

APPENDIX 4

COUNTRY DATA

TABLE-1 POPULATION, LAND AREA AND DENSITY

Region	Land Area (km ²)	Population (thousands)						Density (persons/km ²)							
		1980 (May 1)	1975 (May 1)	1970 (May 6)	1960 (Feb 15)	1948 (Oct 1)	1939 (Jan 1)	1918 (Dec 31)	1980 (May 1)	1975 (May 1)	1970 (May 6)	1960 (Feb 15)	1948 (Oct 1)	1939 (Jan 1)	1918 (Dec 31)
Philippines	300,000.0	48,097	42,070	36,681	27,085	19,254	16,003	10,314	160.3	140.2	122.3	90.3	64.1	53.3	34.4
Metropolitan Manila Area (National Capital Region)	636.0	5,926	4,970	3,967	2,462	1,569	993	460	9,317.4	7,814.5	6,236.9	3,871.8	2,467.0	1,561.3	723.3
Region 1 (Ilocos)	21,568.4	3,541	3,269	2,991	2,427	1,943	1,729	1,376	164.2	151.6	138.7	112.6	90.1	80.1	63.8
Region 2 (Cagayan Valley)	36,403.1	2,215	1,933	1,691	1,202	795	714	449	60.9	53.1	46.5	33.0	21.3	19.6	12.3
Region 3 (Central Luzon)	18,230.8	4,802	4,210	3,615	2,524	1,838	1,569	1,039	263.4	230.9	198.3	138.5	100.8	86.1	57.0
Region 4 (Southern Tagalog)	46,924.1	6,119	5,214	4,456	3,081	2,085	1,815	1,232	130.4	111.1	95.0	65.7	44.4	38.7	26.3
Region 5 (Bicol)	17,632.5	3,477	3,194	2,966	2,363	1,667	1,347	840	197.2	181.1	168.3	134.0	94.5	76.4	47.6
Region 6 (Western Visayas)	20,223.2	4,526	4,146	3,618	3,077	2,530	2,174	1,347	223.8	205.0	178.9	152.2	125.1	107.5	66.6
Region 7 (Central Visayas)	14,951.5	3,787	3,386	3,032	2,523	2,119	1,955	1,486	253.3	226.5	202.9	168.7	141.8	130.7	99.4
Region 8 (Eastern Visayas)	21,431.6	2,799	2,599	2,381	2,041	1,764	1,463	978	130.6	121.3	111.1	95.2	82.3	68.2	45.6
Region 9 (Western Mindanao)	18,730.0	2,528	2,048	1,868	1,351	763	603	320	135.3	109.6	100.0	72.3	40.8	32.3	17.1
Region 10 (Northern Mindanao)	28,327.8	2,759	2,314	1,954	1,297	923	707	360	97.4	81.7	68.9	45.8	32.6	25.0	12.7
Region 11 (Southern Mindanao)	31,692.9	3,347	2,714	2,201	1,354	577	450	206	105.6	85.6	69.4	42.7	18.2	14.2	6.5
Region 12 (Central Mindanao)	23,293.1	2,271	2,070	1,941	1,383	681	484	221	97.5	88.9	83.3	59.4	29.2	20.8	9.5

Note: Details may not add up to total due to rounding.
Source: National Census and Statistics Office.

TABLE-2 STATUS OF LAND CLASSIFICATION BY REGION AS OF DECEMBER 31, 1986 (in hectares)

Region	Land Area	Classified Area				Unclassified Area	
		Alienable and Disposable		Timberland /2		Area	Percent
		Area	Percent	Area	Percent		
Philippines	30,000,000	13,852,398	46.17	14,961,027	49.87	1,186,575	3.96
Metropolitan Manila Area (National Capital Region) /1	63,600	48,232	75.84	376	0.59	14,992	23.57
Region 1 (Ilocos)	2,156,845	1,007,691	46.72	1,006,033	46.64	143,121	6.64
Region 2 (Cagayan Valley)	3,640,300	1,046,111	28.74	2,444,671	67.16	149,518	4.11
Region 3 (Central Luzon)	1,823,082	1,039,655	57.03	725,710	39.81	57,717	3.17
Region 4 (Southern Tagalog)	4,692,416	2,033,082	43.33	2,461,261	52.45	198,073	4.22
Region 5 (Bicol)	1,763,249	1,218,664	69.11	509,016	28.87	35,569	2.02
Region 6 (Western Visayas)	2,022,311	1,403,544	69.40	598,407	29.59	20,360	1.01
Region 7 (Central Visayas)	1,495,142	919,126	61.47	478,482	32.00	97,534	6.52
Region 8 (Eastern Visayas)	2,143,169	1,014,233	47.32	1,113,061	51.94	15,875	0.74
Region 9 (Western Mindanao)	1,868,514	887,080	47.48	854,607	45.74	126,827	6.79
Region 10 (Northern Mindanao)	2,832,774	1,062,326	37.50	1,740,682	61.45	29,766	1.05
Region 11 (Southern Mindanao)	3,169,275	1,195,522	37.72	1,972,972	62.25	781	-
Region 12 (Central Mindanao)	2,329,323	977,132	41.95	1,055,749	45.32	296,442	12.73

Note:

/1 Includes Manila, Caloocan City, Pasay City, Quezon City, Las Piñas, Makati, Malabon, Mandaluyong, Marikina, Muntinlupa, Navotas, Parañaque, Pasig, Pateros, San Juan, Tagig and Valenzuela.

/2 Timberland includes established Forest Reserves, established Timberland, National Parks GRBS/WA, Military and Naval Reservation, Civil Reservation, and Fishponds.

Source: Bureau of Forest Development.

TABLE-3 MEAN MONTHLY AND ANNUAL TEMPERATURES (C) FOR 44 STATIONS IN THE PHILIPPINES

Station	Years	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Annual
<i>Luzon</i>														
Ambulong	41	25.5	26.1	27.3	28.5	28.7	27.8	27.1	27.0	26.8	26.5	26.4	25.6	26.9
Aparri	52	23.2	23.8	25.3	27.1	28.1	28.5	28.1	27.9	27.5	26.5	25.2	23.9	26.3
Aurora	12	25.4	25.7	26.3	27.3	27.9	27.8	27.3	27.3	27.1	26.8	26.5	25.7	26.8
Baguio	52	16.9	17.4	18.3	18.9	19.2	18.9	18.4	18.0	18.2	18.3	18.1	17.5	18.2
Baler	26	24.5	24.7	25.6	26.9	27.9	28.2	28.0	28.1	27.7	27.0	26.1	25.2	26.7
Basco	51	22.3	22.7	23.9	25.1	27.6	28.3	28.3	27.9	27.5	26.3	24.8	23.1	25.7
Cabanatuan	14	25.9	26.6	27.8	29.3	29.8	28.7	28.1	27.6	27.7	27.6	26.7	26.0	27.7
Casiguran	12	23.7	24.0	24.9	26.4	27.2	27.6	27.4	27.2	27.0	26.5	25.5	24.3	26.0
Daet	34	25.1	25.2	25.9	26.9	27.7	27.9	27.4	27.4	27.1	26.6	26.3	25.5	26.6
Dagupan	52	25.8	26.4	27.7	29.0	29.0	28.2	27.4	27.3	27.4	27.5	26.8	26.1	27.4
Iba	23	25.4	25.7	26.8	28.1	28.4	27.7	27.0	26.7	26.8	27.0	26.6	25.9	26.8
Infanta	24	24.6	25.0	25.9	27.1	27.9	28.4	28.0	28.0	27.6	26.9	26.3	25.3	26.8
Laoag	46	24.7	25.3	26.9	28.3	28.6	27.9	27.3	27.0	27.2	26.9	26.2	25.2	26.8
Legaspi	52	25.7	25.9	26.7	27.7	28.2	28.1	27.4	27.4	27.3	27.1	26.7	26.2	27.0
Lucena	24	25.3	25.8	26.7	28.0	28.7	28.3	27.8	27.7	27.6	27.0	26.5	25.5	27.1
Manila CO	71	25.0	25.5	26.8	28.3	28.6	27.9	27.1	27.0	26.9	26.7	25.9	25.2	26.7
Tuguegarao	51	23.4	24.4	26.4	28.2	29.0	28.9	28.2	27.9	27.5	26.4	25.1	24.0	26.6
Vigan	52	25.4	25.7	27.0	28.3	28.7	28.0	27.3	26.9	27.1	27.3	26.7	26.0	27.0
Virac	25	25.9	25.9	26.4	27.2	27.8	28.1	27.8	28.1	27.8	27.3	26.9	26.4	27.1
Manilla MMO	14	25.4	26.1	27.2	28.9	29.4	28.5	27.7	27.3	27.4	27.1	26.2	25.5	27.2
Average for Luzon ¹		24.9	25.3	26.4	27.7	28.4	28.1	27.6	27.5	27.3	26.9	26.2	25.3	26.8
<i>Visayas</i>														
Borongan	25	25.9	25.8	26.4	27.1	27.6	27.6	27.6	27.8	27.8	27.1	26.8	26.3	27.0
Calapan	22	25.5	25.8	26.8	27.9	28.1	27.7	27.3	27.2	27.2	27.0	26.6	25.9	26.9
Catarman	12	25.4	25.4	25.9	26.6	27.4	27.6	27.3	27.6	27.4	26.8	26.5	25.8	26.6
Catbalogan	24	25.9	26.1	26.7	27.6	28.1	28.1	27.9	28.2	27.9	27.5	26.8	26.3	27.3
Cebu	52	26.3	26.4	27.2	28.2	28.4	28.0	27.6	27.7	27.6	27.5	27.1	26.7	27.4
Coron	11	27.1	27.3	28.0	28.9	28.6	27.7	26.7	26.9	27.0	27.4	27.4	27.0	27.5
Cuyo	27	26.9	27.0	27.9	28.8	28.7	28.0	27.4	27.3	27.3	27.6	27.6	27.3	27.7
Dumaguete	23	26.4	26.5	27.2	27.9	28.0	27.7	27.4	27.7	27.5	27.3	27.1	26.8	27.3
Iloilo	52	25.8	26.1	26.9	28.2	28.3	27.7	27.2	26.9	27.1	26.9	26.6	26.1	27.0
Masbate	25	26.3	26.8	27.4	28.6	29.3	29.1	28.7	28.4	28.3	28.2	27.5	26.7	27.9
Pto. Princesa	10	26.9	27.2	27.7	28.5	28.5	27.4	27.2	27.1	27.1	27.2	27.2	26.9	27.4
Romblon	28	26.4	26.5	27.6	28.8	29.0	28.7	28.2	28.0	28.1	27.8	27.4	26.7	27.8
Roxas	52	26.0	26.2	26.9	27.9	28.4	27.8	27.4	27.4	27.1	27.2	27.0	26.4	27.1
Tacloban	51	25.7	25.8	26.4	27.3	27.8	27.6	27.5	27.7	27.6	27.2	26.7	26.0	26.9
Average for Visayas		26.2	26.4	27.1	28.0	28.3	27.9	27.5	27.6	27.5	27.3	27.0	26.5	27.3
<i>Mindanao</i>														
Cagayan de Oro	24	25.9	26.2	26.8	27.6	28.0	27.7	27.2	27.4	27.2	27.2	26.8	26.2	27.0
Cotabato	22	27.1	27.4	27.8	28.3	28.0	27.7	27.2	27.3	27.4	27.6	27.5	27.2	27.5
Davao	30	26.3	26.6	27.2	27.7	27.6	27.0	26.8	26.9	27.0	27.1	27.0	26.6	27.0
Dipolog	12	26.7	27.0	27.5	28.1	28.0	27.7	27.3	27.4	27.2	27.4	27.3	26.8	27.4
General Santos	12	26.6	27.0	27.5	27.8	27.4	26.7	26.2	26.2	26.5	26.7	26.9	26.8	26.9
Hinatuan	11	25.6	25.5	25.9	26.4	26.9	26.8	26.8	27.1	27.0	26.9	26.7	25.9	26.5
Jolo	29	26.2	26.0	26.3	26.7	27.0	26.9	26.9	27.0	26.9	26.6	26.5	26.4	26.6
Malaybalay	12	22.9	23.1	23.6	24.2	24.4	24.1	23.5	23.5	23.6	23.7	23.6	23.1	23.6
Surigao	51	25.6	25.6	26.1	26.7	27.2	27.4	27.4	27.7	27.5	27.1	26.4	25.8	26.7
Zamboanga	51	26.3	26.4	26.8	27.1	27.1	26.8	26.6	26.8	26.7	26.6	26.6	26.4	26.7
Average for Mindanao ²		26.3	26.4	26.9	27.4	27.5	27.2	26.9	27.1	27.0	27.0	26.9	26.4	26.9
Average for Philippines ³		25.6	25.9	26.7	27.7	28.2	27.9	27.4	27.4	27.3	27.1	26.6	25.9	27.0

¹ Baguio not included

² Malaybalay not included

³ Baguio and Malaybalay not included

TABLE-4 MEAN MONTHLY AND ANNUAL RELATIVE HUMIDITY FOR 44 STATIONS IN THE PHILIPPINES

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Annual
<i>Luzon</i>													
Ambulong	78	75	71	71	75	81	84	84	86	84	81	81	79
Aparri	83	82	81	78	79	79	79	81	83	84	84	85	81
Aurora	82	81	78	76	74	74	77	77	77	77	79	81	78
Baguio	80	80	80	83	87	89	91	93	92	88	83	80	85
Baler	83	83	84	84	83	82	81	80	82	83	84	83	83
Basco	80	80	80	82	83	83	85	84	81	80	81	81	82
Cabanatuan	72	70	65	66	70	80	83	85	85	81	79	74	76
Casiguran	89	87	87	86	86	86	86	87	88	89	87	90	87
Daet	84	83	82	82	82	82	79	83	85	86	85	85	83
Dagupan	75	74	72	72	75	80	84	85	85	81	78	77	78
Iba	78	77	75	75	77	83	86	87	87	83	81	79	81
Infanta	81	78	76	73	78	81	83	83	84	84	84	83	81
Laoag	72	71	69	71	75	81	85	85	85	78	76	74	77
Legaspi	83	82	81	80	81	82	83	83	85	84	84	84	83
Lucena	84	84	80	79	78	81	81	82	83	84	83	84	82
Manila CO	77	73	70	69	74	80	83	84	84	83	81	80	78
Tuguegarao	81	77	74	70	70	75	78	79	81	83	85	85	78
Vigan	72	74	74	74	76	81	84	86	85	79	75	73	78
Virac	80	81	79	79	79	79	81	79	82	83	82	82	80
Manila MMO	78	73	68	66	70	79	82	85	86	84	82	81	78
Average for Luzon	80	78	76	76	78	81	83	80	84	83	82	81	80
<i>Visayas</i>													
Borongan	86	84	84	84	84	85	84	82	83	84	85	86	84
Calapan	84	81	78	77	78	82	83	84	84	84	84	84	82
Catarman	88	87	86	85	86	86	86	85	85	87	88	89	86
Catbalogan	83	83	81	81	81	82	81	80	82	84	85	85	82
Cebu	77	75	73	72	75	77	78	77	78	79	79	78	76
Coron	71	76	74	67	78	83	86	84	86	84	82	80	79
Cuyo	82	81	80	79	81	84	85	85	85	85	83	82	83
Dumaguete	81	79	77	76	78	79	79	78	80	80	81	81	79
Iloilo	81	78	76	73	78	81	83	83	84	84	84	83	81
Masbate	84	82	80	78	78	80	82	83	83	83	84	85	82
Pto. Princesa	85	83	82	81	84	87	87	87	89	88	87	86	86
Romblon	82	81	80	72	78	79	82	83	84	84	83	82	81
Roxas	81	80	78	76	78	81	82	82	83	83	82	82	81
Tacloban	85	84	82	81	82	82	81	79	81	82	85	85	82
Average for Visayas	82	81	79	77	80	82	83	82	83	84	84	83	82
<i>Mindanao</i>													
Cagayan de Oro	80	79	77	75	77	80	80	79	80	81	81	82	79
Cotabato	80	79	77	79	82	83	84	84	84	83	83	82	82
Davao	82	79	78	79	82	84	83	83	83	82	83	83	82
Dipolog	84	81	80	79	82	84	84	83	84	85	85	85	83
General Santos	78	77	77	73	75	84	84	85	85	83	83	80	80
Hinatuan	90	89	89	89	88	88	87	85	87	87	88	89	88
Jolo	86	87	87	86	87	86	85	84	85	86	86	86	86
Malaybalay	82	81	80	78	82	85	86	86	86	85	85	84	83
Surigao	88	87	86	86	85	84	81	80	81	84	87	89	85
Zamboanga	83	82	81	83	84	85	85	85	85	85	86	84	84
Average for Mindanao	83	82	81	81	82	84	84	83	84	84	85	84	83
Average for Philippines	81	80	78	77	79	82	83	83	84	83	83	83	82

TABLE-5 MEAN MONTHLY AND ANNUAL MEAN SEA LEVEL PRESSURES (mb) FOR 44 STATIONS IN THE PHILIPPINES

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Annual
<i>Luzon</i>													
Ambulong	1012.7	1012.3	1011.7	1010.1	1008.6	1008.3	1007.4	1007.4	1008.1	1008.9	1009.9	1011.1	1009.7
Aparri	1015.2	1014.3	1013.0	1010.8	1008.7	1007.3	1006.0	1005.6	1007.3	1009.9	1012.3	1013.9	1010.4
Aurora	1013.2	1012.4	1012.5	1011.1	1009.8	1009.3	1009.1	1008.4	1009.2	1009.3	1009.8	1011.6	1010.5
Baguio	1011.6	1010.5	1010.2	1009.4	1007.8	1006.7	1006.8	1005.9	1005.7	1007.0	1007.3	1010.2	1008.3
Baler	1015.1	1013.8	1013.9	1012.1	1009.5	1008.8	1008.6	1007.4	1009.0	1010.0	1011.0	1013.8	1011.1
Basco	1016.0	1015.0	1013.5	1011.6	1008.8	1007.2	1005.7	1005.3	1007.4	1010.3	1013.2	1015.2	1010.8
Cabanatuan	1014.2	1013.0	1013.0	1011.5	1010.2	1009.3	1009.4	1008.6	1009.6	1010.2	1010.8	1013.2	1011.1
Casiguran	1014.6	1013.2	1013.4	1011.6	1009.9	1008.2	1007.8	1006.7	1008.5	1009.7	1010.5	1013.4	1010.6
Daet	1013.1	1012.6	1012.3	1010.8	1009.2	1008.3	1007.2	1006.9	1007.9	1009.1	1010.1	1011.7	1009.9
Dagupan	1012.4	1012.0	1011.2	1009.7	1008.3	1007.5	1006.5	1006.5	1007.3	1008.5	1009.7	1010.9	1009.2
Iba	1013.0	1012.5	1012.1	1010.8	1009.6	1008.7	1008.9	1008.3	1009.2	1009.6	1010.1	1011.8	1010.4
Infanta	1014.9	1013.9	1013.9	1012.6	1010.5	1009.3	1009.1	1008.0	1009.4	1010.2	1011.1	1013.5	1011.4
Laoag	1012.7	1012.1	1011.3	1009.7	1008.2	1007.1	1005.9	1005.9	1007.0	1008.6	1010.0	1012.5	1009.2
Legaspi	1012.0	1012.1	1011.6	1010.2	1008.7	1008.2	1007.2	1007.0	1007.6	1008.7	1009.2	1010.3	1009.4
Lucena	1014.3	1013.6	1013.8	1012.4	1011.1	1010.0	1009.6	1008.9	1009.7	1010.3	1010.4	1013.0	1011.4
Manila CO	1012.7	1012.6	1011.8	1010.1	1008.8	1008.3	1007.4	1007.4	1007.9	1009.2	1010.1	1011.5	1009.8
Tuguegarao	1014.5	1013.5	1012.2	1010.5	1008.5	1007.3	1005.8	1005.5	1006.9	1009.4	1011.6	1013.3	1009.9
Vigan	1012.6	1012.2	1011.5	1009.9	1008.4	1007.5	1006.3	1006.2	1007.2	1008.7	1009.9	1011.1	1009.3
Virac	1013.3	1012.7	1012.8	1011.7	1010.4	1009.5	1009.3	1008.3	1009.4	1009.1	1010.0	1011.8	1010.7
Manila MMO	1013.4	1012.5	1012.4	1010.9	1009.6	1008.9	1009.0	1008.3	1009.2	1009.6	1010.3	1013.0	1010.6
Average for Luzon ¹	1013.7	1013.0	1012.5	1010.9	1009.3	1008.4	1007.7	1007.2	1008.3	1009.4	1010.5	1012.4	1010.3
<i>Visayas</i>													
Borongan	1012.0	1011.4	1011.8	1010.8	1009.7	1009.2	1009.2	1008.4	1009.1	1009.1	1009.1	1010.5	1010.0
Calapan	1014.1	1013.1	1013.1	1011.6	1010.2	1009.3	1009.3	1008.5	1009.4	1009.9	1010.5	1012.7	1011.0
Catarman	1012.6	1012.9	1012.2	1011.1	1009.8	1009.3	1009.2	1008.4	1009.1	1009.1	1009.3	1010.8	1010.3
Catbalogan	1012.1	1011.4	1011.6	1010.7	1009.5	1009.1	1009.3	1008.6	1009.2	1009.2	1009.0	1009.3	1009.9
Cebu	1010.7	1010.9	1010.6	1009.6	1008.8	1008.6	1008.1	1008.1	1008.5	1008.8	1008.7	1009.4	1009.2
Coron	1012.3	1011.6	1011.9	1011.1	1010.1	1009.9	1007.5	1009.7	1009.9	1010.0	1009.8	1011.1	1010.4
Cuyo	1011.1	1010.7	1010.9	1010.0	1009.1	1009.0	1009.2	1008.7	1009.5	1009.4	1009.1	1010.2	1009.7
Dumaguete	1010.6	1010.0	1010.2	1009.5	1008.7	1008.7	1008.9	1008.6	1008.9	1008.8	1008.5	1009.5	1009.2
Iloilo	1010.6	1010.7	1010.2	1009.2	1008.5	1008.4	1007.9	1008.1	1008.4	1008.7	1008.7	1007.1	1008.9
Masbate	1012.7	1011.8	1011.8	1010.8	1009.5	1009.0	1009.3	1008.7	1009.0	1009.1	1009.1	1010.8	1010.1
Pto. Princesa	1009.7	1010.8	1011.0	1010.2	1009.4	1008.8	1009.6	1009.4	1009.7	1009.6	1009.5	1010.4	1009.8
Romblon	1012.8	1012.1	1012.8	1011.4	1010.2	1009.5	1009.4	1008.9	1009.6	1009.9	1010.2	1011.7	1010.7
Roxas	1011.6	1011.7	1011.1	1009.8	1008.7	1008.4	1007.7	1007.7	1008.1	1008.8	1009.1	1010.1	1009.4
Tacloban	1011.1	1011.3	1011.1	1010.0	1007.8	1008.6	1007.9	1007.9	1008.2	1008.8	1009.0	1009.8	1009.2
Average for Visayas	1011.7	1011.4	1011.4	1010.4	1009.3	1009.0	1008.7	1008.5	1009.0	1009.2	1009.2	1010.2	1009.8
<i>Mindanao</i>													
Cagayan de Oro	1008.7	1010.1	1010.4	1009.7	1009.2	1009.4	1009.8	1009.6	1010.0	1009.7	1009.0	1009.8	1009.6
Cotabato	1009.8	1009.6	1009.8	1009.4	1009.4	1009.5	1010.1	1009.9	1010.2	1009.7	1008.8	1009.2	1009.6
Davao	1011.0	1010.7	1010.9	1010.4	1009.8	1010.0	1010.2	1009.9	1010.4	1010.0	1009.2	1009.8	1010.2
Dipolog	1010.6	1010.1	1010.5	1009.7	1009.2	1009.2	1009.6	1009.3	1009.7	1009.6	1009.0	1009.7	1009.7
General Santos	1010.5	1010.1	1010.3	1010.0	1010.0	1010.1	1010.6	1010.5	1010.7	1010.3	1009.5	1010.0	1010.2
Hinatuan	1009.3	1008.8	1009.2	1008.5	1007.9	1007.9	1008.0	1007.7	1008.0	1007.9	1007.3	1008.2	1008.2
Jolo	1009.1	1008.6	1009.0	1008.6	1008.2	1008.5	1009.8	1008.9	1009.0	1008.9	1008.3	1008.7	1008.8
Malaybalay	1006.6	1006.8	1007.2	1006.3	1006.1	1006.2	1006.8	1006.5	1006.6	1006.5	1005.6	1006.5	1006.5
Surigao	1010.4	1010.6	1010.4	1009.6	1008.7	1008.6	1008.0	1008.0	1008.3	1008.5	1008.7	1009.2	1009.1
Zamboanga	1009.2	1009.4	1009.2	1008.6	1008.6	1008.8	1008.7	1008.9	1009.2	1009.0	1008.5	1008.5	1008.9
Average for Mindanao ²	1009.8	1009.8	1010.0	1009.4	1009.0	1009.1	1009.4	1009.2	1009.5	1009.3	1008.7	1009.2	1009.4
Average for Philippines ³	1012.2	1011.7	1011.6	1010.4	1009.2	1008.7	1008.4	1008.1	1008.1	1008.8	1009.3	1009.7	1009.9

¹ Baguio not included

² Malaybalay not included

³ Baguio and Malaybalay not included

TABLE-6 MEAN MONTHLY AND ANNUAL RAINFALL (mm) FOR 44 STATIONS IN THE PHILIPPINES

Station	Years	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Annual
<i>Luzon</i>														
Ambulong	41	6.4	14.0	20.6	47.2	147.1	199.6	305.8	338.8	299.0	232.2	168.4	111.0	1910.1
Aparri	52	144.0	89.7	54.6	48.5	111.0	172.5	189.5	234.2	295.1	366.8	335.8	217.9	2259.6
Aurora	12	58.2	21.1	44.5	30.5	94.5	153.7	241.8	212.6	212.3	261.6	201.9	166.9	1699.6
Baguio	52	19.6	19.1	48.3	121.7	351.8	422.1	921.5	1042.9	649.7	361.7	162.6	55.9	4176.9
Baler	50	201.9	176.8	221.0	285.0	286.8	231.1	258.1	198.9	288.5	375.2	403.6	378.5	3305.4
Basco	51	229.4	129.5	128.0	97.8	205.5	241.8	307.6	402.3	363.5	366.8	345.7	324.1	3142.0
Cabanatuan	15	5.6	6.4	25.7	52.6	125.2	210.8	276.4	410.5	304.0	175.5	129.5	76.7	1798.9
Casiguran	14	230.6	224.5	268.5	166.1	201.4	257.8	215.6	244.6	323.3	377.2	579.4	528.8	3617.8
Daet	34	382.0	249.9	212.3	152.4	162.6	166.1	224.5	198.1	298.7	540.8	660.1	546.3	3793.8
Dagupan	52	8.9	13.0	25.4	84.6	202.9	315.0	534.7	541.2	436.1	170.7	80.5	25.7	2438.7
Iba	45	6.4	5.1	17.8	44.2	256.5	568.7	904.7	984.8	686.8	232.2	85.3	33.0	3825.5
Infanta	28	404.1	262.9	190.0	200.2	212.6	208.0	229.1	232.4	280.9	502.2	555.8	519.2	3797.4
Laoag	46	4.3	5.1	4.6	11.4	178.3	313.2	531.9	627.9	388.1	168.1	47.8	13.5	2294.2
Legaspi	52	366.0	264.9	218.2	158.0	178.3	194.1	235.0	209.3	251.7	313.4	478.8	502.9	3370.6
Lucena	33	113.0	55.4	50.0	56.9	107.2	168.9	160.8	182.1	184.9	266.7	310.9	256.5	1913.3
Manila CO	90	22.9	10.9	16.8	32.3	128.3	252.5	413.5	436.9	353.1	195.3	137.9	68.3	2068.7
Tuguegarao	51	31.2	24.9	34.0	64.5	131.8	156.2	232.9	206.2	236.2	237.5	269.0	138.7	1763.1
Vigan	52	3.0	6.1	8.4	20.3	186.7	369.1	651.0	710.2	400.8	140.0	43.7	13.2	2552.5
Virac	46	241.0	191.0	160.5	126.0	174.0	201.2	228.6	166.6	246.1	366.0	479.6	425.7	3005.3
Manila MMO	14	15.5	6.6	8.4	19.8	99.1	216.2	263.7	464.8	274.1	190.2	120.4	74.9	1753.7
Average for Luzon		125.7	88.8	87.9	91.0	177.1	250.9	366.3	402.3	338.7	292.0	279.8	223.9	2724.4
<i>Visayas</i>														
Borongan	52	625.9	436.9	359.4	270.3	274.8	228.9	191.5	156.7	181.1	340.1	543.1	653.8	4262.5
Calapan	36	111.3	69.9	58.9	109.7	176.5	215.1	238.8	222.8	193.0	277.9	289.3	198.6	2161.8
Catarman	12	418.8	233.2	259.3	160.5	136.4	143.8	175.5	182.9	189.0	447.0	584.5	515.9	3446.8
Catbalogan	39	281.2	184.2	159.0	135.9	165.1	201.2	247.9	213.9	256.3	318.5	363.7	375.4	2902.3
Cebu	52	104.9	71.1	54.6	52.8	120.9	177.0	196.6	152.7	186.9	201.4	162.8	137.7	1619.4
Coron	11	37.6	6.6	7.6	30.0	168.9	366.8	376.2	496.1	451.9	289.6	140.0	126.5	2497.8
Cuyo	52	17.3	8.4	7.9	32.5	197.6	336.3	424.2	386.8	368.0	284.5	152.1	74.7	2290.3
Dumaguete	43	97.8	70.1	55.4	47.0	110.5	149.1	148.3	113.0	135.9	188.7	175.5	137.9	1429.2
Iloilo	52	59.2	38.1	35.6	51.6	153.4	264.7	389.6	370.3	293.6	262.9	206.5	120.9	2246.4
Masbate	50	185.9	114.0	80.8	39.4	102.4	153.9	180.3	170.7	176.0	192.3	224.3	258.8	1878.8
Pto. Princesa	14	37.8	28.2	60.2	42.2	135.6	170.7	181.1	201.4	220.7	206.8	204.2	118.4	1607.3
Rombion	51	117.3	78.2	64.0	72.1	142.2	209.8	276.9	227.6	230.4	321.1	297.4	234.2	2271.2
Roxas	52	134.9	82.3	54.1	57.9	176.8	262.4	268.7	229.9	249.4	368.8	290.1	226.1	2401.4
Tacloban	51	318.8	209.0	177.8	133.9	163.3	172.0	160.5	133.1	150.9	207.3	288.3	353.3	2468.2
Average for Visayas		182.0	116.4	102.5	88.3	158.9	218.0	246.9	232.7	234.5	279.1	280.1	252.3	2391.7
<i>Mindanao</i>														
Cagayan de Oro	45	90.2	54.4	45.2	34.8	127.5	212.1	234.2	192.8	216.7	193.3	135.1	124.5	1660.8
Cotabato	43	80.8	85.1	84.1	150.1	222.0	239.5	266.7	242.8	225.0	280.9	183.6	103.9	2164.5
Davao	52	118.1	103.4	119.1	142.0	235.7	216.7	175.5	161.5	175.5	192.5	143.3	145.0	1928.3
Dipolog	12	75.2	53.1	84.1	101.3	217.2	312.2	384.3	431.0	295.9	431.0	313.7	222.3	2921.3
General Santos	12	43.7	56.6	49.0	52.1	112.8	110.7	99.6	105.7	76.2	78.5	81.8	67.1	933.8
Hinatuan	22	723.9	426.7	460.0	322.3	294.9	220.0	217.9	198.6	195.3	209.6	371.3	664.7	4305.2
Jolo	57	104.6	106.2	107.2	143.0	217.2	223.0	178.3	170.2	188.0	226.3	215.1	169.2	2048.3
Malaybalay	12	107.2	67.8	92.5	95.5	244.1	339.1	357.9	339.9	370.1	331.5	195.3	195.3	2736.2
Surigao	52	554.0	381.5	367.8	256.0	176.3	122.2	173.5	136.7	169.4	278.9	425.7	634.0	3676.0
Zamboanga	54	51.8	52.6	38.4	52.6	89.7	112.8	126.0	113.0	122.9	155.4	120.7	88.1	1124.0
Average for Mindanao		195.0	138.7	144.7	135.0	193.7	210.8	221.4	209.2	203.5	237.8	218.6	241.4	2349.8
Average for Philippines		159.4	109.0	105.4	100.1	175.1	231.3	295.4	304.4	274.8	275.6	266.0	236.9	2533.4

TABLE-7 INVENTORY OF EXISTING FLOOD CONTROL AND DRAINAGE STRUCTURES

REGION	EARTHDIKE		RUBBLE DIKE		SPURDIKE		REVTMENT		DRAINAGE MAINS		ESTEROS & WATERWAYS		CUT-OFF CHANNEL		LATERALS		FLOOD-GATE		NAV. LOCK
	No. of Structure	Length (m)	No. of Structure	Length (m)	No. of Structure	Length (m)	No. of Structure	Length (m)	No. of Structure	Length (m)	No. of Structure	Length (m)	No. of Structure	Length (m)	No. of Structure	Length (m)	No. of Structure	Length (m)	
I	36	255,935	-	-	608	15,477	75	56,774	12	8,614	44	75,827	-	-	-	7,886	13	-	-
II	6	3,450	-	-	7	939	29	11,105	-	-	3	1,935	5	2,315	3,110	-	-	-	-
III	35	373,551	-	-	67	656	67	39,456	5	1,270	173	331,016	-	-	-	5,931	2	1	1
IV-A	1	2,232	-	-	12	277	57	11,272	1	680	2	863	-	-	-	4,616	-	-	-
IV-B	9	33,056	-	-	2	327	20	6,377	3	1,795	-	-	-	-	14,255	-	-	-	-
V	62	710,103	-	-	27	6,377	42	21,547	3	451	68	316,741	13	28,991	5,645	35	-	-	-
VI	9	6,602	-	-	21	1,480	55	15,287	20	7,474	-	-	-	-	17,594	-	-	-	-
VII	14	6,243	4	2,518	-	-	22	10,197	14	3,718	1	433	6	14,950	2,974	-	-	-	-
VIII	3	3,465	-	-	-	-	32	8,544	1	260	5	2,240	-	-	28,770	-	-	-	-
IX	-	-	-	-	1	120	18	8,056	5	6,677	2	9,856	4	1,050	5,262	5	-	-	-
X	4	1,740	22	10,842	4	610	18	4,448	23	4,532	11	21,122	10	16,386	5,424	3	-	-	-
XI	-	-	1	1,584	14	582	17	7,562	-	-	-	-	-	-	4,913	1	-	-	-
XII	1	9,360	-	-	1	132	11	4,320	6	2,885	4	7,997	6	20,334	68,742	-	-	-	-
NCR	6	32,978	-	-	-	-	30	74,462	37	36,500	69	194,116	-	-	226,474	19	1	-	-
TOTAL	186	1,438,715	27	14,944	764	26,977	493	279,407	120	74,856	382	962,146	44	84,026	401,496	78	2	-	-

TABLE-8 COMPUTATION OF ANNUAL MAINTENANCE REQUIREMENT (NATIONWIDE)

Type of Structure	Inventory Unit (m)	Portion that Needs Repair		Maintenance Cost/Meter (peso)	Annual Cost (mil. peso)
		%	Length (m)		
1. Earth Dike	1,438,715	10	143,872	286.30	41.19
2. Rubble Dike	14,944	10	1,495	192.40	0.29
3. Spurdike	26,977	2	540	511.00	0.28
4. Revetment	279,407	5	13,970	128.00	1.79
5. Mains	74,856	100	74,856	270.75	20.27
6. Laterals	401,496	100	401,496	68.00	27.30
7. Waterways	962,146	20	192,429	218.75	42.09
8. Cut-Off Channel	84,026	20	16,805	218.75	3.68
9. Navigational Lock	2 units	-	-	151,298/year	0.30
10. Floodgates	78 units	-	-	59,378/year	4.63
Total					141.82

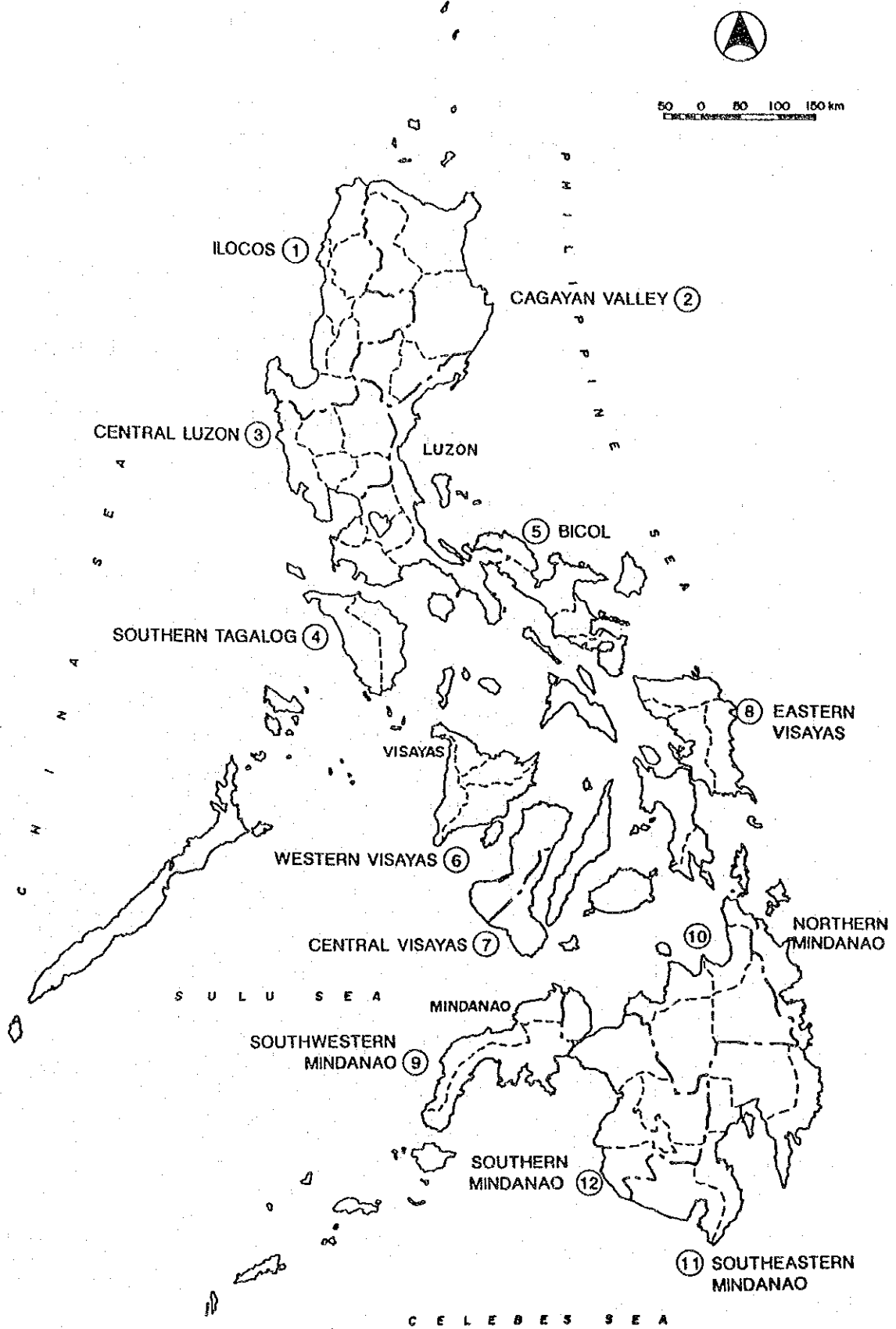


FIG. 1 PHILIPPINES WATER RESOURCES REGIONS

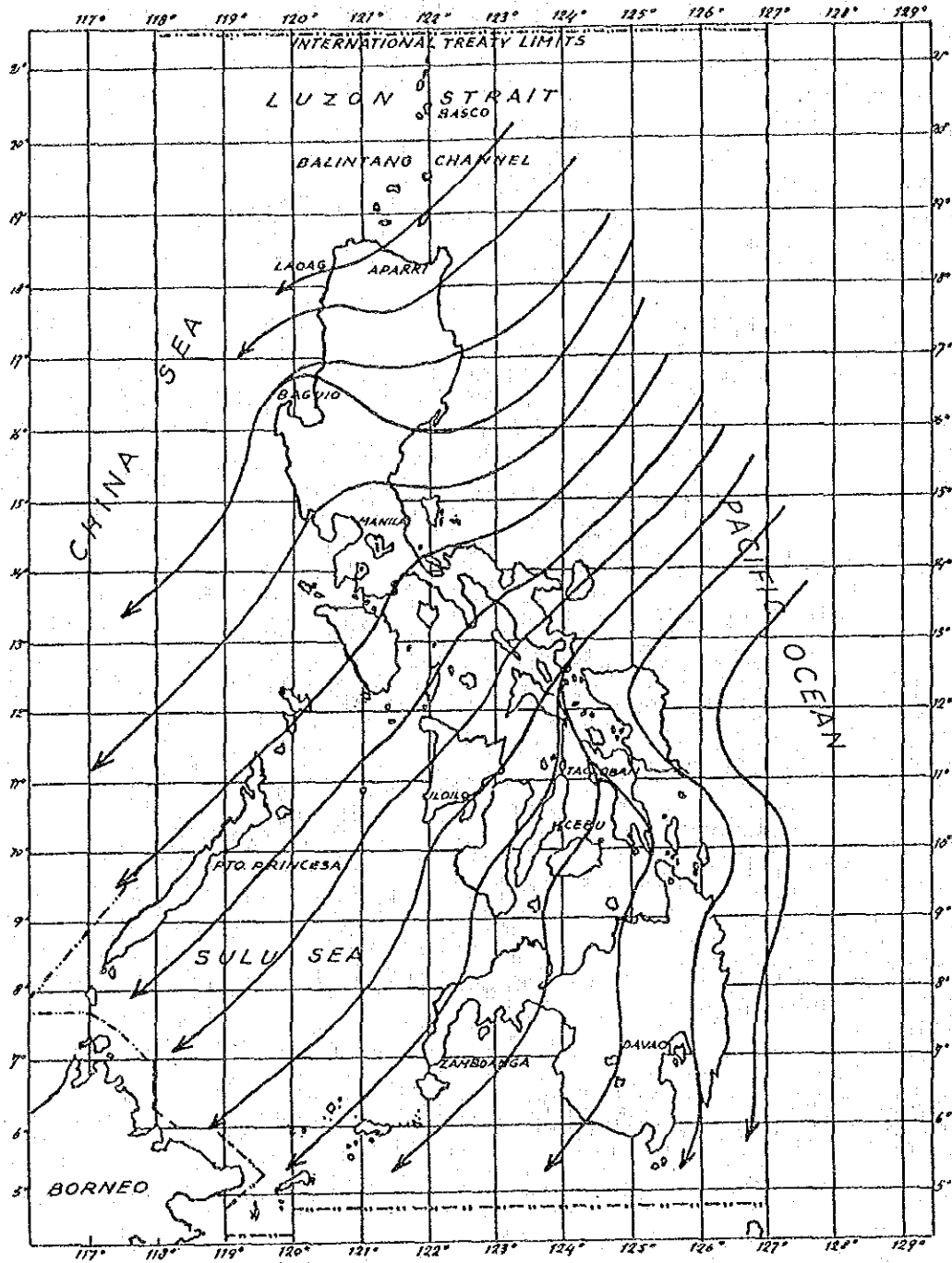


FIG. 2 SURFACE AIR FLOW IN THE PHILIPPINES IN JANUARY

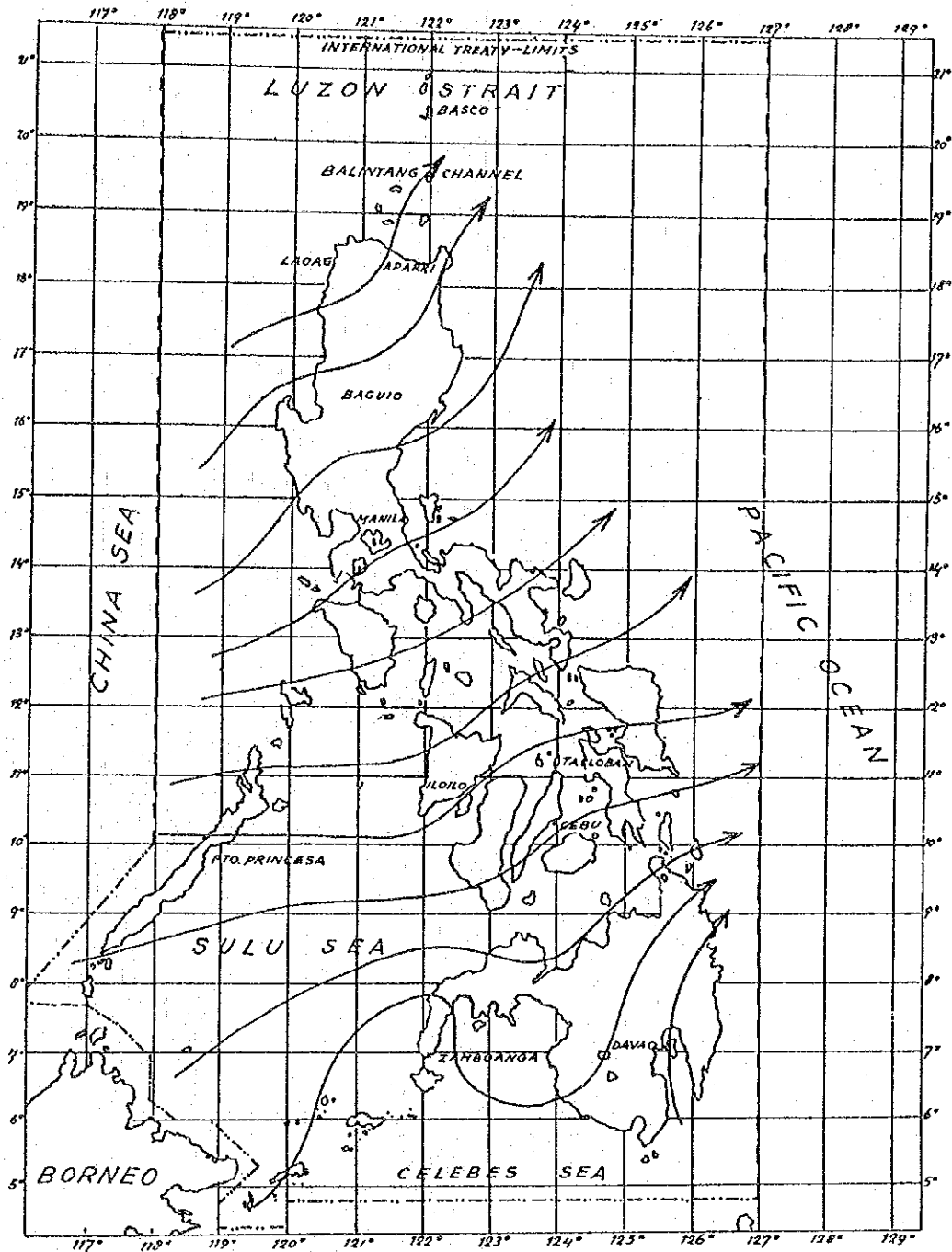


FIG. 3 SURFACE AIR FLOW IN THE PHILIPPINES IN JULY

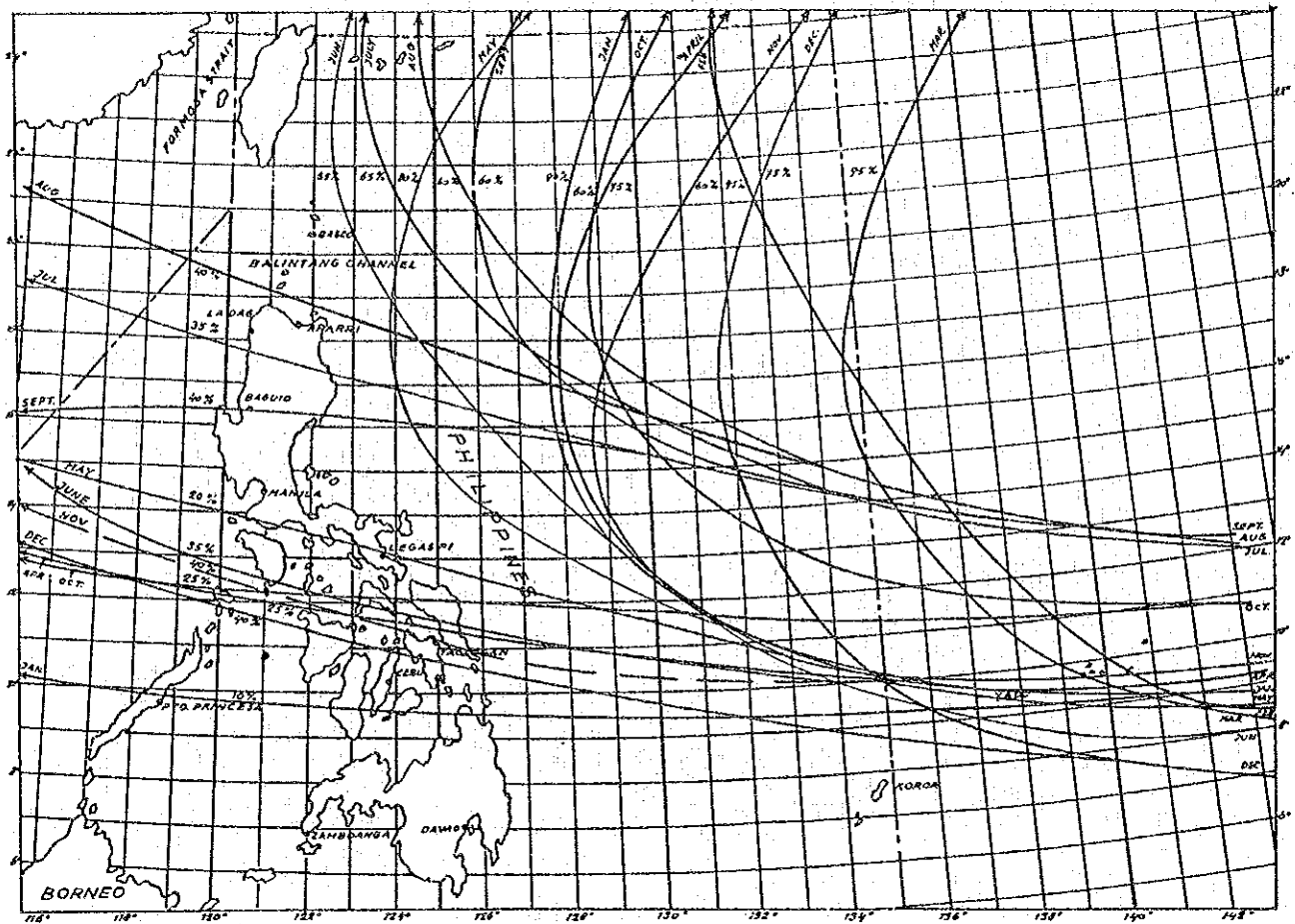


FIG. 4 MEAN MONTHLY TRACKS OF TROPICAL CYCLONES IN THE VICINITY OF THE PHILIPPINES

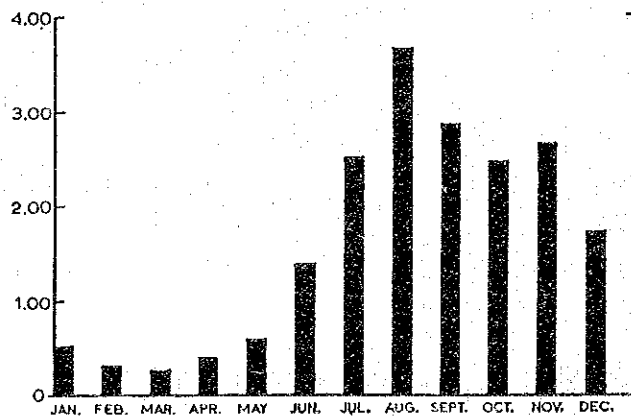


FIG. 5 MEAN MONTHLY FREQUENCY OF TROPICAL CYCLONES AFFECTING THE PHILIPPINES

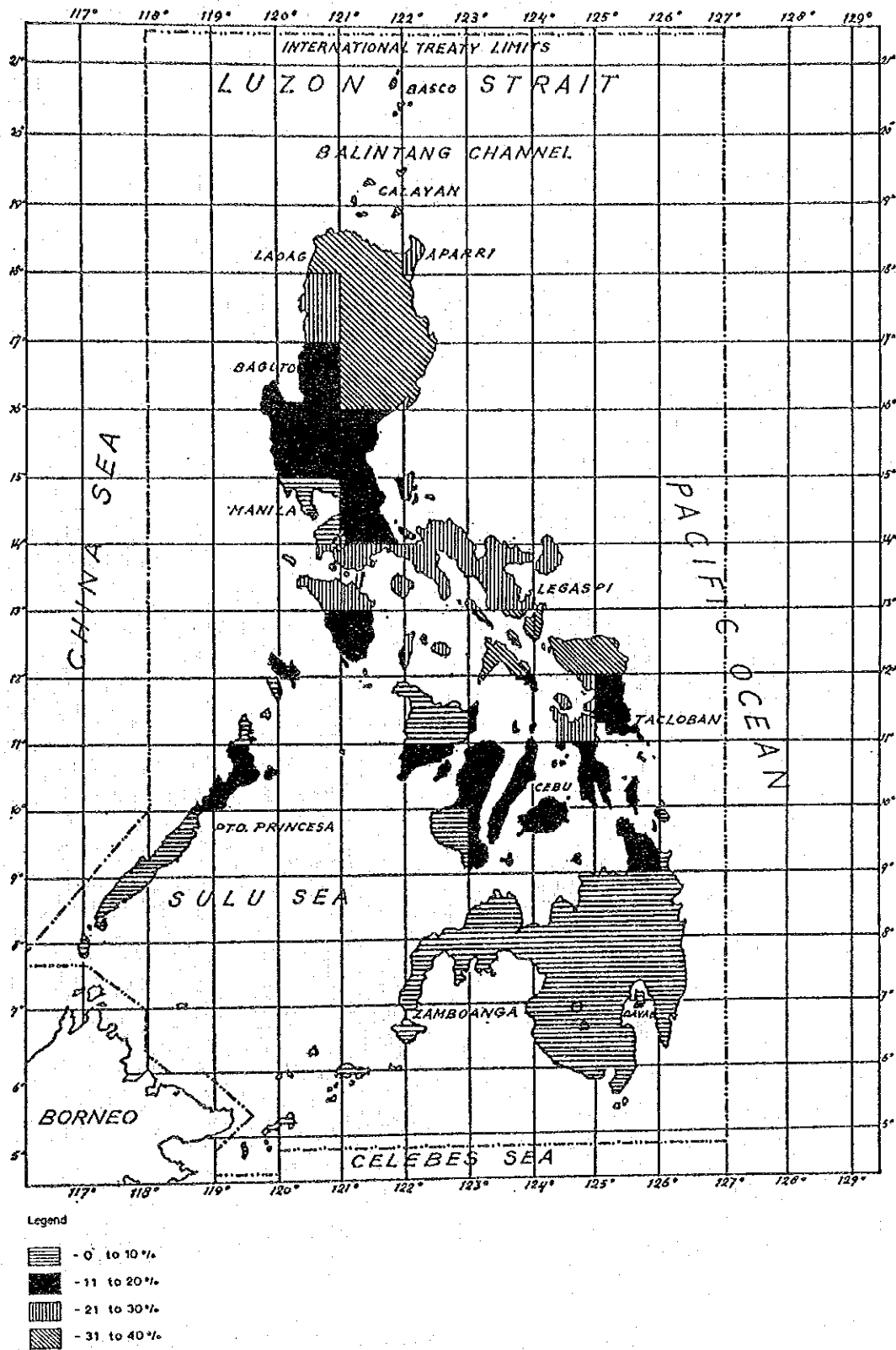


FIG. 6 MEAN PERCENTAGE FREQUENCIES OF TROPICAL CYCLONE PASSAGE IN THE DIFFERENT PARTS OF THE PHILIPPINES

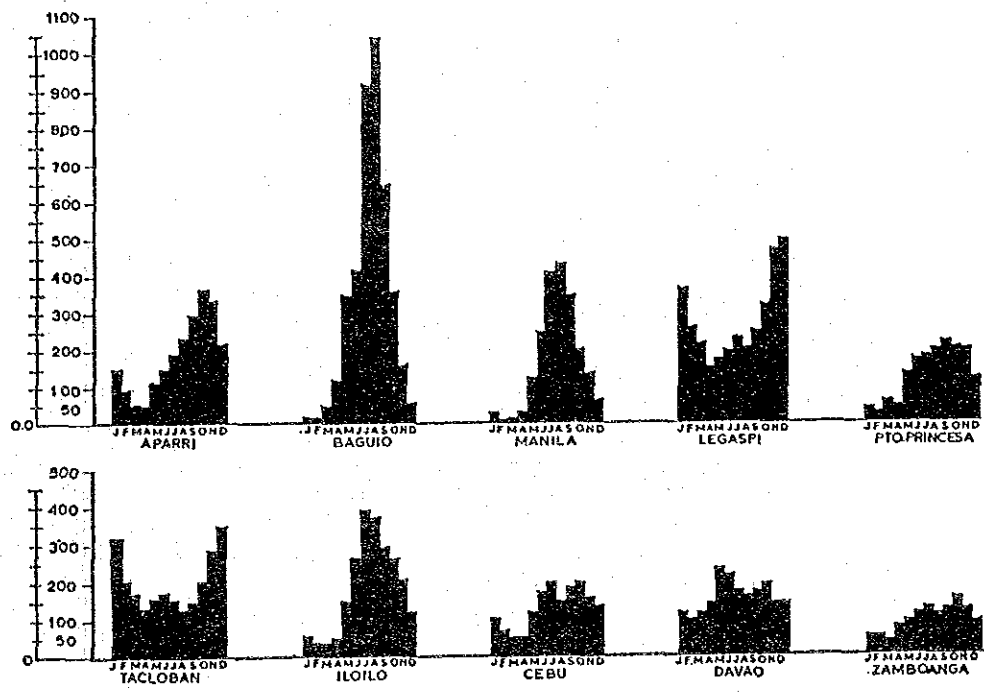


FIG. 8 MEAN MONTHLY RAINFALL (mm) DISTRIBUTION FOR TEN STATIONS IN THE PHILIPPINES

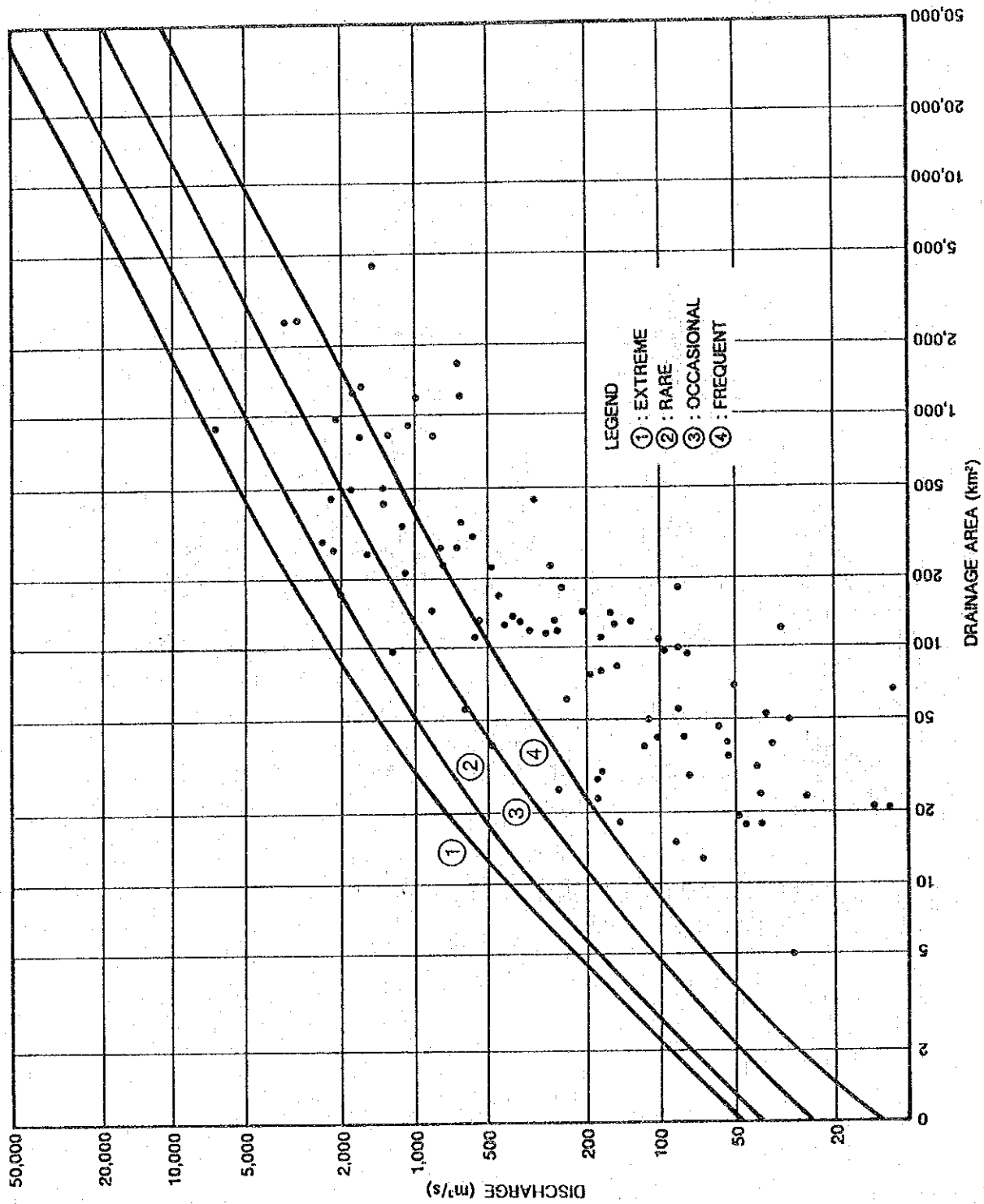


FIG. 9 RELATION OF RUN-OFF TO SIZE OF DRAINAGE AREA FOR PHILIPPINE RIVERS

JICA