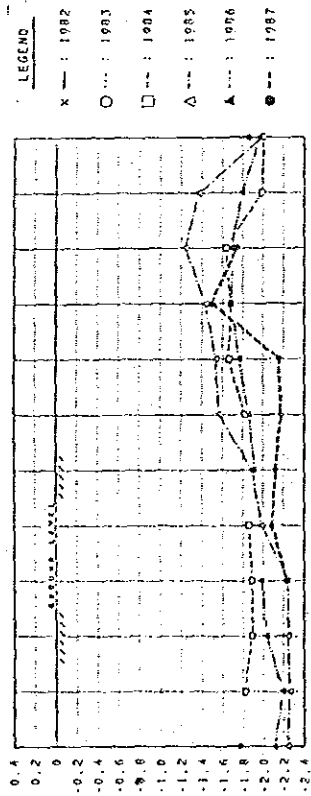
FIG. GROUND WATER LEVEL IN SOMCHOOK PROJECT (INTERCEPTION DRAIN)



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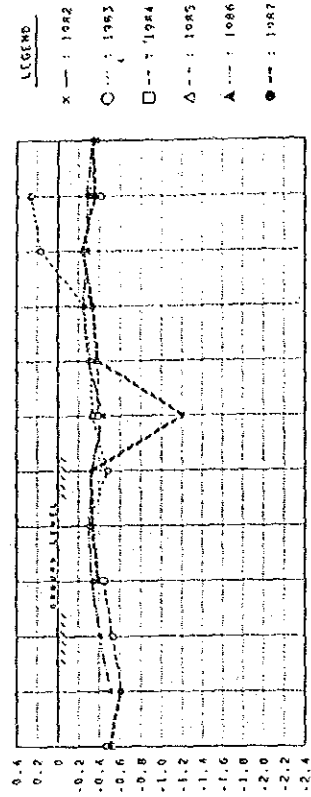
Figure 6-3 (2) FLUCTUATION OF GROUND WATER LEVEL

FIG. GROUND WATER LEVEL IN PHONLA THIEP PROJECT



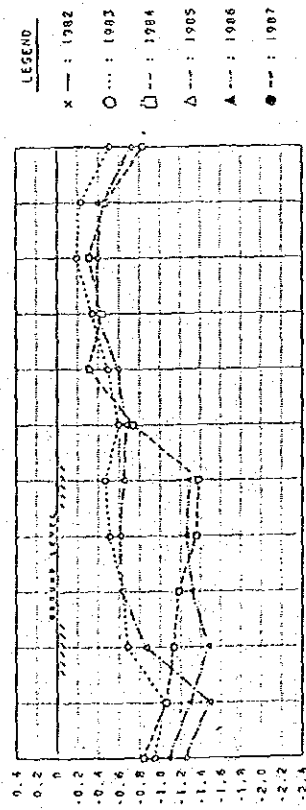
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FIG. GROUND WATER LEVEL IN PHONHVA PROJECT



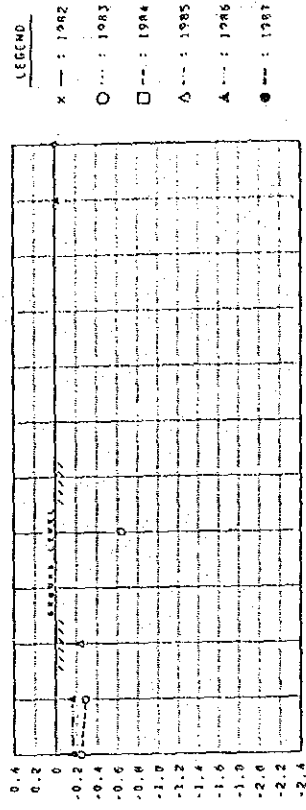
JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC

FIG. GROUND WATER LEVEL IN THIANOTE PROJECT



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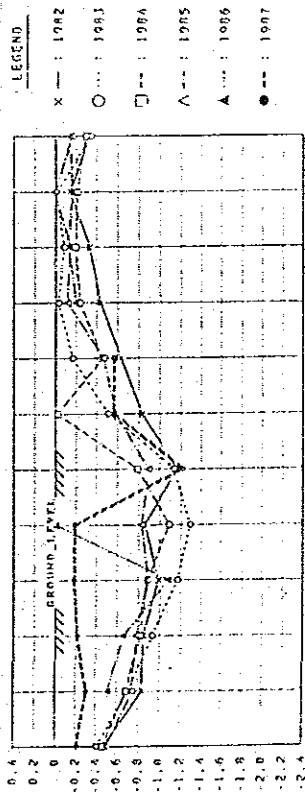
FIG. GROUND WATER LEVEL IN CHOH CHIED BANG YI NON PROJECT



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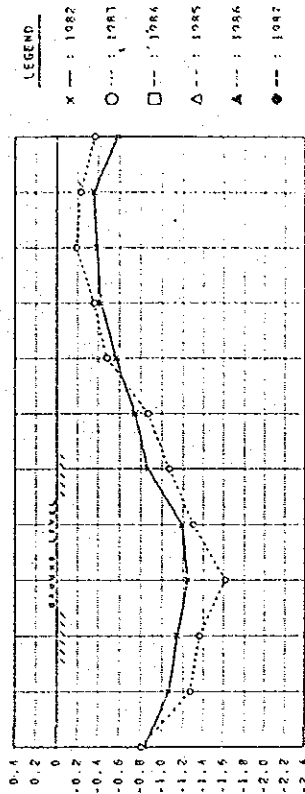
Figure 6-3 (3) FLUCTUATION OF GROUND WATER LEVEL

FIG. GROUND WATER LEVEL IN CHONG KAE PROJECT



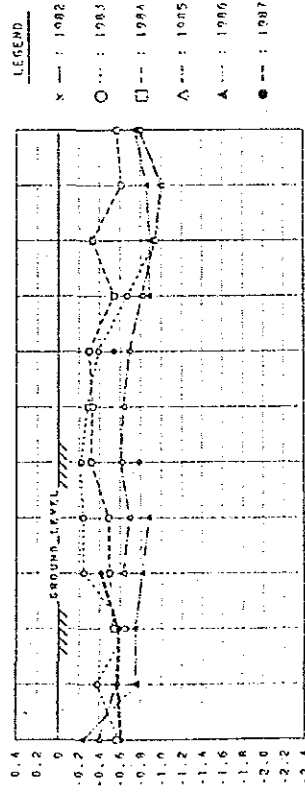
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FIG. GROUND WATER LEVEL IN KOKE KATHIEN PROJECT



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FIG. GROUND WATER LEVEL IN CHONG KAE PROJECT (INTERCEPTION DRAIN)



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Figure 6-3 (4) FLUCTUATION OF GROUND WATER LEVEL