Flow Chart for Sequence of the Planning

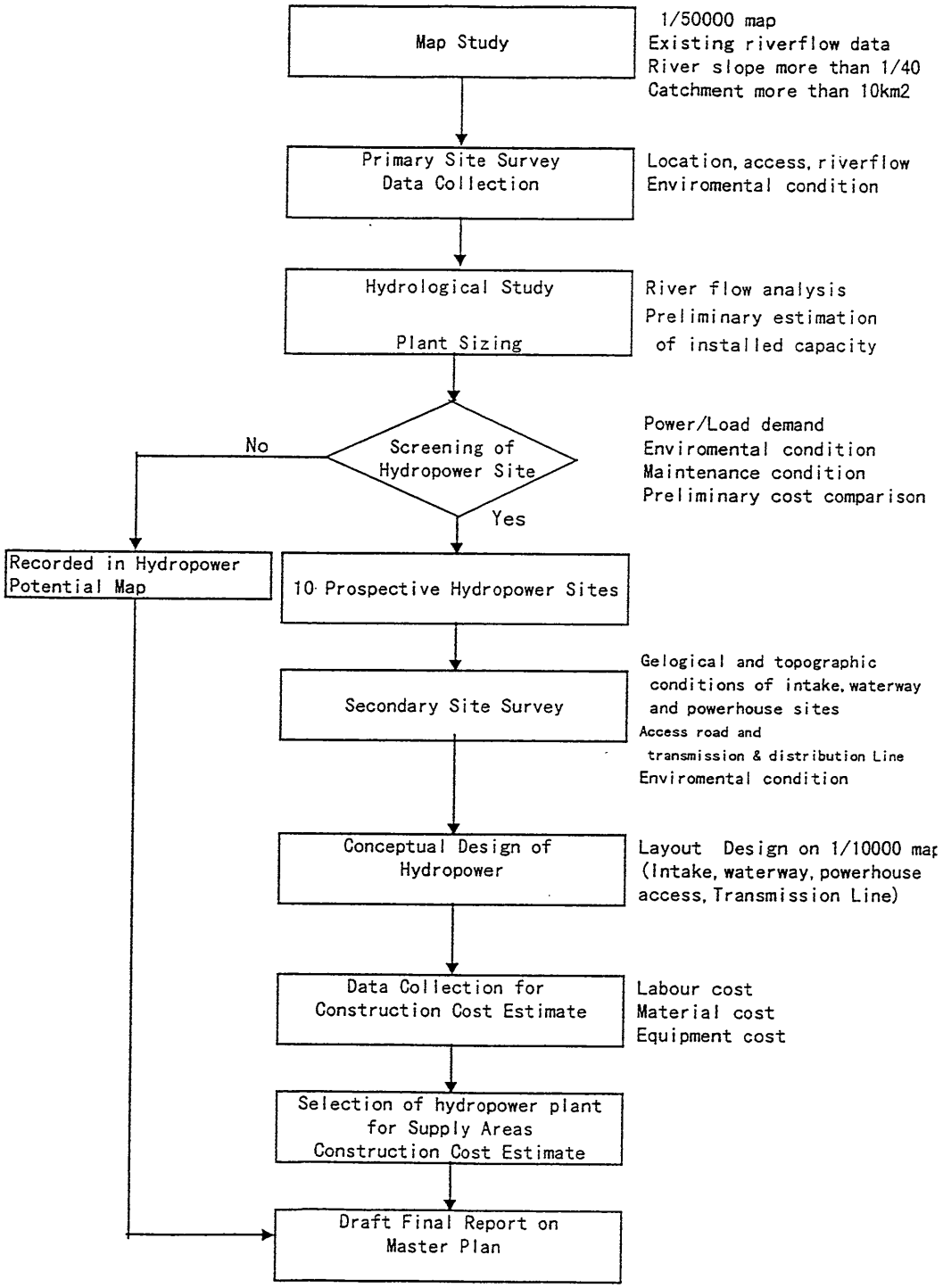
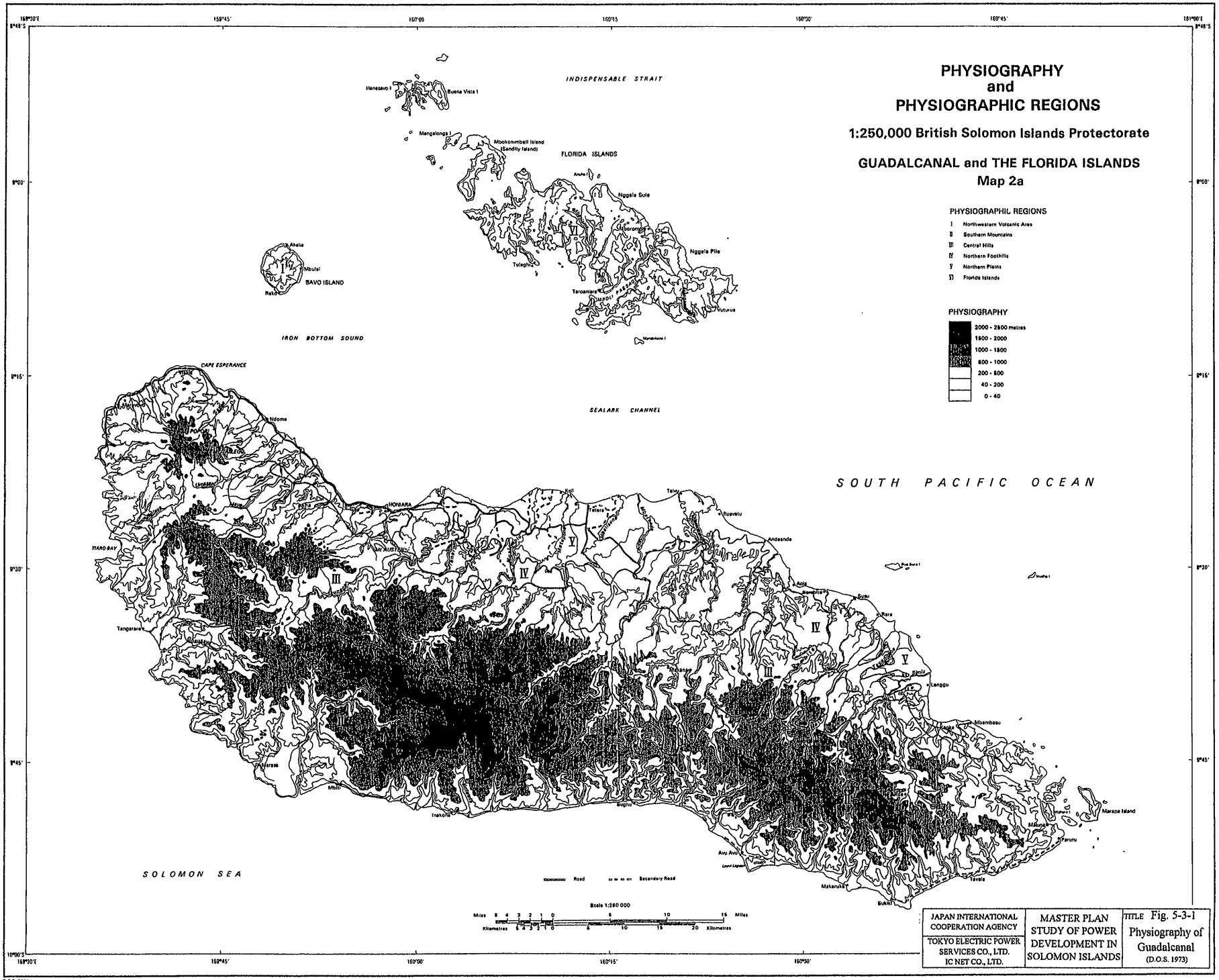
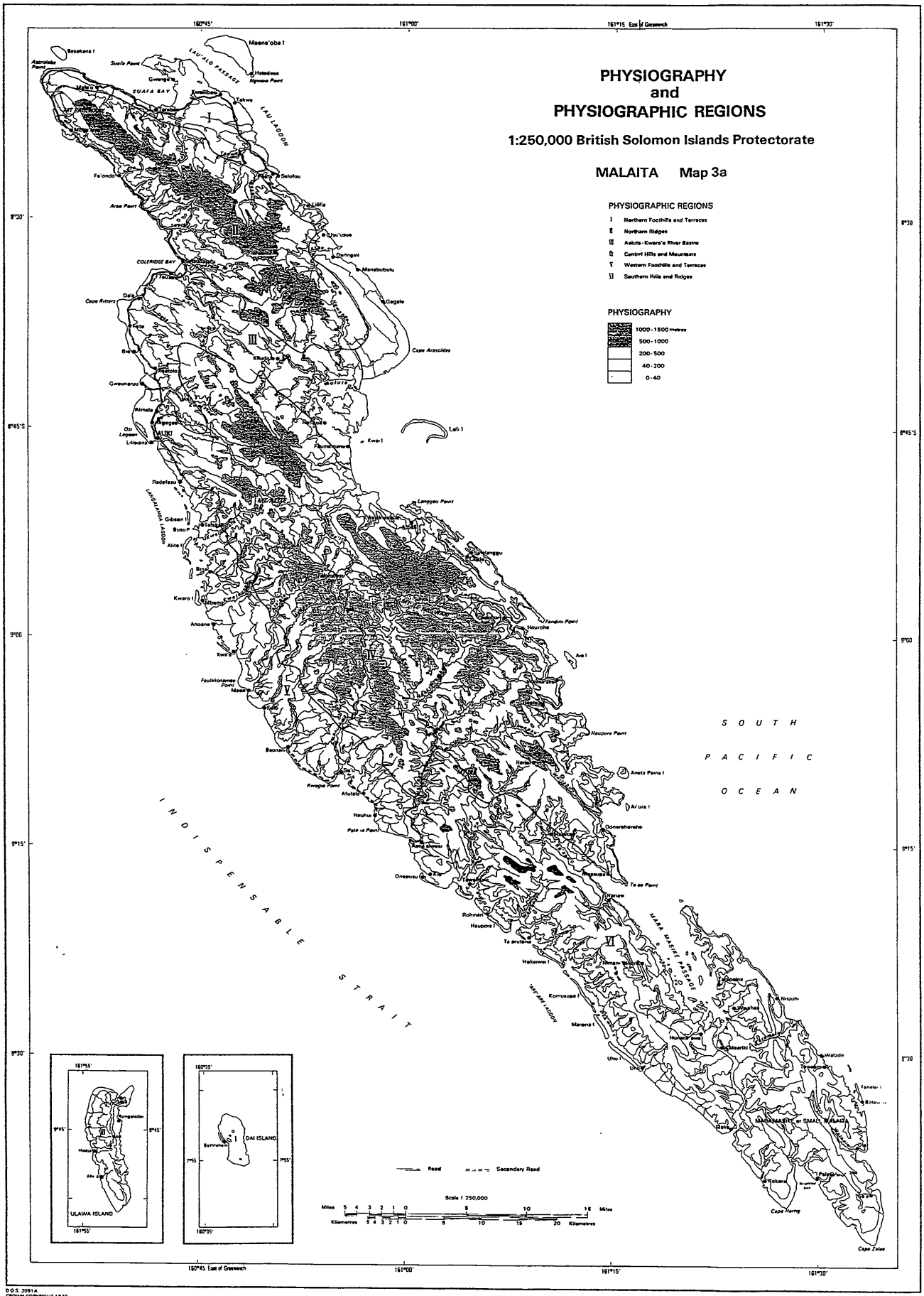


Fig. 5-2-1. Flow Chart for Sequence of the Planning



JAPAN INTERNATIONAL COOPERATION AGENCY TOKYO ELECTRIC POWER SERVICES CO., LTD. IC NET CO., LTD.	MASTER PLAN STUDY OF POWER DEVELOPMENT IN SOLOMON ISLANDS	TITLE Fig. 5-3-1 Physiography of Guadalcanal (D.O.S. 1973)

DOS 3089A



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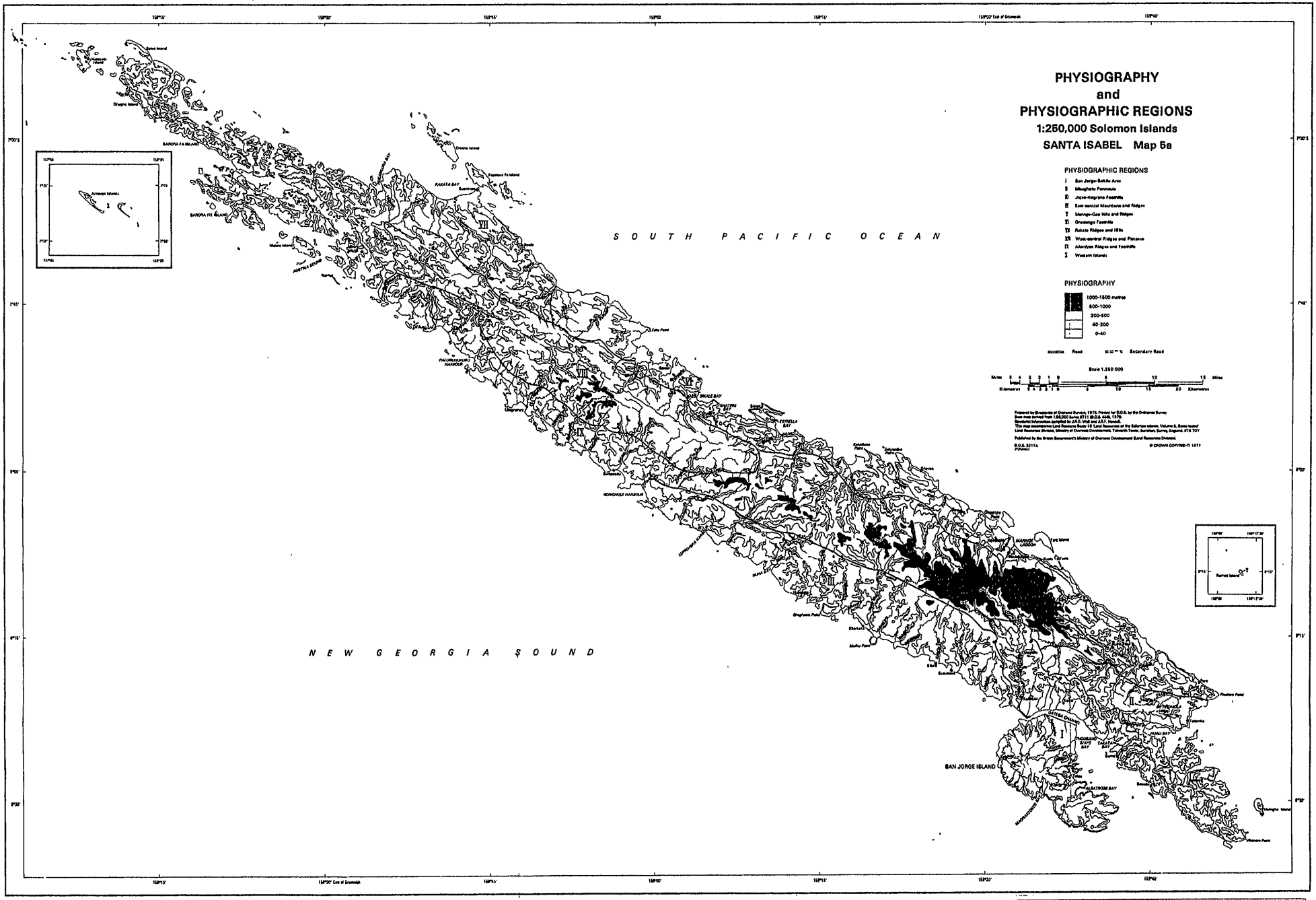
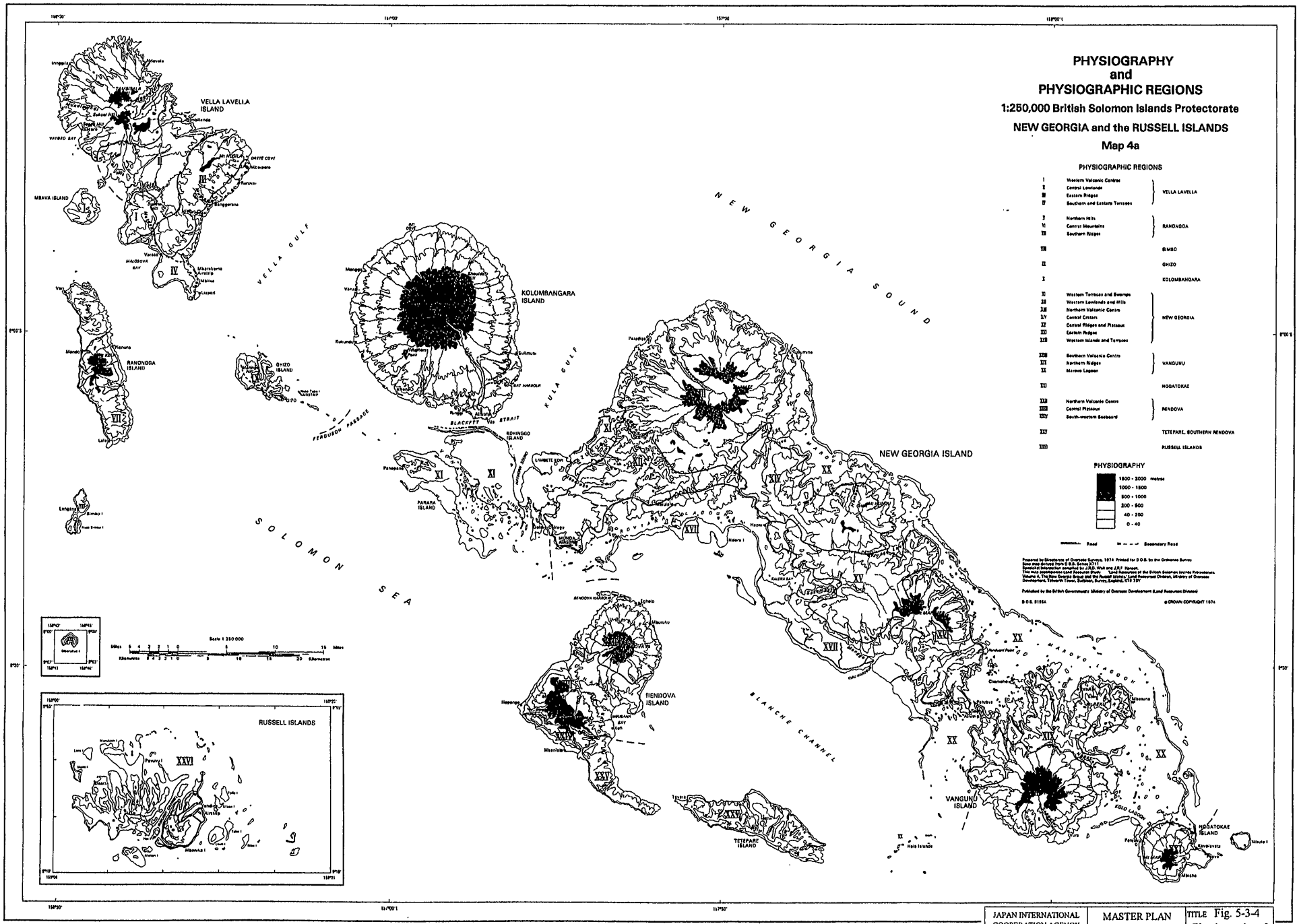
JAPAN INTERNATIONAL COOPERATION AGENCY	MASTER PLAN STUDY OF POWER DEVELOPMENT IN SOLOMON ISLANDS	TITLE Fig. 5-3-2 Physiography of Malaita (D O.S. 1973)
TOKYO ELECTRIC POWER SERVICES CO , LTD. IC NET CO., LTD.		

101
32



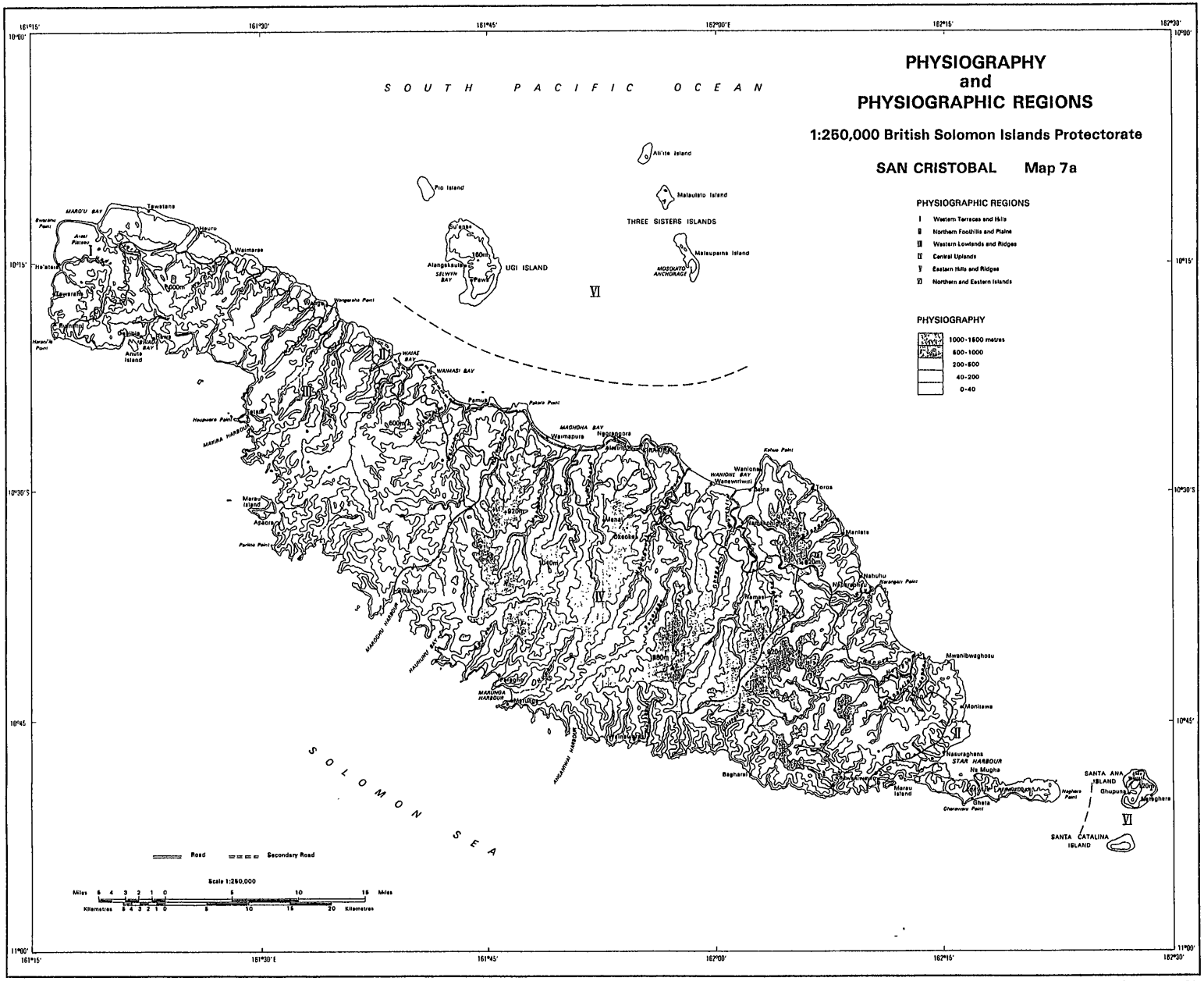
JAPAN INTERNATIONAL COOPERATION AGENCY TOKYO ELECTRIC POWER SERVICES CO., LTD. IC NET CO., LTD.	MASTER PLAN STUDY OF POWER DEVELOPMENT IN SOLOMON ISLANDS	TITLE Fig. 5-3-3 Physiography of Santa Isabel (D.O.S. 1977)

5-3-102



JAPAN INTERNATIONAL COOPERATION AGENCY	MASTER PLAN STUDY OF POWER DEVELOPMENT IN SOLOMON ISLANDS	TITLE Fig. 5-3-4 Physiography of New Georgia Group (D.O.S. 1974)
TOKYO ELECTRIC POWER SERVICES CO., LTD. IC NET CO., LTD		

5-3-103



DOS 3218A
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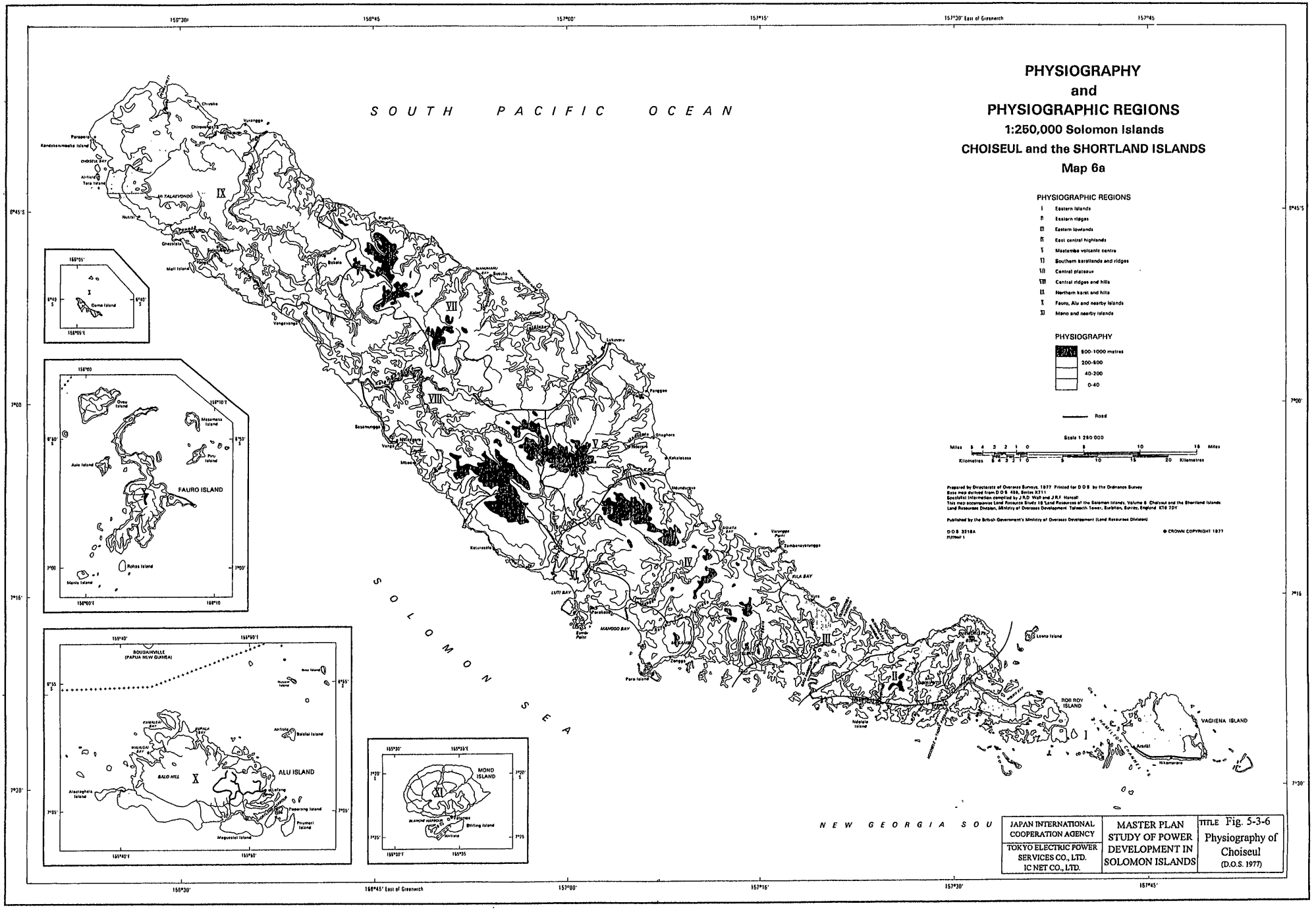
JAPAN INTERNATIONAL COOPERATION AGENCY TOKYO ELECTRIC POWER SERVICES CO., LTD IC NET CO., LTD	MASTER PLAN STUDY OF POWER DEVELOPMENT IN SOLOMON ISLANDS	TITLE Fig. 5-3-5 Physiography of San Cristobal (D.O.S. 1975)

5-3-104


PHYSIOGRAPHY
and
PHYSIOGRAPHIC REGIONS
1:250,000 Solomon Islands
CHOISEUL and the SHORTLAND ISLANDS
Map 6a
SOUTH PACIFIC OCEAN
SOLOMON SEA
NEW GEORGIA SOU
PHYSIOGRAPHIC REGIONS
I Eastern Islands
II Eastern ridges
III Eastern lowlands
IV East central highlands
V Mastambe volcanic centre
VI Southern karstlands and ridges
VII Central plateaux
VIII Central ridges and hills
IX Northern karst and hills
X Fauro, Alu and nearby islands
XI Mono and nearby islands
PHYSIOGRAPHY
600-1000 metres
200-500
40-200
0-40
Road
Scale 1 250 000
Miles 5 4 3 2 1 0 5 10 15 Miles
Kilometres 5 4 3 2 1 0 5 10 15 20 Kilometres
Prepared by Directorate of Overseas Surveys, 1977. Printed for D O S by the Ordnance Survey
Base map derived from D O S 488, Series X711
Specialist information compiled by J.R.D. Wall and J.R.F. Hansell
This map accompanies Land Resource Study 18 "Land Resources of the Solomon Islands, Volume 6: Choiseul and the Shortland Islands"
Land Resources Division, Ministry of Overseas Development, Tolworth Tower, Surbiton, Surrey, England KT6 7DY
Published by the British Government's Ministry of Overseas Development (Land Resources Division)
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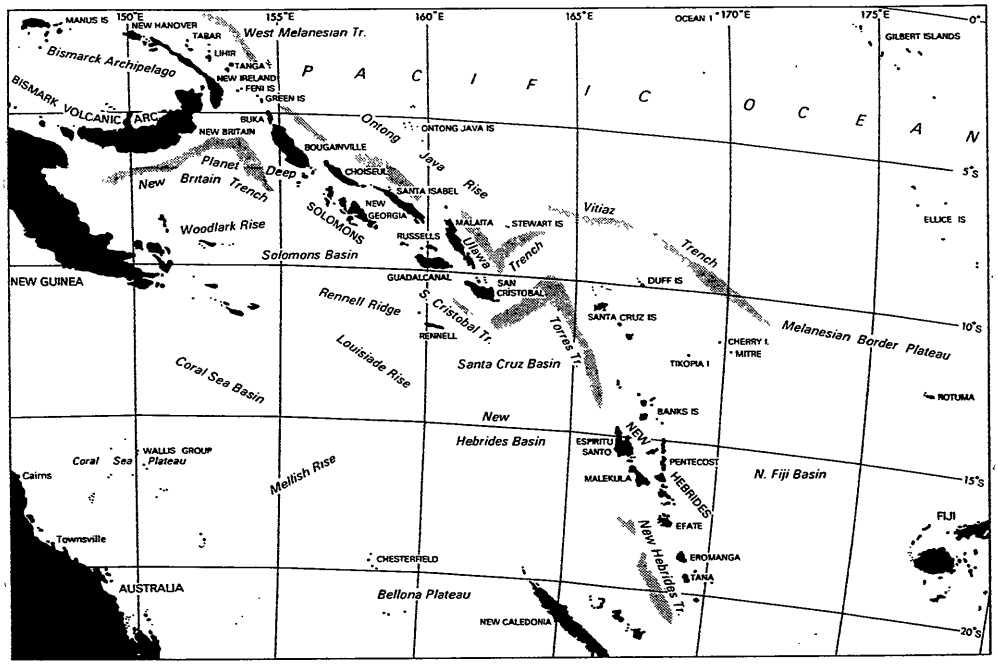
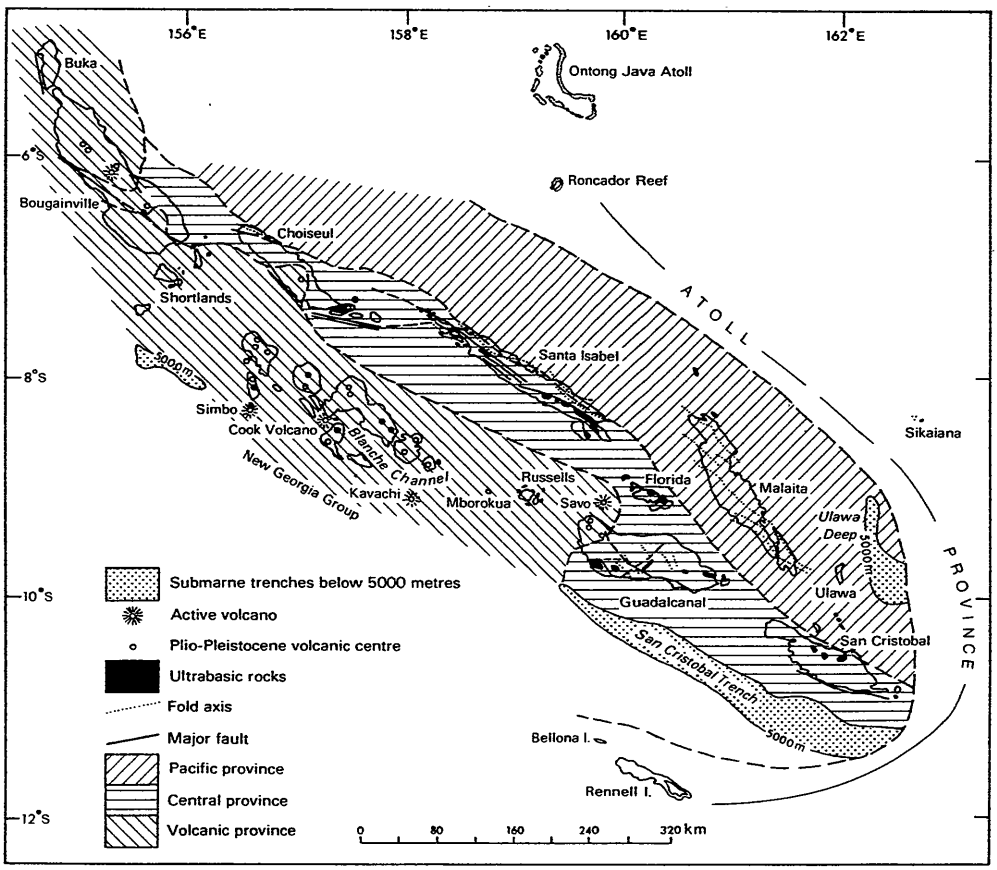
© CROWN COPYRIGHT 1977
FAURO ISLAND
ALU ISLAND
MONO ISLAND
ROBA ISLAND
MANTA ISLAND
ROBI ROY ISLAND
VAGHENA ISLAND
ROUGAINVILLE (PAPUA NEW GUINEA)
JAPAN INTERNATIONAL COOPERATION AGENCY
TOKYO ELECTRIC POWER SERVICES CO., LTD.
IC NET CO., LTD.
MASTER PLAN STUDY OF POWER DEVELOPMENT IN SOLOMON ISLANDS
TITLE Fig. 5-3-6 Physiography of Choiseul (D.O.S. 1977)



Map of the Melanesian archipelagos

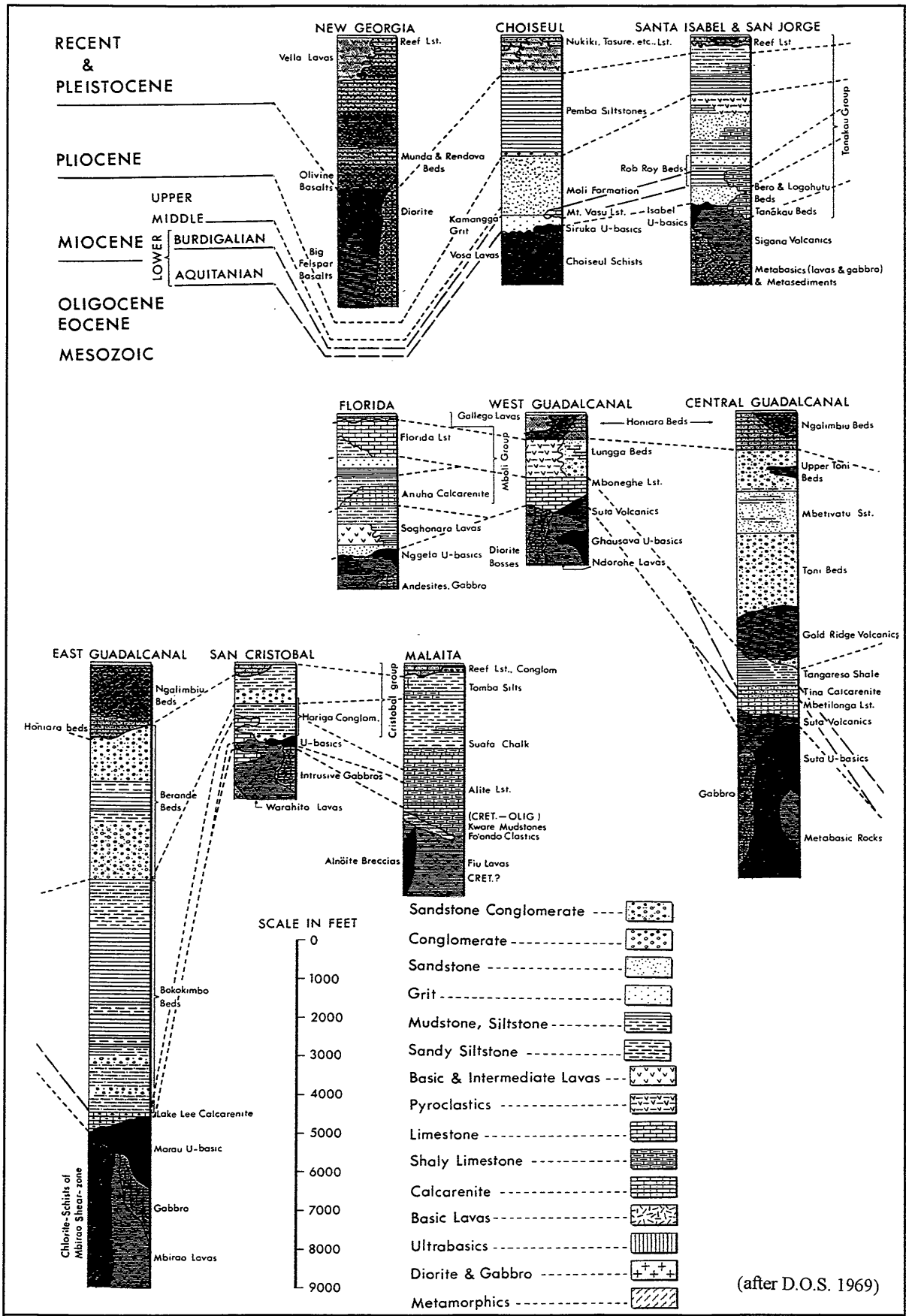


The geological provinces of the Solomon Islands

(after Hackman 1980)

JAPAN INTERNATIONAL COOPERATION AGENCY	MASTER PLAN STUDY OF POWER DEVELOPMENT IN SOLOMON ISLANDS	TITLE Fig. 5-3-7 Geological setting and Provinces of the Solomon Islands
TOKYO ELECTRIC POWER SERVICES CO., LTD. IC NET CO., LTD		

106
29



JAPAN INTERNATIONAL COOPERATION AGENCY	MASTER PLAN STUDY OF POWER DEVELOPMENT IN SOLOMON ISLANDS	TITLE
TOKYO ELECTRIC POWER SERVICES CO., LTD.		Fig. 5-3-8 Generalized Stratigraphy of the Solomon Islands
IC NET CO., LTD		

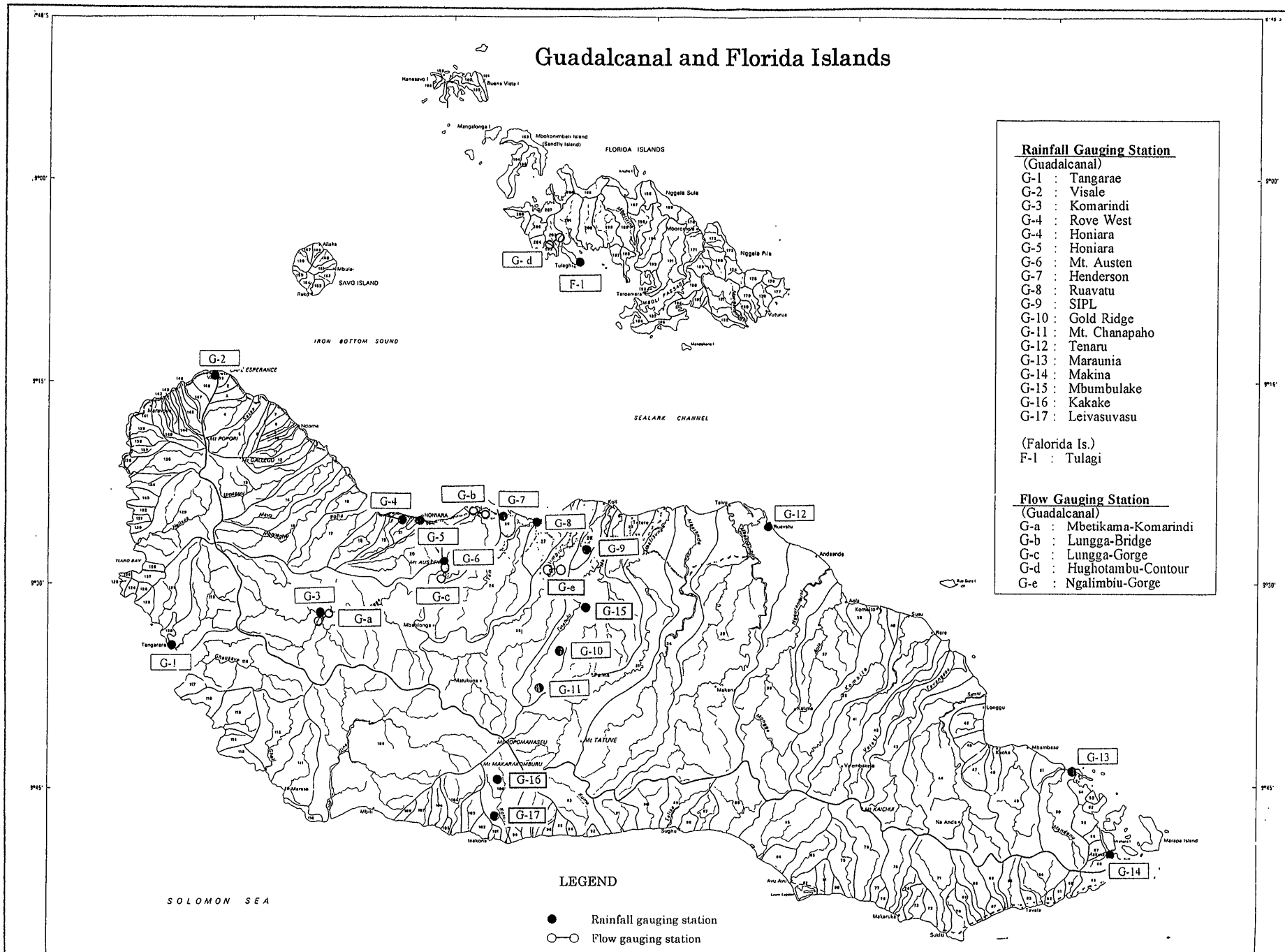


Fig. 5-3-9 Location Map of Meteorological Station (Guadalcanal and Florida Is.)

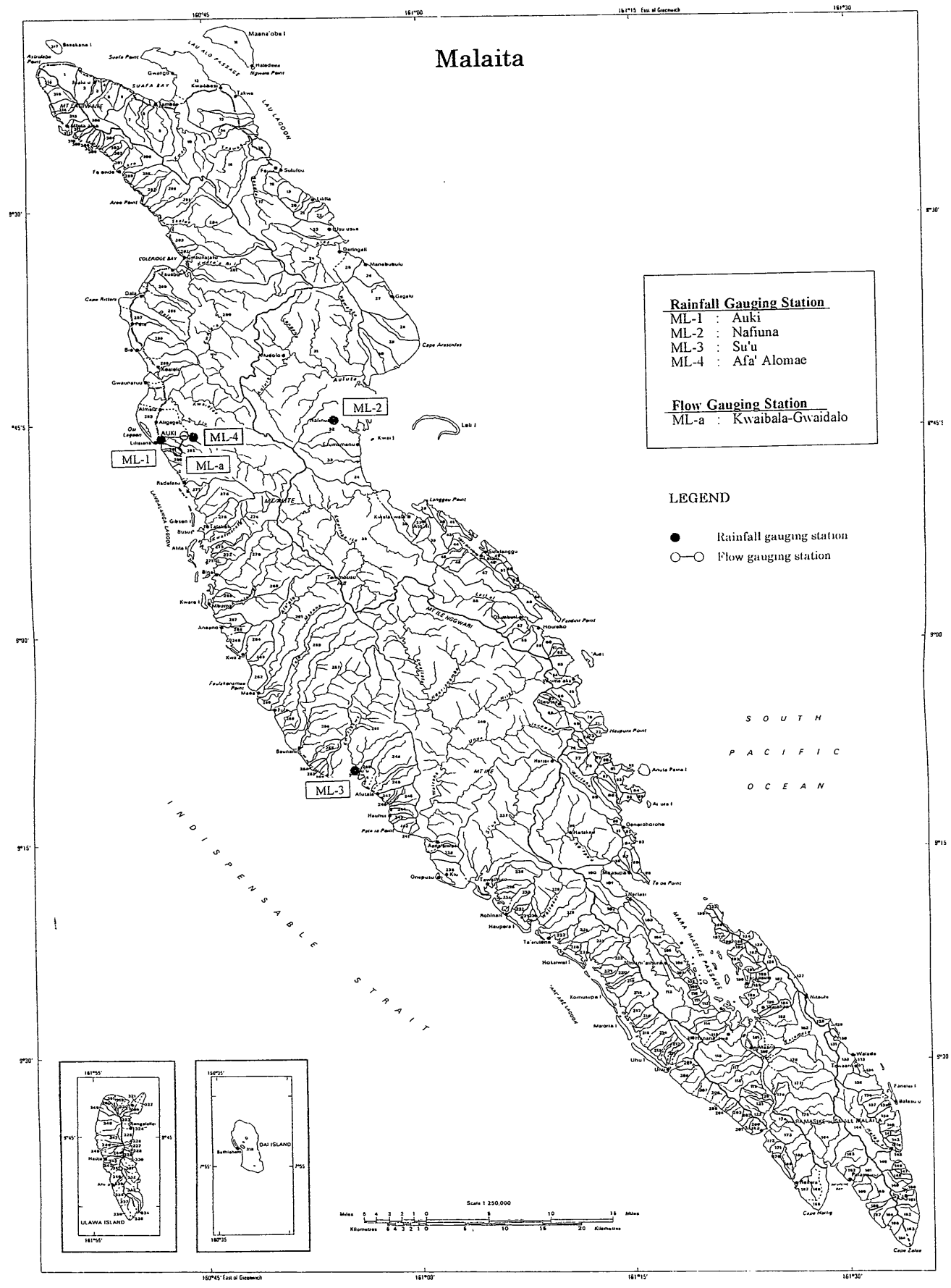


Fig. 5-3-10 Location Map of Meteorological Station (Malaita)

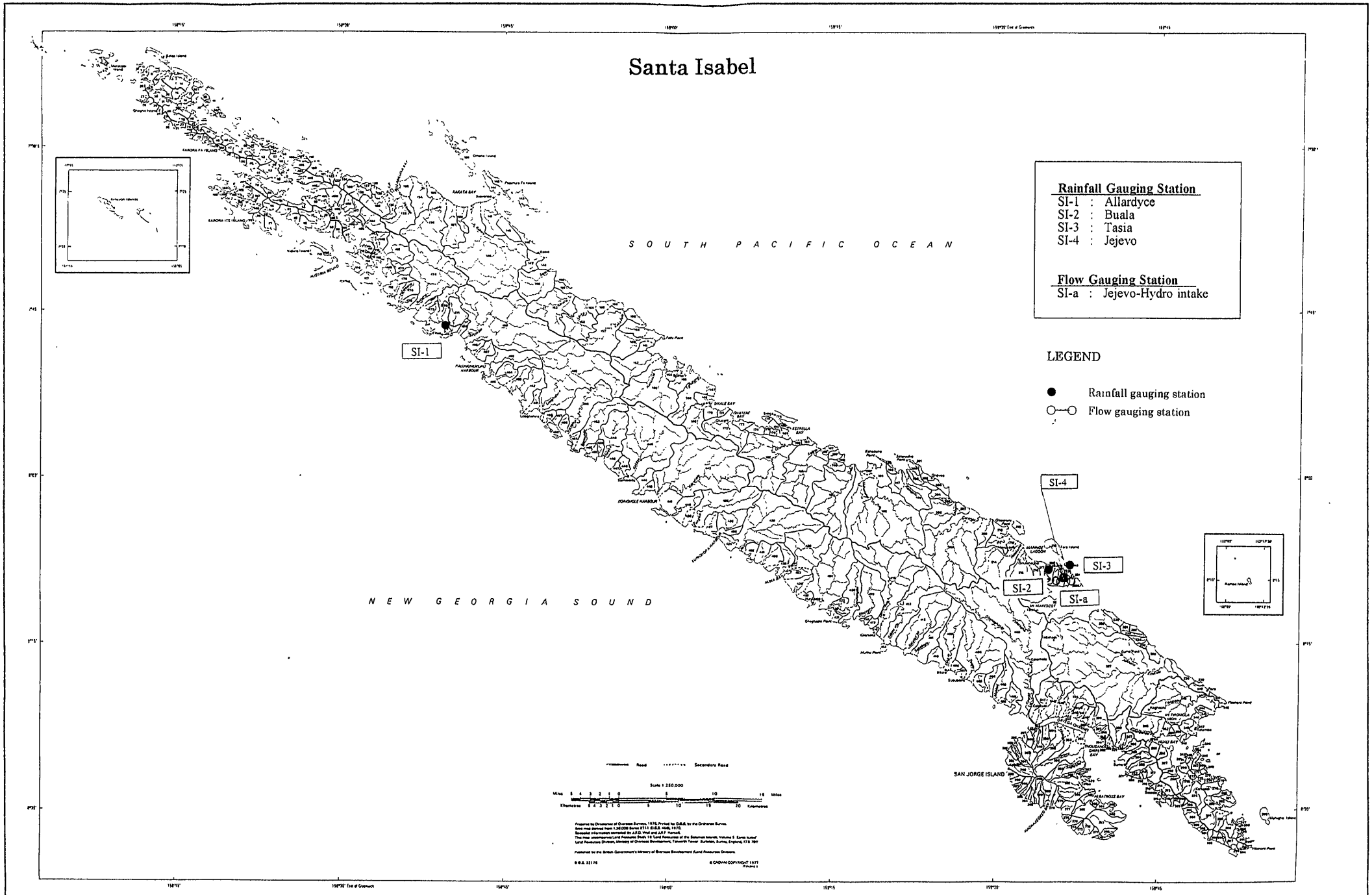


Fig. 5-3-11 Location Map of Meteorological Station (Santa Isabel)

San Cristobal

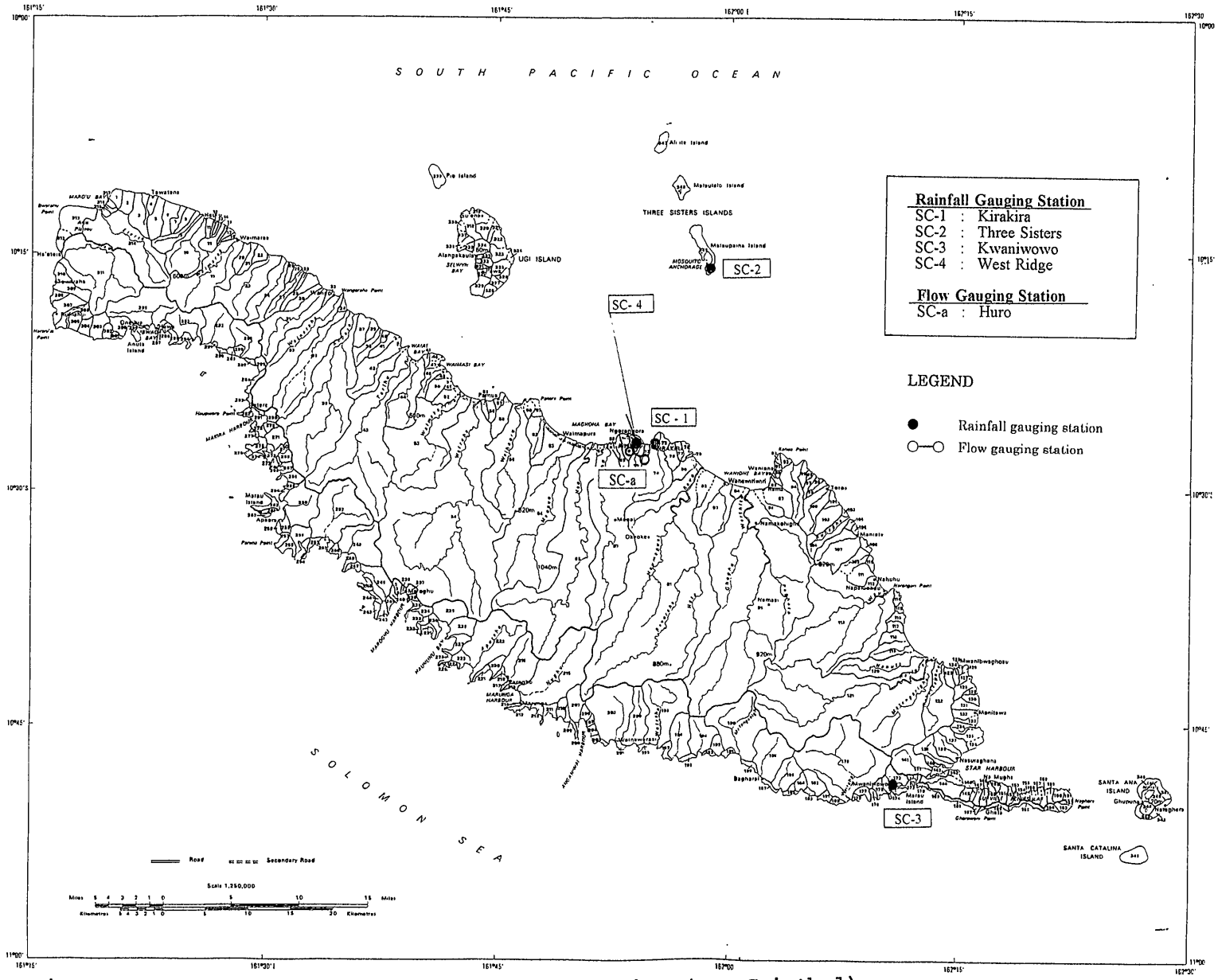


Fig. 5-3-12 Location Map of Meteorological Station (San Cristbal)

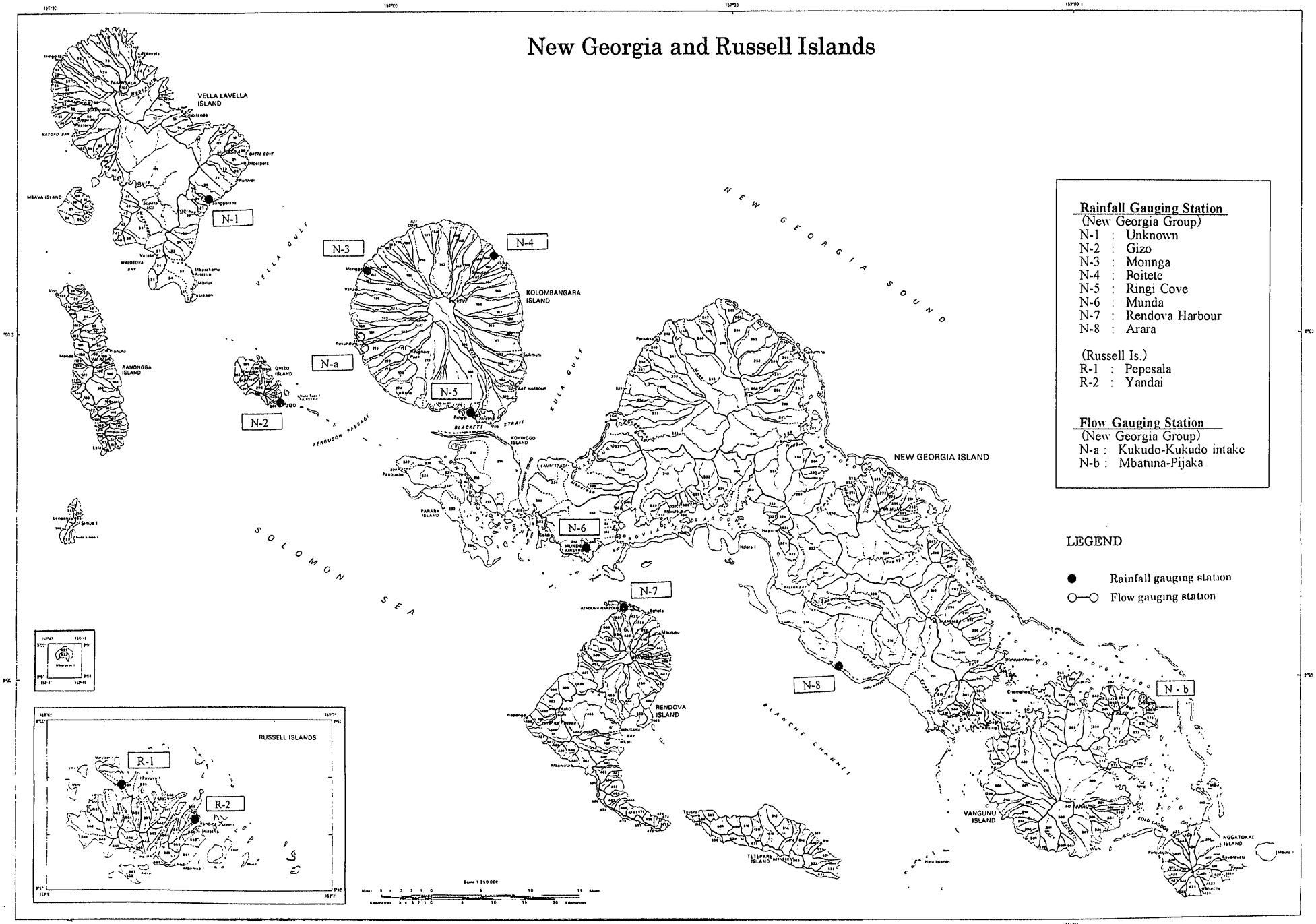


Fig. 5-3.13 Location Map of Meteorological Station (New Georgia and Russel Is.)

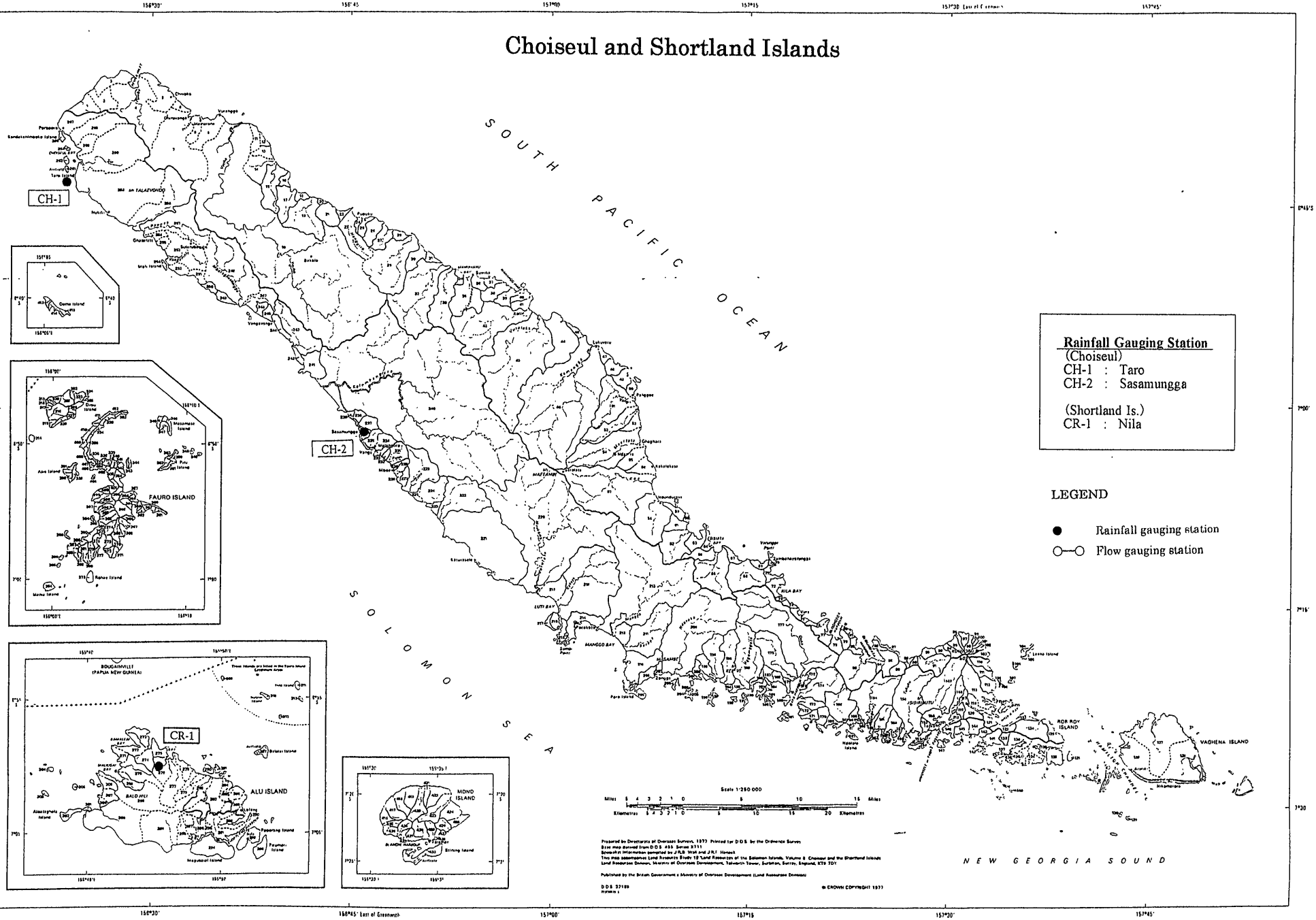


Fig. 5.3.14 Location Map of Meteorological Station (Choiseul and Shortland Is.)

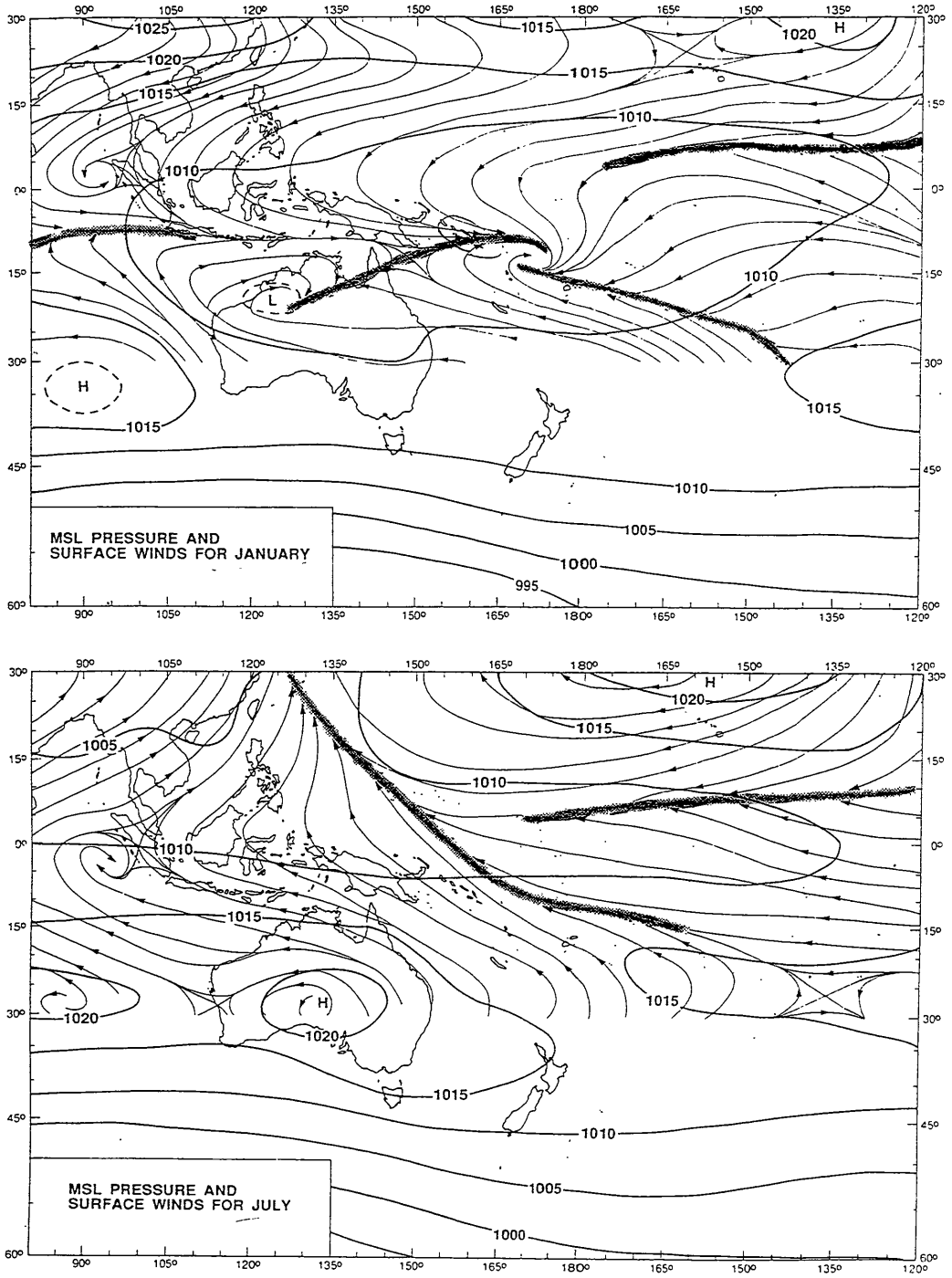


Fig.5-3-15 Long-term Average Patterns of Mean Sea Level Pressure(hpa) and Surface Winds from January and July

Source:"Claimate Change and Its Possible Impacts in the Southwest Pacific Region" by JW Zillman, W K Downey and M J Manton, Bureau of Meteorogy, Melbourne, Australia

Scientific Lecture Presented at the Tenth Session of WMO Regional Association V, Singapore 14-24 November 1989

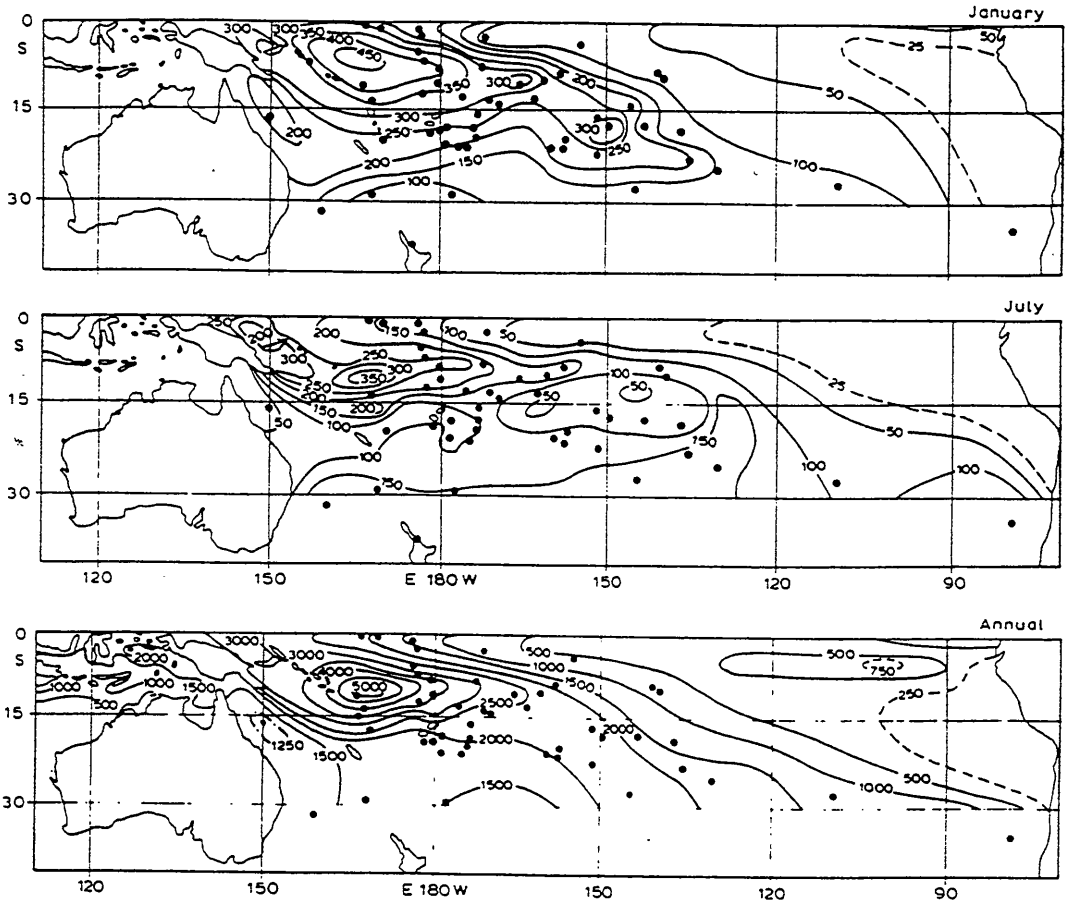
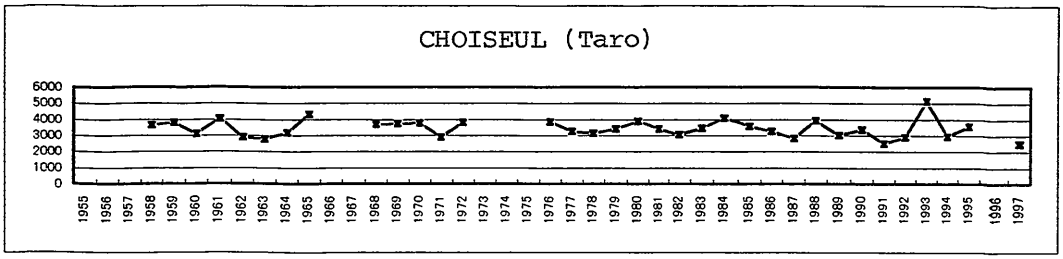
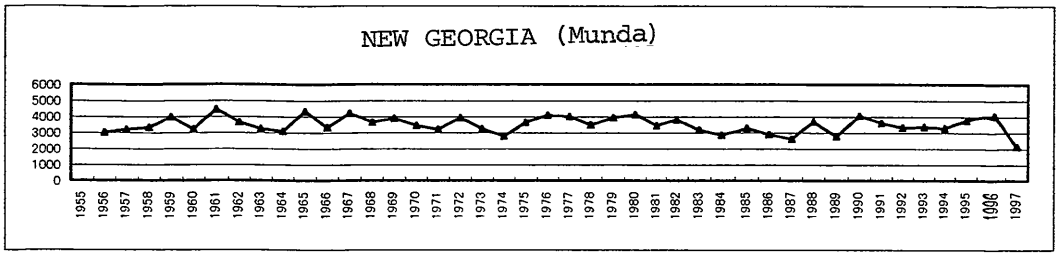


Fig. 5-3-16 Mean Precipitation at Lower Altitudes of the South Pacific: January, July, and Annual, in mm (After Taylor 1973)

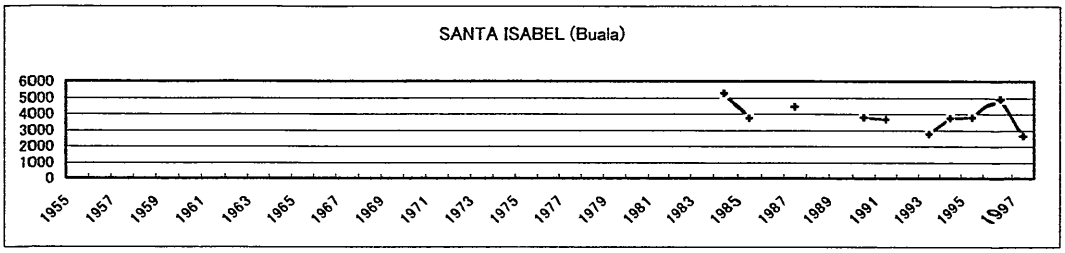
Source: Climate of the South Pacific Ocean
by N.A. Streten and J.W. Zillman



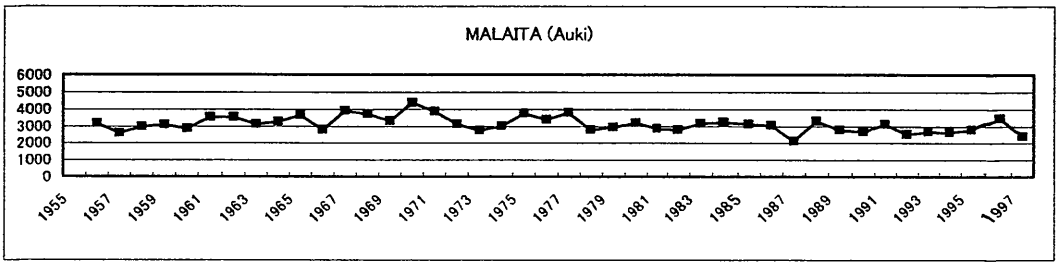
mean raifall : 3,375mm
data : 1976-97
entries : 20



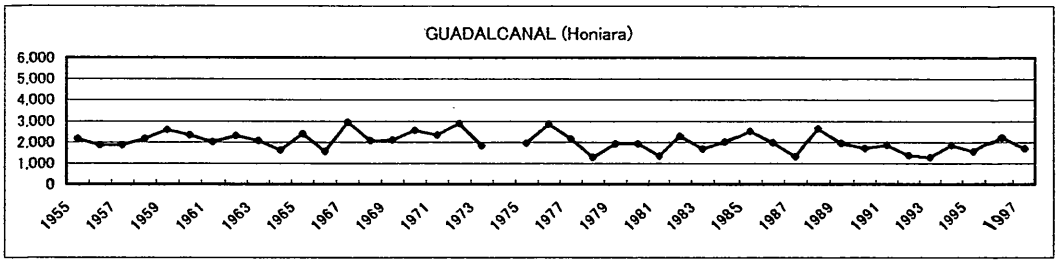
mean raifall : 3,492mm
data : 1956-97
entries : 42



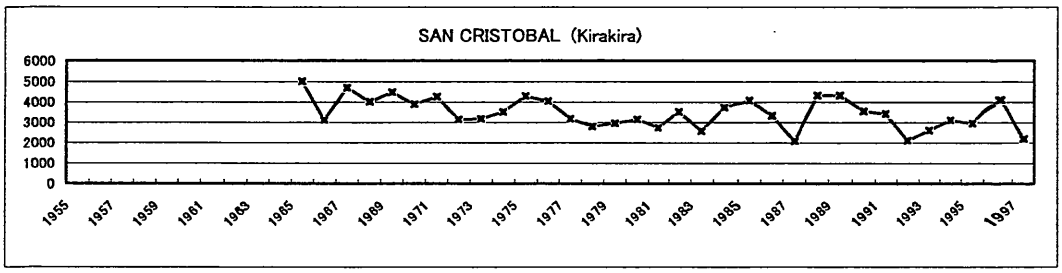
mean raifall : 3,860mm
data : 1984-97
entries : 10



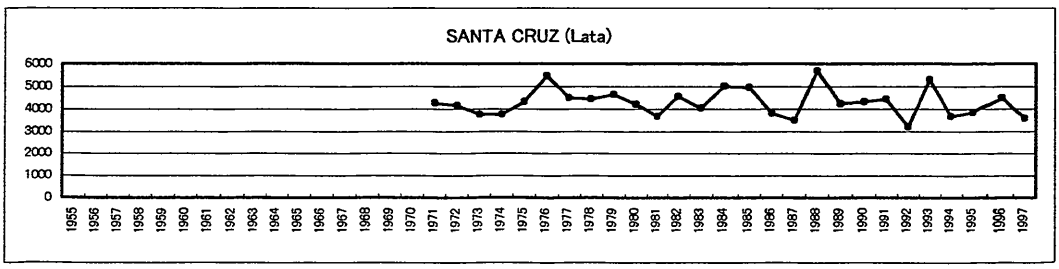
mean raifall : 3,109mm
data : 1956-97
entries : 37



mean raifall : 2,004mm
data : 1955-73
1980-97
entries : 37

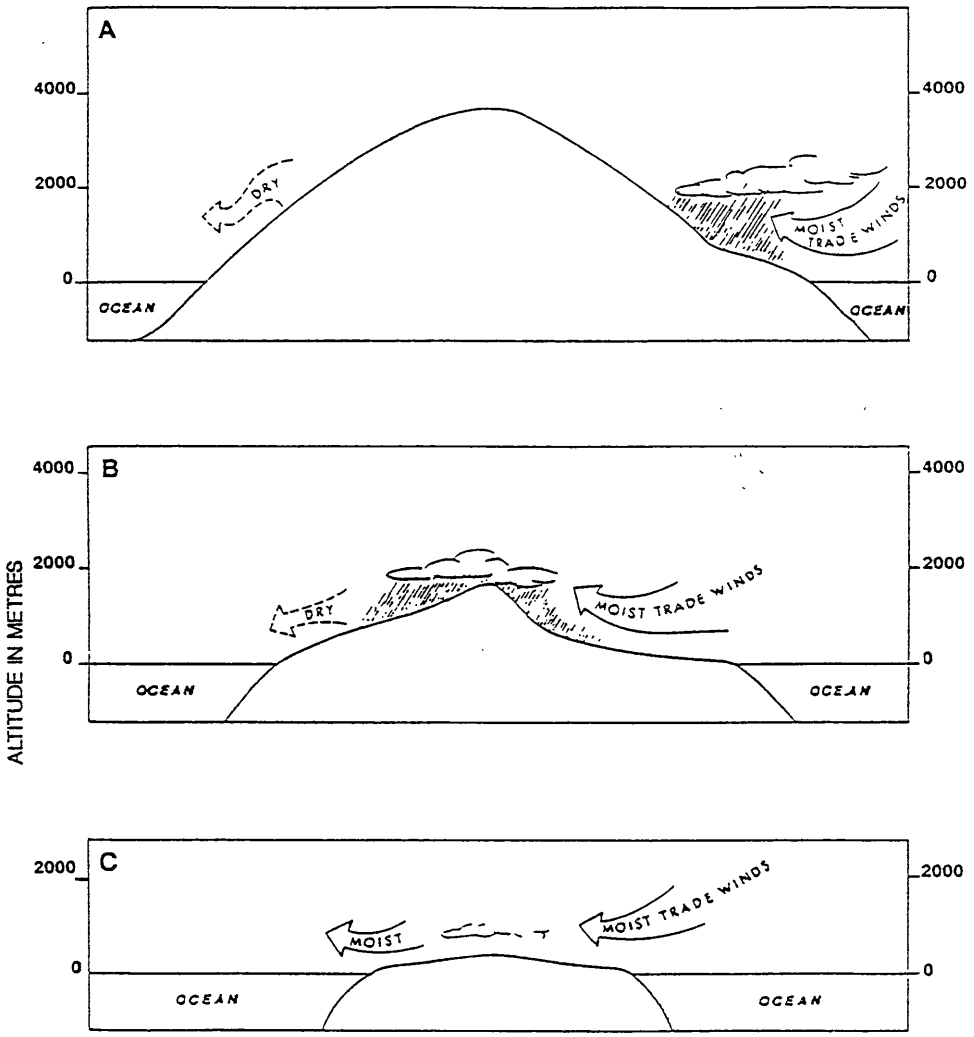


mean raifall : 3,454mm
data : 1965-97
entries : 33



mean raifall : 4,271mm
data : 1971-97
entries : 27

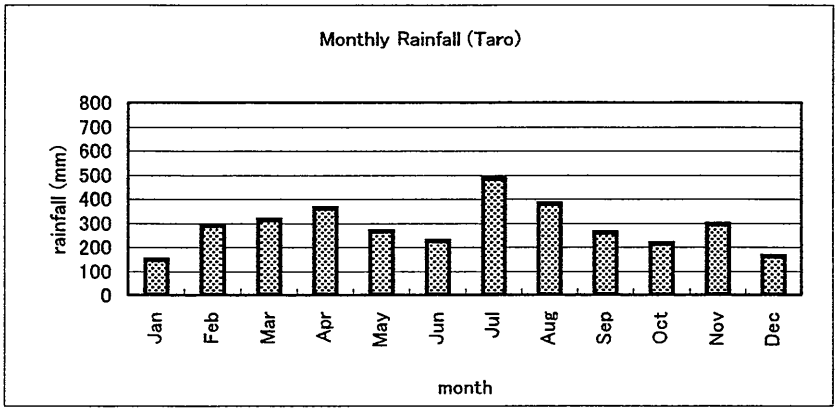
Fig.5-3-17 Annual Rainfall in Major Islands



Orographic effects of islands of different altitudes on rainfall. (A) Poor rainfall distribution. Most of the island is dry except on the windward side below 2,000 m; (B) Ideal rainfall distribution. Rainfall decreases rapidly from maximum near crest. Rainfall in coastal areas depends on distance from rainfall maximum; (C) Island mostly dry. These examples are based on the Hawaiian islands and the same conditions may not apply to all islands with similar topography (modified from Takasaki, 1978).

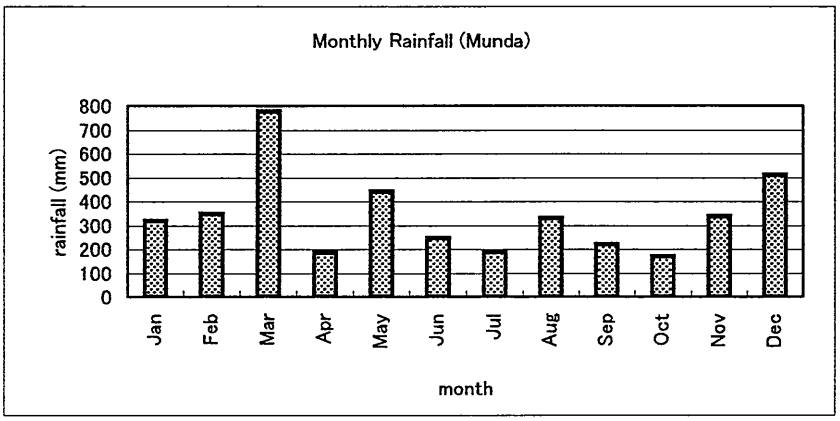
Fig.5-3-18 Orographic Effects of Islands of Different Altitudes on Rainfall

Source: Hydrology and water resources of small islands: a practical guide
Edited by A. Falkland, UNESCO 1991



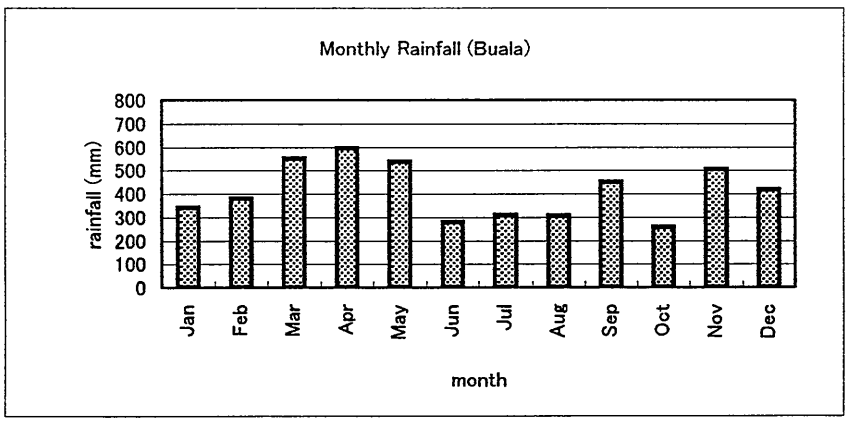
Year:1979

Total:3386mm



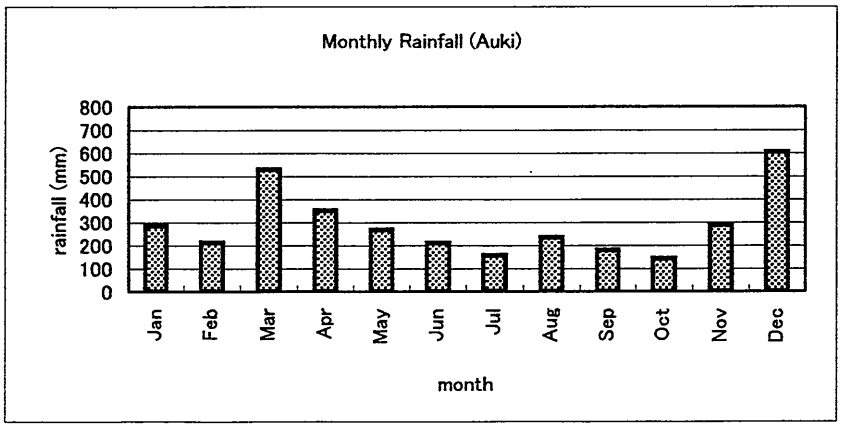
Year:1993

Total:4058mm



Year:1993

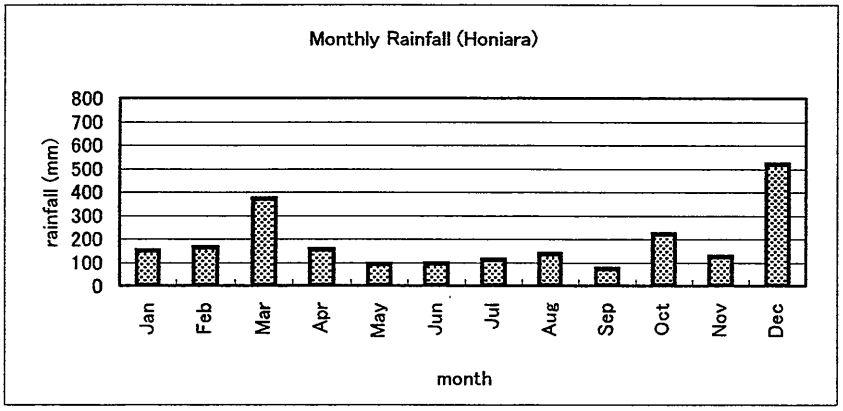
Total:4911mm



Year:1993

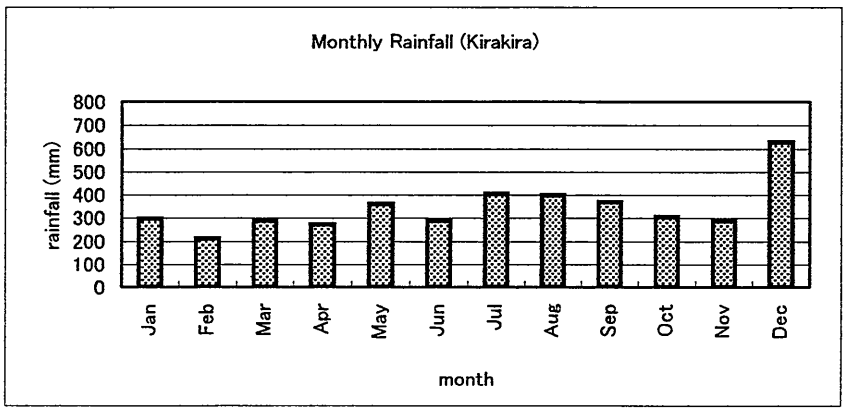
Total:3444mm

Fig.5-3-19 Monthly Rainfall Pattern (1)



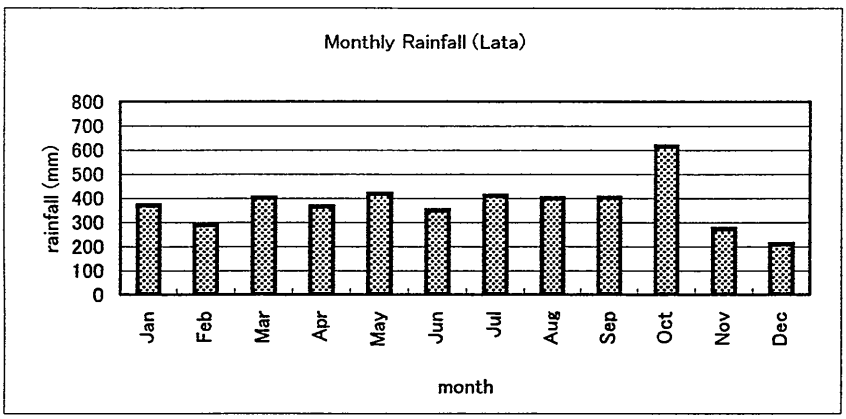
Year:1993

Total:2191mm



Year:1993

Total:4089mm



Year:1993

Total:4481mm

Fig.5-3-20 Monthly Rainfall Pattern (2)

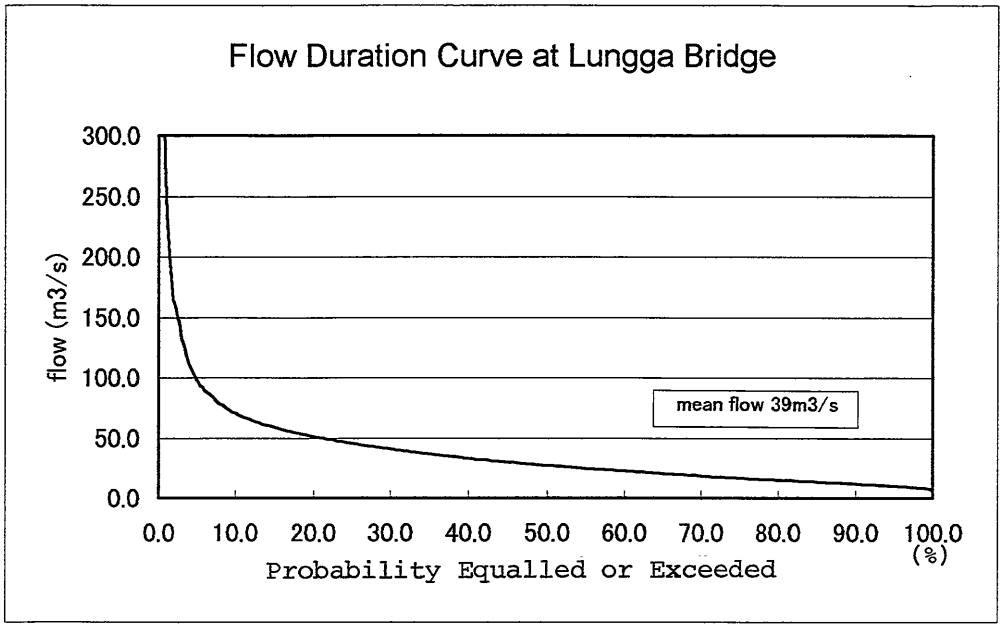


Fig. 5-3-21 Flow Duration Curve at Lungga Bridge

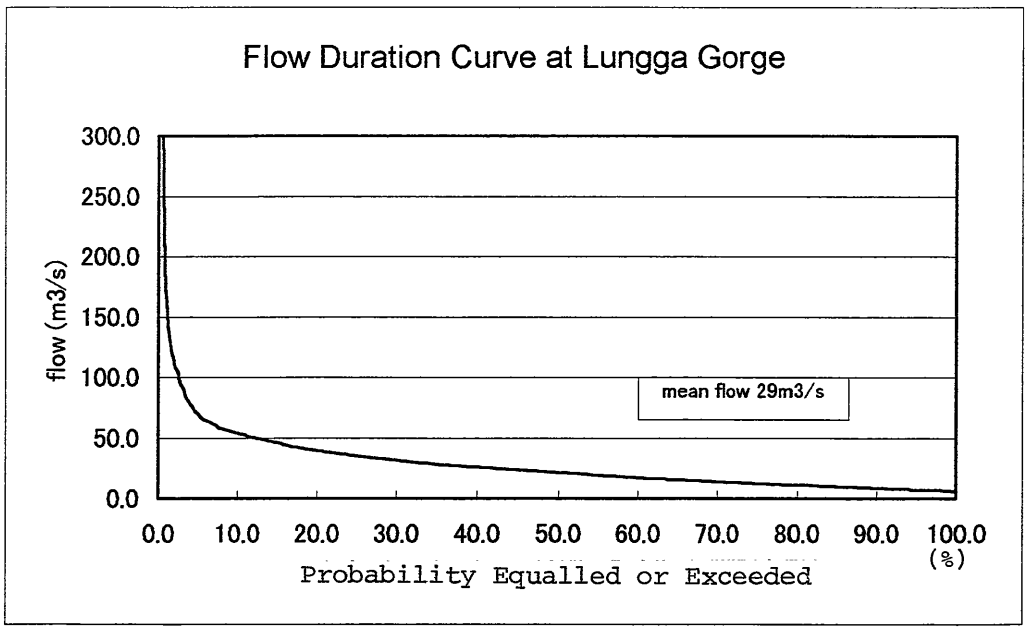


Fig. 5-3-22 Flow Duration Curve at Lungga Gorge

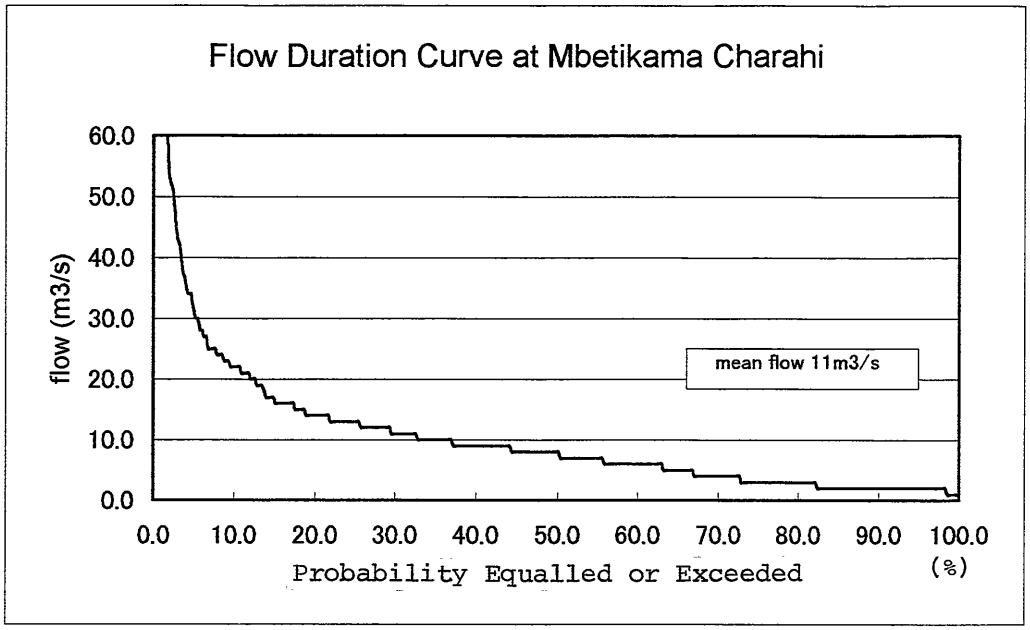


Fig. 5-3-23 Flow Duration Curve at Charahi

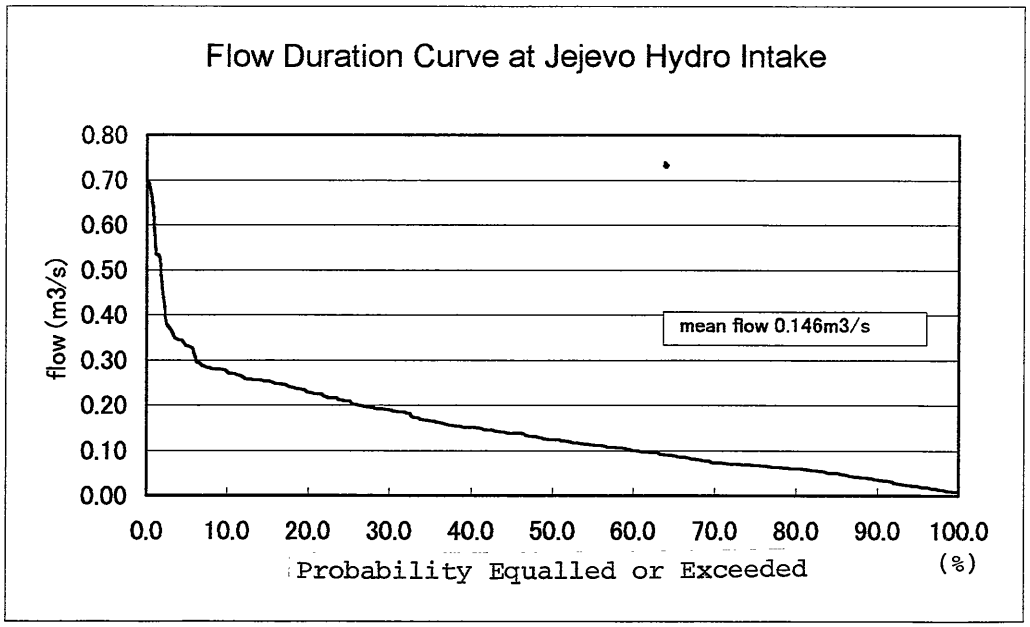
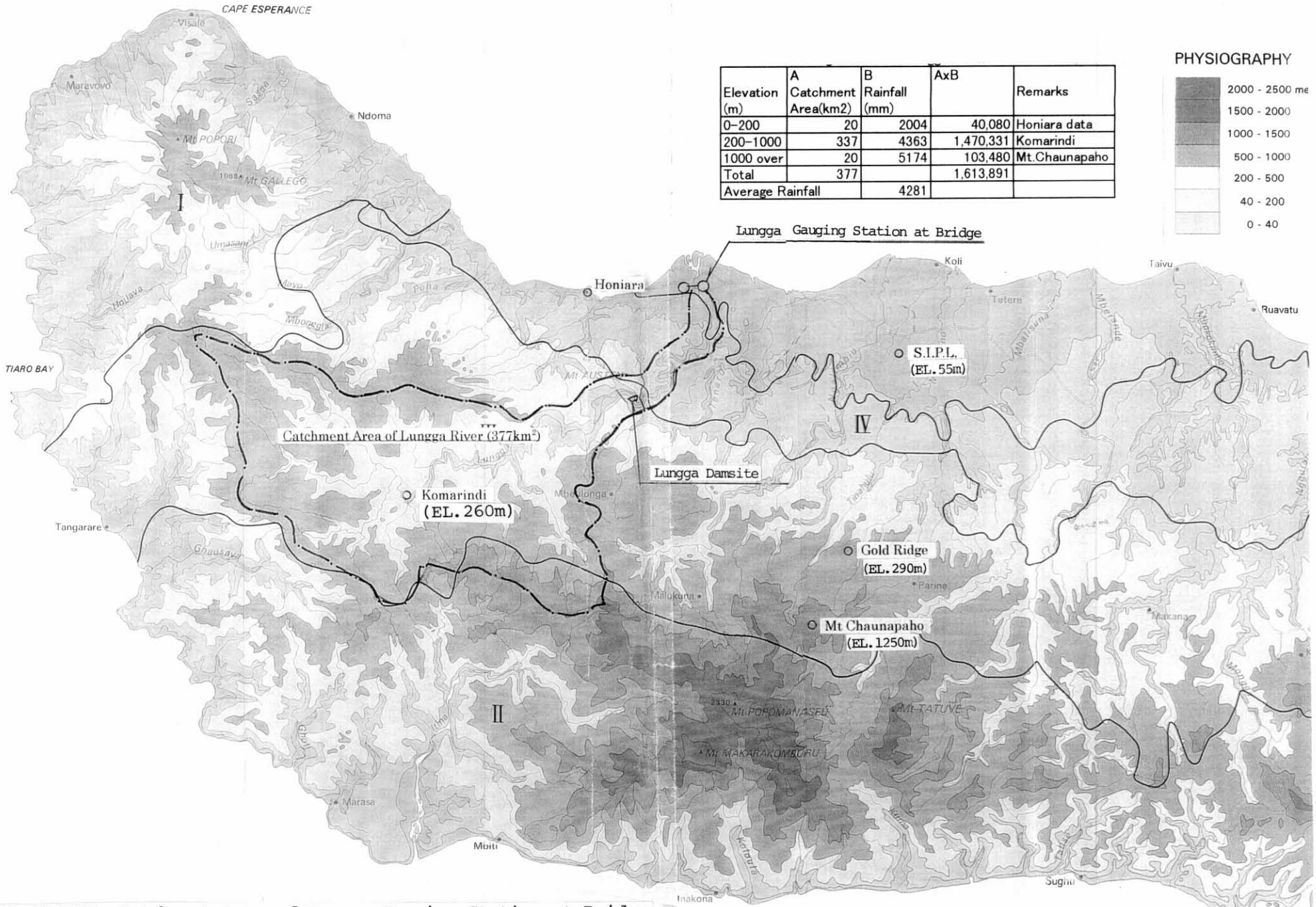
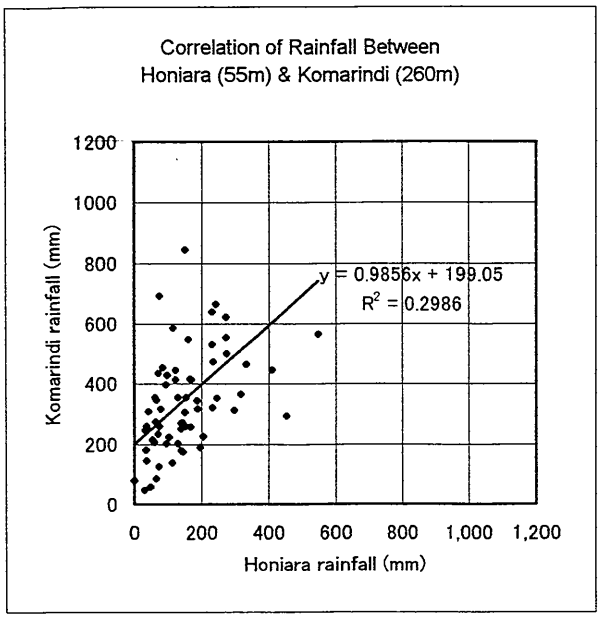


Fig. 5-3-24 Flow Duration Curve at Jejevo Hydro Intake



Elevation (m)	A Catchment Area(km2)	B Rainfall (mm)	AxB	Remarks
0-200	20	2004	40,080	Honiara data
200-1000	337	4363	1,470,331	Komarindi
1000 over	20	5174	103,480	Mt.Chaunapaho
Total	377		1,613,891	
Average Rainfall		4281		

Fig. 5-3-25 Catchment Area of Lungga Gauging Station at Bridge



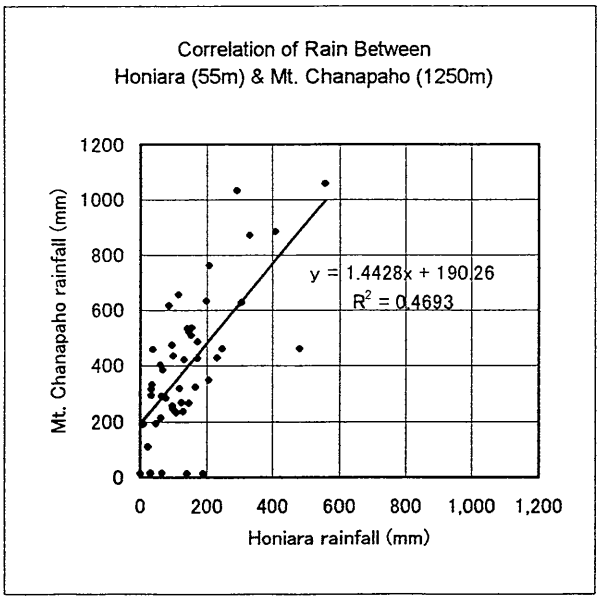
Honiara Annual Rainfall:2004mm

Komarindi Annual Rainfall:4363mm

=0.9856 x 2004 + 199.05 x 12
=4363 mm

data : monthly rainfall
1986.12~93.4
entries : 64

· Fig. 5-3-26 Monthly Rainfall Correlation between Honiara and Komarindi



Honiara Annual Rainfall:2004mm

Mt.Chaunapaho Annual Rainfall:5174mm

=1.4428 x 2004 + 190.26 x 12
=5174 mm

data : monthly rainfall
1984.10~93.9
entries : 47

Fig. 5-3-27 Monthly Rainfall Correlation between Honiara and Mt.Chaunapaho

123
59

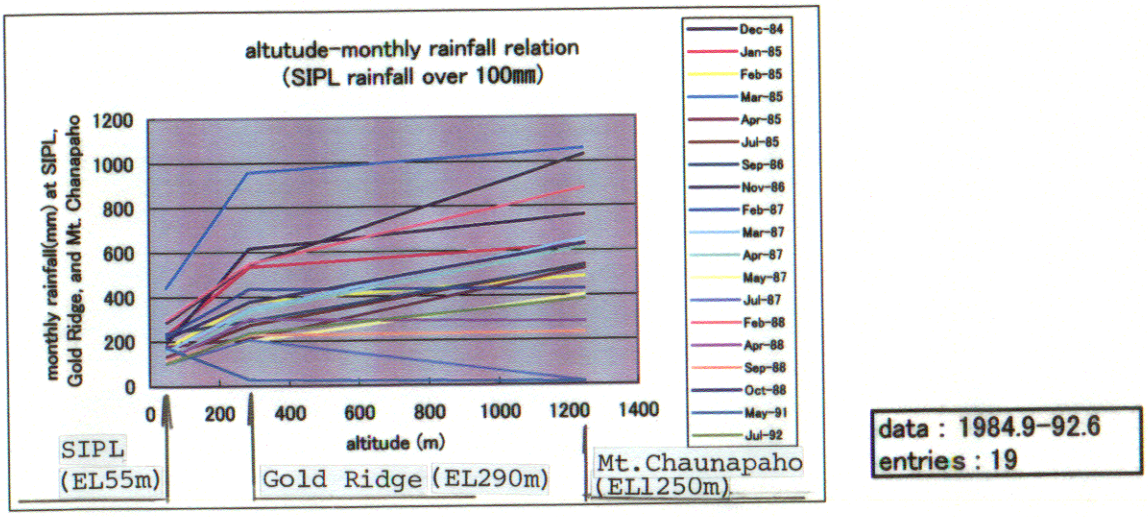


Fig. 5-3-28 Alutitude - Monthly Rainfall Relation

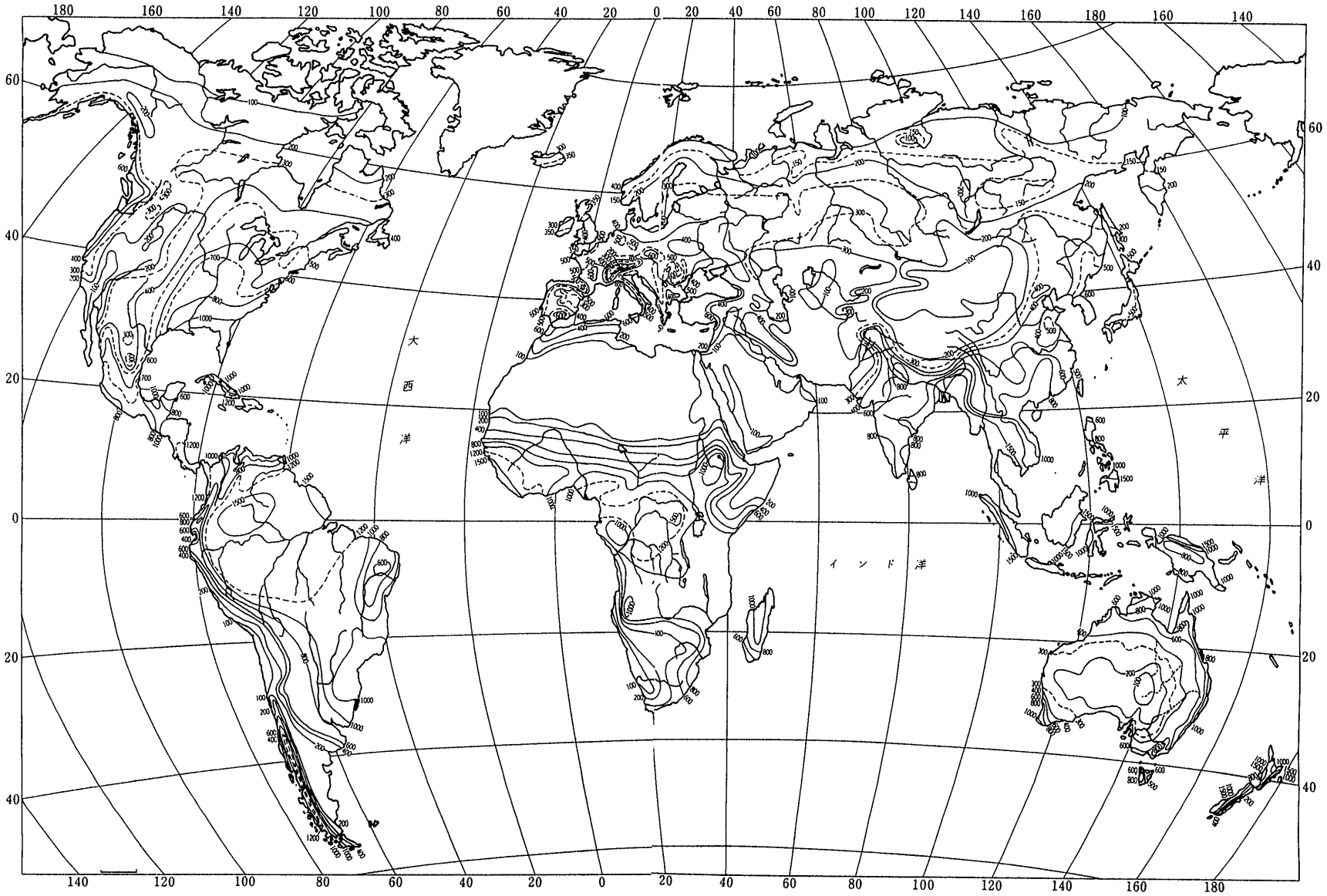
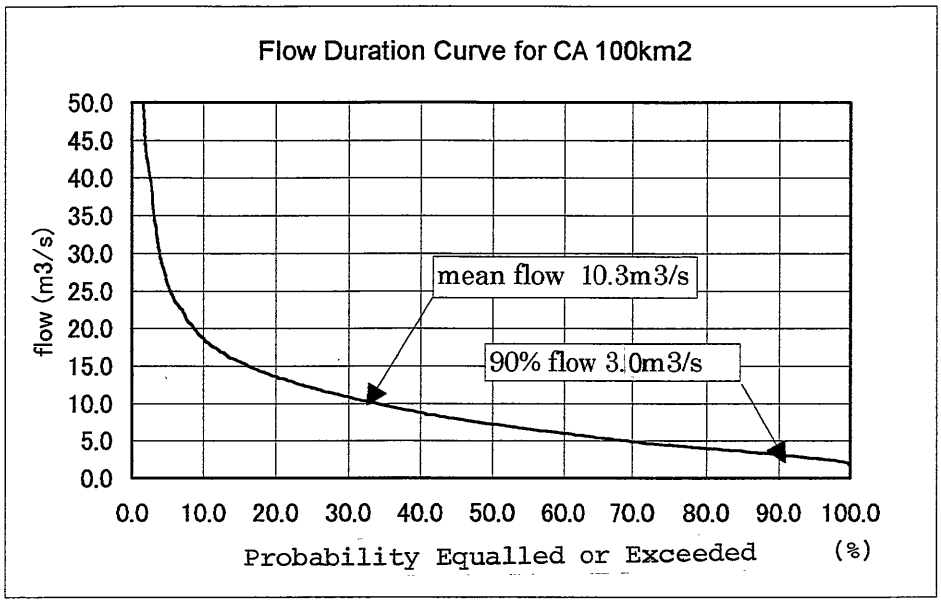


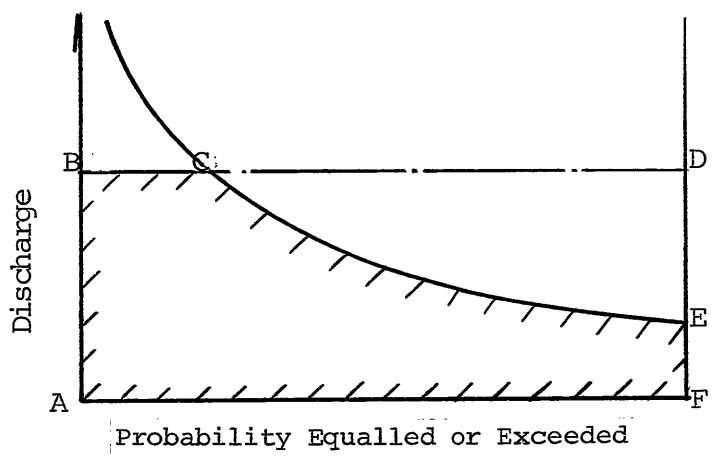
Fig. 5-3-29 Actual Evapotranspiration E mm (after Lvovitch, 1973)

Source: "Zusetu Suimon Gaku" (Hydrology in Graphic)
by S. Yamamoto and T. Takahashi, 1987



Data : Lungga Bridge, Catchment Area 377km2

Fig.5-4-1 Flow Duration Curve for Catchment Area 100km^2



$$\text{Flow Utilization Factor} = \frac{\text{A B C E F}}{\text{A B D F}}$$

Fig.5-4-2 Flow Utilization Factor

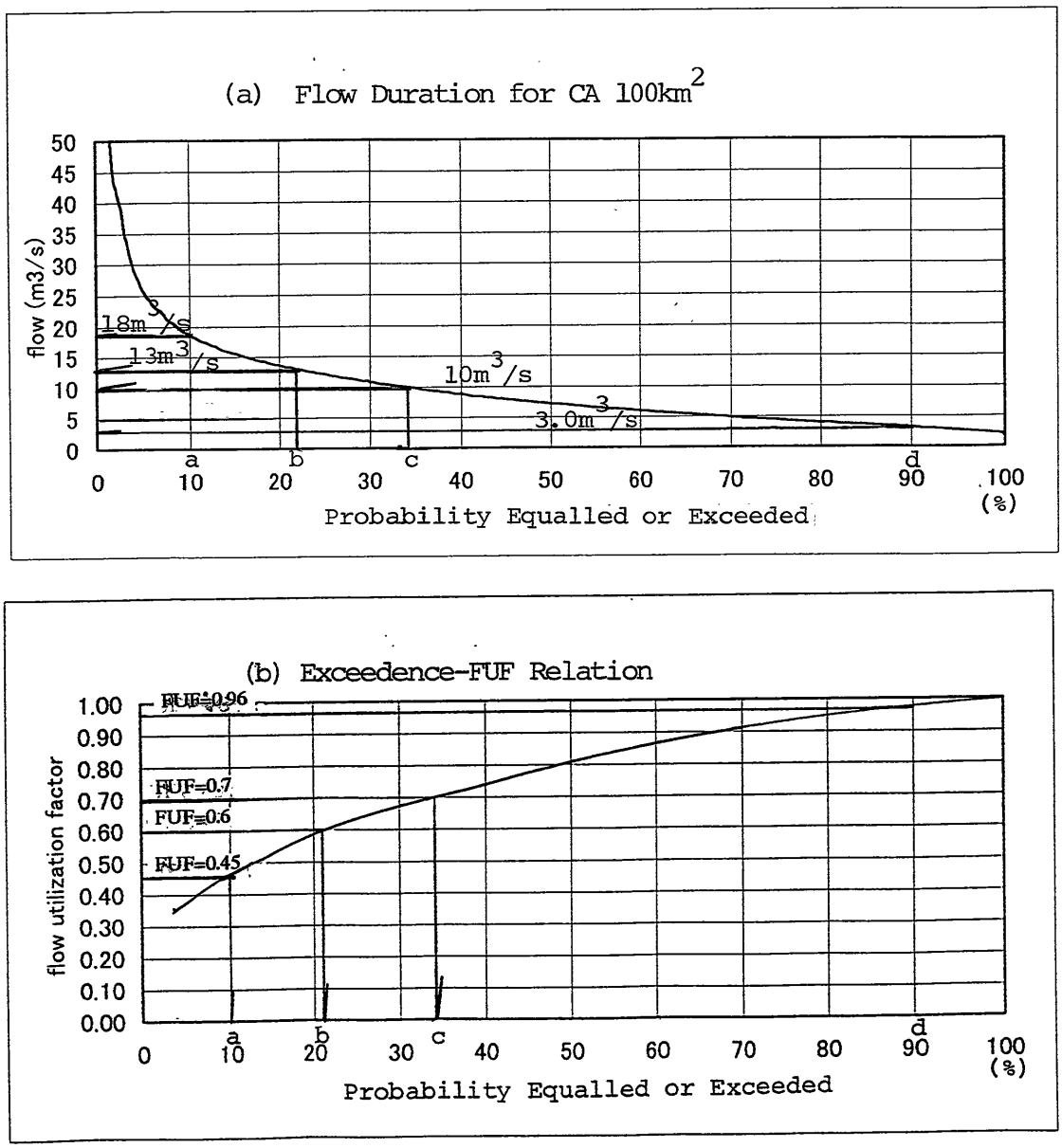
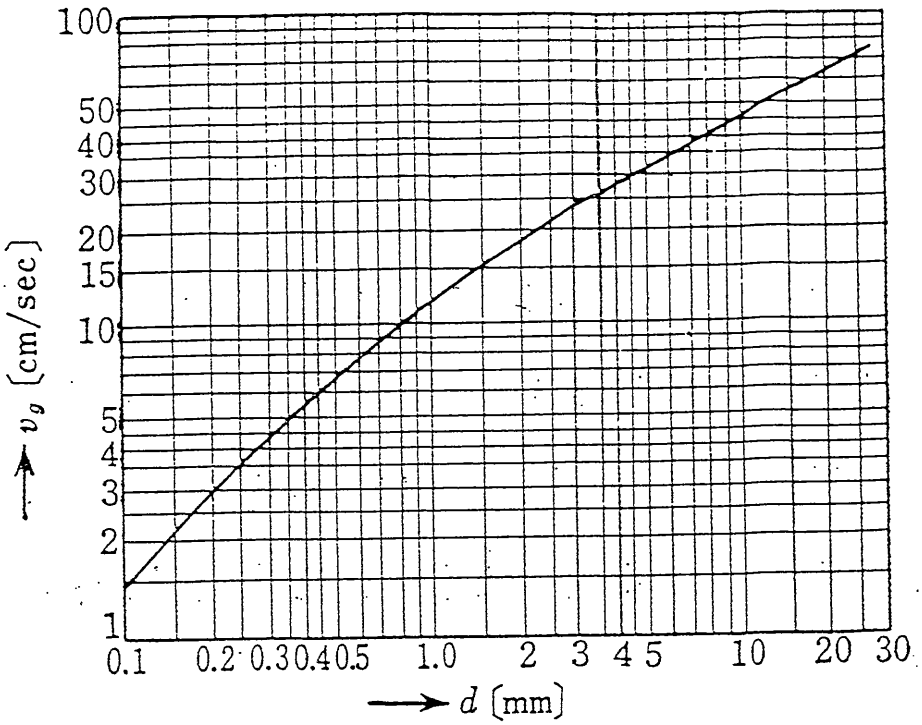


Fig.5-4-3 Flow Duration and Flow Utilization Factor(FUF)



Where, d;sand particle diameter
Vg;marginal-settling speed of sediment

Fig. 5-6-1 Marginal-Settling Speed of Sediment

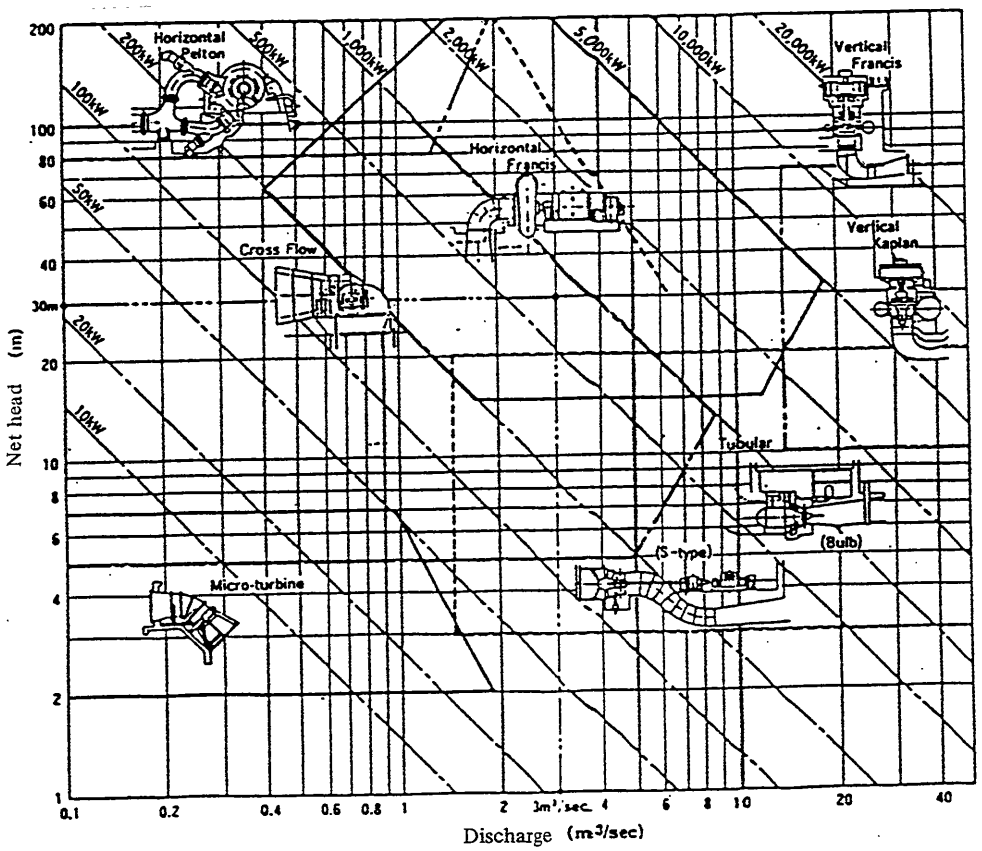


Fig. 5-6-2 Turbine Selection Diagram

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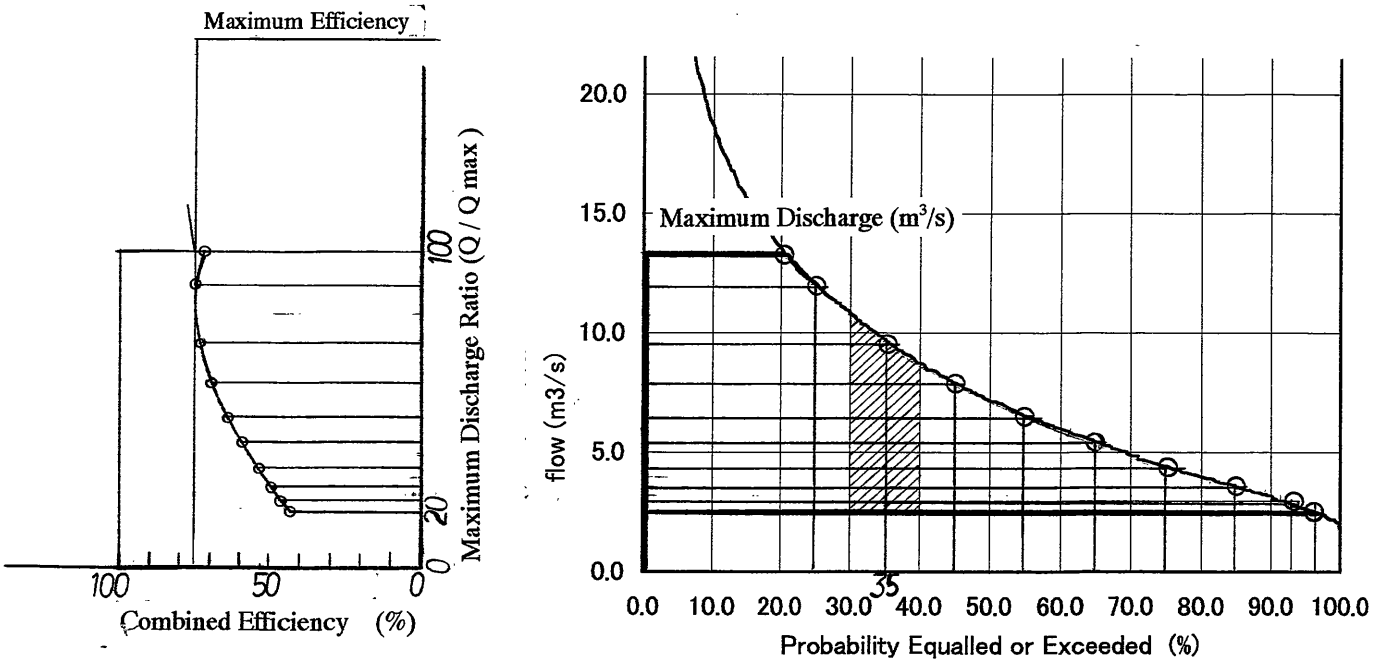

Fig. 5-6-3 Calculation of Annual Output Energy