R-5 Record of Wind Direction and Wind Velosity

WIND VELOCITY AND WIND DIRECTION

STATION MLA, MANILA — YEAR 1966

DATE \ MONTH	JAN		FEB		MAR		APR		MAY		JUNE		JULY		AUG		SEP		OCT		NOV		DEC	
1	ESE	4	SE	8	SE	10	SE	10			SE	5	E	3	NW	3	W	4	E	4	W	4	N	4
2	ESE	4	SSE	5	SE	10	SE	9			SW	4	S	5	W	5	W	6	SE	3	W	4	N	4
3	SSE	5	SSE	5	SE	7	SE	10			S	4	SE	3	NE	4	SW	5	E	2	SW	4	SE	4
4	SE	4	SSE	5	SE	8	SE	10			SW	4	N	2	NE	4	SW	7	E	3	SE	4	SE	3
5	SSE	5	SSE	5	SE	9	SE	11			SE	2	SW	3	NW	4	W	7	SE	3	S	4	NE	3
6	NNW	6	SE	9	SE	8	SE	10			VNK	3	N	3	SW	6	SW	9	SE	3	S	2	SE	3
7	SSE	3	SSE	4	SE	5	SE	11			NW	4	NW	3	SW	6	SW	5	SE	4	E	4	WE	5
8	SSE	5	SE	6	SE	6	SE	8			SW	4	NE	3	SW	5	SE	4	E	3	N	3	W	4
9	SE	5	SSE	9	VRBL	8	SE	9			W	5	E	5	SW	5	SW	4	S	3	S	4	SE	4
10	SE	5	SSE	8	SE	6	SE	6			SW	5	N	4	W	7	SW	5	E	3	SE	4	SW	3
11	SSE	5	SSE	10	SE	8	S	5			SW	6	SE	4	SW	4	SW	5	S	3	SE	6	SE	5
12	SE	6	SE	9	SE	10	SW	5			SE	4	SW	2	SW	6	SW	8	SE	2	SE	5	SE	4
13	SSE	7	SSE	4	SE	10	W	6			S	3	S	3	SW	7	W	6	S	4	E	3	SE	4
14	ESE	7	SE	7	SE	10	VRBL	5	VRBL	4	SE	5	NW	4	SW	10	SW	6	W	4	SE	4	SE	4
15	ESE	4	SSE	10	VRBL	7	W	4	VRBL	4	SE	4	VNK	3	SW	9	W	8	E	4	E	4	SE	7
16	SE	5	S	10	SE	6	SE	10	NE	4	SW	3	VNK	4	W	6	W	8	E	4	N	4	SE	5
17	SE	4	SSE	8	SE	7			E	7	SW	4	VNK	4	W	6	SW	4	E	2	E	3	E	5
18	SE	6	SE	8	SE	5			SE	8	NE	3	NE	4	W	6	W	5	E	4	N	3	E	4
19	ESE	4	SSE	10	SE	8			S	10	VAR	3	E	2	W	8	W	4	E	4	W	5	N	3
20	SE	6	SSE	9	SE	11			SW	5	S	3	SW	3	SW	8	W	4	E	3	W	15	NE	4
21	ESE	8	SE	7	SE	7			SW	4	SW	3	E	3	W	8	W	4	E	4	SE	9	SE	3
22	SE	9	SSE	6	SE	6			VRBL	5	SW	2	SW	3	W	7	W	8	E	3	SE	8	SE	4
23	ESE	7	SSE	7	SE	11			NE	4	N	4	S	4	W	5	W	7	N	2	SW	4	SE	4
24	SSE	7	SSE	5	SE	6			SE	4	SE	3	S	4	W	4	W	5	E	3	W	3	SE	5
25	NW	4	SSE	5	N	6			SE	6	SW	4	SW	3	N	3	W	3	E	3	W	3	W	4
26	E	5	SSE	6	E	4			SE	12	SW	6	E	4	N	3	SE	4	E	3	W	3	NE	4
27	SE	3	SE	8	SE	4			SE		SW	4	E	4	W	4	SE	4	E	4	W	4	N	7
28	ESE	9	SE	8	SE	6			SE		SE	4	NW	3	W	4	SE	6	E	4	NW	6	N	7
29	SSE	7			SE	8			S		W	4	S	3	E	3	SE	4	S	4	SE	4	SE	5
30	S	5			SE	10			NW		SE	4	S	4	SW	2	E	4	S	3	SE	4	SE	7
31	SSE	8			SE	7			SW				SE	4	E	2			S	6			NE	4
TOTAL																								
MEAN	SE	6	SE	7	SE	8			SE	7	SW	4	ES	3	W	6	SW	5	E	3	SE	4	SE	4

LEFT SIDE, WIND VELOCITY (KNOT), RIGHT SIDE, WIND DIRECTION, /, NO RECORD

R 61

WIND VELOCITY AND WIND DIRECTION

STATION MLA, MANILA — YEAR 1967

DATE \ MONTH	JAN		FEB		MAR		APR		MAY		JUNE		JULY		AUG		SEP		OCT		NOV		DEC	
1	SE	5	E	6	SE	11	SE	10	ESE	9	SSW	6	SSE	4	WSW	7	WSW	6	VRBL	2	E	2	E	3
2	SE	4	SE	4	SE	9	SE	9	SE	8	WSW	5	VAR	2	WSW	6	WSW	4	SESSE	3	N	2	NE	3
3	NW	3	SE	3	SE	6	SE	10	ESE	8	SW	6	VAR	4	WSW	4	WSW	5	SE	3	N	13	SE	4
4	E	4	E	5	S	5	SE	6	ESE	9	SW	6	WSW	6	WSW	4	SSE	3	W	2	SE	20	SE	5
5	E	7	SE	9	NW	4	SE	7	ESE	10	SW	8	WSW	5	W	5	W	3	W	3	ESE	9	SE	4
6	E	4	E	8	NW	4	SW	4	ESE	7	WSW	9	WSW	8	W	6	W	5	SWSW	2	SE	6	SE	5
7	NE	4	SE	5	SE	6	W	10	ESE	10	WSW	7	W	5	W	2	WSW	4	ESE	4	WNW	2	SE	3
8	E	3	SE	4	SE	10	S	9	ESE	7	WSW	7	WSW	5	VAR	2	WSW	3	W	2	ESE	4	E	5
9	N	3	SE	4	SE	8	SW	5	ESE	7	WSW	4	SW	6	WSW	5	W	4	W	3	ESE	3	E	4
10	NE	4	SE	4	E	7	SE	6	ESE	6	W	4	SW	7	W	5	W	6	WSW	2	ESE	3	N	3
11	SE	4	SE	5	E	5	SE	6	ESE	6	W	3	SW	5	W	6	WSW	6	N	1	NNE	2	NE	4
12	E	3	E	8	E	4	SE	8	SE	7	W	3	W	3	WSW	5	SW	6	SSE	3	E	4	E	6
13	SE	4	SE	10	SE	8	SE	9	ESE	6	SE	6	E	2	SW	6	WSW	4	W	2	E	2	SE	4
14	N	4	SE	4	S	8	SE	6	SE	5	ESE	6	E	3	WSW	5	WSW	5	SE	2	VRBL	2	N	3
15	N	4	SE	7	SE	10	SE	7	VAR	4	ESE	4	ESE	4	SE	4	WSW	6	W	3	W	2	N	3
16	W	5	SE	9	ESE	9	ESE	7	SE	4	ESE	4	VAR	2	W	4	WSW	5	W	8	NW	4	SE	4
17	E	5	SE	10	SE	7	SE	6	ESE	4	VAR	4	SE	4	W	4	VRBL	3	WSW	14	N	4	SE	3
18	E	6	SE	8	SE	6	ESE	10	SE	5	SE	3	WSW	4	WSW	4	SSE	2	W	5	N	3	S	4
19	N	4	SE	9	ESE	9	ESE	5	ESE	4	VAR	4	WSW	4	VAR	4	W	3	ESE	3	SE	4	SE	6
20	SW	4	SE	9	SE	10	SE	7	VAR	4	VAR	3	WSW	4	SSW	3	W	3	W	2	SE	3	SE	7
21	SE	8	SE	8	SE	6	SE	9	W	6	SE	3	W	4	SSW	4	W	3	W	2	N	4	SE	6
22	SE	8	SE	10	ESE	4	SE	7	W	6	SE	3	W	5	WSW	4	WSW	3	W	2	SE	5	SE	4
23	SE	7	SE	8	SE	4	SE	6	WSW	8	S	4	WSW	6	WN	2	WSW	2	W	2	SE	3	NE	3
24	SE	4	SE	9	ESE	10	W	4	W	7	SSE	3	W	5	ESE	3	ES	3	N	4	NE	6	SE	3
25	SE	4	SE	8	E	9	SE	6	WSW	6	VAR	2	VAR	5	W	4	VRBL	2	W	2	NE	4	SE	6
26	SE	5	SE	8	ESE	6	SE	7	WSW	3	WNW	2	W	5	W	5	W	2	WSW	2	NE	4	SE	5
27	SE	8	SE	6	SE	10	SE	6	ESE	4	WSW	3	WSW	3	W	9	W	4	W	2	NE	6	N	3
28	SE	7	SE	4	SE	10	SE	7	VAR	3	SW	7	VAR	2	WSW	7	W	3	E	2	SE	6	SE	4
29	SE	4	/	/	SE	10	SE	8	W	4	SW	4	SE	3	WSW	7	W	3	ESE	3	SE	8	SE	3
30	SE	4	/	/	SE	10	SE	10	W	5	W	2	SW	4	WSW	3	W	3	ESE	4	ESE	5	VRBL	4
31	SE	6	/	/	SE	7	/	/	WSW	7	/	/	WSW	6	VRBL	5	/	/	VRBL	5	/	/	W	3
TOTAL																								
MEAN	S	5	SE		SE	7	SE	7	ESE	6	WSW	5	WSW	4	WSW	5	WNW	4	W	3	SE	5	SE	4

LEFT SIDE, WIND VELOCITY (KNOT), RIGHT SIDE, WIND DIRECTION, / , NO RECORD

WIND VELOCITY AND WIND DIRECTION

STATION: MLA, MANILA — YEAR: 1968

DATE \ MONTH	JAN		FEB		MAR		APR		MAY		JUNE		JULY		AUG		SEP		OCT		NOV		DEC	
1	VRBL	3	NW	4	SE	7	SE	11	SE	5	S	3	S	6	W	7	S	5	E	4	SE	4	SE	5
2	SW	3	NW	4	SE	8	SE	7	N	6	SE	4	E	4	SW	5	W	6	E	2	SE	4	E	4
3	SE	5	SE	7	SE	6	SE	8	W	6	SE	5	ESE	3	SW	4	W	10	N	2	SE	4	E	7
4	SE	5	SE	7	SE	10	SE	8	SE	7	W	4	NE	4	S	3	W	13	SE	4	SE	3	E	7
5	SE	6	SE	7	SE	8	SE	8	SE	4	S	4	N	4	SW	4	W	12	E	2	VRBL	3	E	5
6	SE	8	SE	5	SE	9	SE	10	SE	5	NE	4	W	4	N	4	W	10	SE	3	SE	3	E	5
7	SE	5	SE	7	SE	9	SE	8	SE	10	S	4	S	4	S	4	SW	8	SE	3	E	3	E	5
8	SE	4	SE	6	SE	7	SE	8	SE	8	S	4	E	4	SW	5	SW	8	SE	3	SE	3	E	4
9	SE	8	SE	5	SE	10	SE	10	SE	10	SE	3	NE	4	SE	4	SE	4	E	4	SE	5	E	5
10	E	6	SE	4	SE	8	SE	9	SE	9	E	5	SW	3	SW	4	SW	4	SE	3	NE	4	ESE	6
11	SE	5	ESE	3	SE	8	SE	9	SE	9	SE	4	SW	4	S	3	SE	2	E	4	SE	5	E	6
12	NE	5	E	5	SE	10	SE	11	SE	4	SE	6	W	4	S	4	E	3	VRBL	3	SE	5	E	6
13	SE	4	SE	6	SE	9	SE	10	S	4	E	6	N	3	S	3	NE	4	E	1	SE	4	E	7
14	E	5	NW	7	SE	11	SE	8	E	4	SE	5	E	4	W	5	W	4	S	2	VRBL	2	SE	5
15	E	7	N	6	SE	9	SE	8	SE	7	SE	7	N	4	VRBL	4	E	3	N	2	E	4	SE	4
16	E	7	SE	6	SE	8	SE	8	SE	9	SE	5	E	3	W	3	S	3	VRBL	2	SE	3	SE	5
17	SE	5	SE	8	SE	12	SE	8	SE	5	NW	6	SE	4	SW	5	W	4	SW	4	E	3	SE	5
18	SE	7	SE	6	SE	10	SE	8	VRBL	4	S	5	SE	4	WSW	7	N	4	VRBL	4	E	4	SE	8
19	N	4	SE	6	SE	12	SE	7	SE	5	S	5	NE	2	SW	10	S	3	SE	3	NE	5	SE	4
20	SE	3	SE	6	SE	12	SE	8	S	4	S	5	SW	4	S	7	S	4	SE	4	SE	3	SE	4
21	NE	3	SE	6	SE	12	W.WSW	5	N	6	NE	5	SW	4	SE	5	S	3	SE	4	E	4	SE	4
22	SE	4	SE	7	SE	9	N	5	N	6	E	4	WSW	6	S	5	SE	4	SE	4	E	3	SE	6
23	SE	6	SE	5	SE	10	E	4	SE	4	SE	4	SW	10	SW	7	NE	3	SE	3	NE	3	SE	8
24	SE	7	NE	6	SE	8	SE	10	SE	4	S	4	SW	15	S	5	N	3	SE	4	S	2	SE	5
25	SE	5	ESE	6	SE	10	SE	7	S	5	S	3	SW	14	W	4	N	3	SE	4	E	6	E	2
26	SE	4	SE	9	SE	10	SE	9	S	5	S	4	SW	9	SW	6	NW	7	SE	4	SE	5	SE	4
27	NE	4	SE	9	SE	6	SE	6	NW	6	SW	3	SW	9	SW	8	SW	8	SE	4	SE	2	SE	4
28	NE	3	SE	4	SW	5	W	4	SE	5	SW	5	SW	7	SW	6	SW	13	SE	4	E	4	SE	6
29	SE	5	SE	5	SE	5	SE	7	S	4	E	4	SW	6	S	5	SW	8	E	4	SE	7	SE	4
30	S	4	/	/	SE	8	SE	8	N	4	E	4	SE	6	SW	6	SE	3	E	4	SE	5	SE	7
31	SE	4	/	/	SE	8	/	/	SE	6	/	/	NW	5	SW	5	/	/	E	3	/	/	SE	6
TOTAL																								
MEAN	SE	5	SE	6	SE	9	SE	8	SE	6	SES	4	SW	5	SW	5	W	6	SE	3	SE	4	SE	5

LEFT SIDE, WIND VELOCITY (KNOT), RIGHT SIDE, WIND DIRECTION, /, NO RECORD.

WIND VELOCITY AND WIND DIRECTION

STATION: MLA, MANILA — YEAR: 1969

DATE \ MONTH	JAN		FEB		MAR		APR		MAY		JUNE		JULY		AUG		SEP		OCT		NOV		DEC	
1	SE	5	SE	9	SE	8	SE	8	ESE	9	ESE	6	SW	4	SW	8	SE	4	WSW	8	W	2	W	4
2	SE	6	SE	9	ESE	4	SE	11	ESE	10	ESE	7	SW	3	SW	7	W	2	SW	4	W	4	SE	3
3	SE	6	SE	10	SE	10	SE	9	ESE	8	SE	5	NE	4	SW	6	W	4	WSW	4	W	4	N	4
4	SE	6	N	6	SE	8	SE	8	ESE	9	SW	4	S	4	SW	7	W	4	WSW	4	E	4	VRBL	3
5	SE	5	SE	4	SE	8	SE	8	ESE	7	VRBL	5	SE	5	WSW	4	VRBL	2	W	5	ENE	6	W	3
6	SE	6	E	8	SE	7	SE	5	ESE	9	W	6	SW	3	SW	6	VRBL	2	VRBL	2	E	4	VRBL	3
7	SE	3	SE	6	SE	10	SE	5	ESE	10	WSW	4	VRBL	3	SW	9	WSW	5	N	3	ESE	3	E	3
8	NE	2	SE	6	SE	9	SE	5	ESE	10	SE	6	NE	4	SW	5	SW	9	SSE	3	E	5	W	3
9	E	6	SE	7	SE	9	SE	8	ESE	7	SW	8	SE	10	NW	4	SW	8	E	3	ESE	3	N	3
10	SE	8	SE	5	SE	10	SE	9	WSW	5	NW	8	SE	7	SE	4	SW	10	SE	1	E	3	NNE	4
11	SE	7	SE	4	SE	4	SE	10	SW	6	SW	7	SW	4	SE	4	W	11	ESE	3	E	5	N	3
12	SE	4	SE	9	SE	9	SE	11	ESE	5	S	6	NE	4	SE	4	SW	6	VRBL	4	E-ESE	5	N	3
13	SE	10	SE	7	SE	7	SE	11	WSW	4	SW	4	NE	2	E	3	SW	7	ESE	3	VRBL	4	E	4
14	SE	8	SE	7	SE	7	SE	10	ESE	6	NW	5	NE	3	NE	4	VRBL	2	SE	4	ESE	4	E	4
15	SE	6	SE	10	SE	10	SE	10	ESE	7	NW	7	SW	3	NE	4	VRBL	2	NE	3	E	3	S	1
16	SE	7	SE	7	SE	7	SE	8	ESE	10	NW	6	SW	4	NE	3	SW	6	ENE	3	NEE	3	VRBL	4
17	SE	10	SE	4	SE	4	SE	9	SESSE	3	SW	5	ESE	3	NW	4	SE	6	SE	2	NEE	4	E	3
18	E	8	SE	3	SE	3	SE	8	ESE	7	SW	5	S	4	WSW	2	E	4	ESE	4	ESE	4	N	4
19	SE	6	SE	7	SE	7	SE	11	ESE	4	SW	5	NW	4	WSW	3	NW	4	W	4	E	2	NNE	4
20	SE	7	SE	13	SE	13	SE	10	ESE	6	SE	5	S	3	N	3	NW	5	VRBL	3	E	3	VRBL	4
21	E	7	NW	7	SE	7	SE	6	W	5	SE	7	E	4	NE	5	SE	2	E	3	E	5	NNE	3
22	SE	7	SE	7	SE	7	ESE	8	SW	5	SE	8	W	3	SE	6	S	3	E	3	ESE	4	E	4
23	SE	7	SE	10	SE	10	SE	10		8	SE	8	SW	5	SE	4	SW	4	E	4	ESE	4	E	7
24	ESE	5	SE	9	SE	9	SE	8	W	9	SE	4	NW	7	E	5	SW	4	VRBL	3	VRBL	3	E	5
25	SE	5	SE	9	SE	9	SE	9	NW	7	SE	4	W	10	SE	4	SW	6	E	4	VRBL	3	E	7
26	SE	6	SE	10	SE	10	S	9	W	5	NW	4	SW	13	NE	3	SW	9	W	3	E	4	ESE	4
27	SE	8	SE	10	SE	10	SE	9	W	7	NW	4	SW	13	ESE	4	SW	5	E	4	E	4	ENE	3
28	SE	7	SE	10	ESE	10	SE	9	W	5	SW	4	SW	9	SE	3	W	5	VRBL	3	VRBL	4	VRBL	3
29	SE	9			SE	8	SE	9	SW	7	SW	5	SW	6	NE	4	WSW	6	E	4	N	3	NNW	4
30	SE	8			SE	6	SE	8	SE	4	E	4	SW	5	E	3	SW	7	E	4	WNW	5	N	1
31	SE	7			WSW	5			SSW	4			SW	6	SE	5			ESE	4			ESE	4
TOTAL																								
MEAN	SE	6	SE	8	SE	8	SE	9	ESE	7	SW	5	SW	6	SE	5	SW	5	E	4	E	4	E	4

LEFT SIDE, WIND VELOCITY (KNOT), RIGHT SIDE, WIND DIRECTION, / , NO RECORD

WIND VELOCITY AND WIND DIRECTION

STATION MLA MANILA — YEAR 1970

DATE \ MONTH	JAN		FEB		MAR		APR		MAY		JUNE		JULY		AUG		SEP		OCT		NOV		DEC	
1	ESE	4	ENE	7	E	9	EESE	4	ESE	9	ESE	5	WSW	5	VRBL	6	N	6	E	4	WNW	7	E	7
2	W	3	E	5	E	10	W	3	ESE	9	VRBL	3	SW	5	W	4	SSW	4	ESE	3	E	3	E	6
3	VRBL	2	E	4	ESE	8	ESE	5	ESE	10	VRBL	3	WSW	5	VRBL	2	VRBL	4	S	3	ESE	5	ESE	5
4	ESE	5	E	4	E	10	E	7	ESE	9	ESE	6	W	5	NE	3	VRBL	4	WNW	3	ESE	4	E	7
5	VRBL	5	E	6	ESE	10	E	11	ESE	9	ESE	4	WSW	6	W	4	W	3	VRBL	2	E	4	VRBL	4
6	N	3	E	5	ESE	9	ESE	12	ESE	10	VRBL	5	VRBL	4	SSW	6	WSW	5	VRBL	3	ESE	3	E	2
7	ESE	5	E	7	ESE	5	ESE	8	ESE	9	W	4	WSW	5	S	7	W	3	ESE	5	ENE	2	E	3
8	ESE	4	E	9	ESE	4	E	11	ESE	8	WNW	5	WNW	4	WSW	6	VRBL	3	E	4	VRBL	3	ESE	4
9	ESE	4	E	5	ESE	7	ESE	9	ESE	5	WSW	3	W	6	WSW	4	VRBL	3	VRBL	3	ESE	3	ESE	4
10	ENE	4	E	6	E	7	ESE	8	WNW	6	WSW	4	WSW	8	W	4	W	9	ENE	3	VRBL	4	ESE	3
11	ESE	3	E	6	E	9	ESE	7	W	6	VRBL	5	W	4	WSW	8	SW	7	VRBL	3	VRBL	2	W	6
12	ESE	3	E	7	ESE	9	E	9	W	3	SE	4	VRBL	4	SW	6	ESE	4	WSW	4	VRBL	2	VRBL	3
13	ESE	5	E	4	E	8	E	8	ESE	4	S	5	S	4	W	5	VRBL	3	NW	22	E	3	N	1
14	ESE	3	VRBL	4	ESE	8	E	5	ESE	4	VRBL	4	SE	6	WSW	4	ESE	4	ESE	11	ESE	2	SE	2
15	W	4	ESE	3	ESE	8	EESE	8	VRBL	8	WSW	4	VRBL	2	WSW	4	ESE	4	ESE	8	VRBL	3	SSE	3
16	ESE	7	ESE	5	ESE	6	E	8	ESE	6	WSW	4	VRBL	4	SW	4	ESE	3	ESE	6	VRBL	1	N	4
17	ESE	5	E	5	E	7	ESE	9	E	6	VRBL	4	W	3	VRBL	2	W	3	S	3	VRBL	1	VRBL	8
18	ESE	4	ESE	7	ESE	7	ESE	10	ESE	3	VRBL	3	W	2	VRBL	2	WSW	2	ESE	3	VRBL	3	ESE	1
19	ESE	3	ESE	6	ESE	9	E	9	E	4	VRBL	3	E	3	W	5	VRBL	2	ESE	4	E	22	VRBL	1
20	WNW	5	ESE	5	ESE	8	E	9	ESE	5	ESE	5	W	2	W	4	E	3	E	6	E	6	E	2
21	ESE	4	ESE	8	ESE	9	E	8	ESE	9	EESE	3	ESE	3	W	6	ESE	4	ESE	6	ESE	4	ESE	6
22	ESE	5	ESE	7	ESE	7	ESE	10	ESE	8	VRBL	5	ESE	3	WSW	5	ESE	3	ESE	4	VRBL	4	VRBL	3
23	ESE	5	SE	6	SE	7	ESE	5	E	7	/	3	VRBL	2	W	6	SSW	4	S	4	E	5	E	5
24	ESE	5	ESE	5	ENE	7	ESE	8	ESE	8	/	2	VRBL	3	SW	5	WSW	4	WNW	3	E	4	ESE	3
25	ESE	5	WSW	5	ESE	6	ESE	8	WSW	5	/	4	VRBL	3	WSW	6	WSW	5	WSW	3	E	4	VRBL	3
26	ESE	8	WSW	6	VRBL	6	ESE	11	ESE	5	/	3	WSW	4	WSW	7	ESE	4	VRBL	1	E	4	N	4
27	ESE	6	WSW	4	ESE	7	ESE	7	ESE	7	VRBL	4	W	6	SW	7	ESE	3	ENE	3	ESE	5	ENE	5
28	ESE	4	WNW	5	ESE	7	ESE	7	E	9	ESE	5	WSW	4	WSW	6	WNW	3	VRBL	1	ESE	5	ENE	3
29	ESE	3	/	/	E	8	ESE	7	E	8	E	3	WSW	5	WSW	7	S	2	E	3	N	3	VRBL	3
30	W	6	/	/	ESE	9	ESE	7	ESE	8	SE	3	WSW	7	WSW	7	VRBL	4	E	2	VRBL	3	ESE	5
31	ENE	7	/	/	ESE	8	/	/	SE	4	/	/	SW	5	WSW	5	/	/	WNW	2	/	/	VRBL	3
TOTAL																								
MEAN	ESE	4	E	6	ESE	8	ESE	8	ESE	7	VRBL	4	WSW	4	WSW	5	ESE	4	ESE	4	E	4	ESE	3

LEFT SIDE, WIND VELOCITY (KNOT), RIGHT SIDE, WIND DIRECTION, / , NO RECORD

WIND VELOCITY AND WIND DIRECTION

STATION MLA MANILA YEAR 1971

DATE \ MONTH	JAN		FEB		MAR		APR		MAY		JUNE		JULY		AUG		SEP		OCT		NOV		DEC	
1	ESE	5	ESE	3	ESE	9	ESE	10	VRBL	4	ESE	5	VRBL	2	WSW	7	VRBL	4	VRBL	2	VRBL	4		
2	E	5	ESE	3	ESE	3	ESE	8	E	7	ESE	4	NE	4	WSW	8	VRBL	3	VRBL	2	ESE	2		
3	VRBL	3	VRBL	4	ESE	5	ESE	8	ESE	4	W	3	VRBL	7	WSW	10	VRBL	4	NNW	6	E	2		
4	NW	4	VRBL	5	ESE	6	ESE	8	SSW	5	WSW	5	ESE	10	WSW	6	VRBL	4	WNW	9	VRBL	3		
5	ENE	6	E	8	E	6	ESE	8	N	5	VRBL	4	VRBL	3	WSW	8	WSW	5	S	5	VRBL	3		
6	E	5	E	6	N	5	ESE	8	WWSW	6	VRBL	3	WSW	4	VRBL	4	VRBL	4	SSE	7	VRBL	3		
7	ENE	4	ENE	5	VRBL	7	ESE	8	ESE	5	WSW	4	NNW	5	WSW	7	VRBL	4	SSW	5	VRBL	2		
8	ENE	4	E	4	E	6	ESE	8	ESE	6	SE	5	VRBL	3	WSW	10	VRBL	3	NW	4	VRBL	3		
9	E	6	E	8	ENE	4	ESE	8	ESE	3	VRBL	3	NNW	4	SW	6	VRBL	4	NW	6	N	4		
10	E	5	E	7	NNE	5	E	8	SE	4	W	3	SE	4	VRBL	5	WSW	5	W	17	N	3		
11	E	4	VRBL	5	N	4	ESE E	7	VRBL	3	VRBL	2	VRBL	3	W	2	VRBL	6	ESE	10	VRBL	3		
12	NNW	4	ESE	5	VRBL	3	E	9	VRBL	5	VRBL	3	ESE E	4	VRBL	4	SSW	6	NNW	13	VRBL	3		
13	W	3	VRBL	4	VRBL	2	ESE	7	WWSW	4	VRBL	3	VRBL	3	VRBL	5	VRBL	6	NNW	2	W	3		
14	VRBL	2	VRBL	4	NNW	5	SSE	5	NNW	5	WSW	5	NNW	5	WSW	6	VRBL	5	S	2	N	4		
15	VRBL	3	VRBL	4	E	6	WSW	6	W	5	E	8	E	7	VRBL	3	WSW	5	SSE	3	VRBL	4		
16	ESE	4	VRBL	3	VRBL	4	WSW	5	WSW	5	ESE	5	VRBL	4	ESE	5	VRBL	4	SE	3	E	2		
17	E	4	ESE	4	E	5	WSW	4	VRBL	4	VRBL	4	VRBL	6	E	4	WSW	7	VRBL	1	N	2		
18	ESE	7	ESE	6	VRBL	4	ESE	8	VRBL	3	VRBL	4	W	8	ESE	4	VRBL	5	VRBL	2	ESE	5		
19	E	7	ESE	5	ESE	5	ESE	9	VRBL	4	VRBL	3	WSW	14	ESE	5	VRBL	4	VRBL	3	VRBL	2		
20	VRBL	3	ESE	8	ESE	6	ESE	9	VRBL	3	SSW	4	WSW	12	ESE	4	VRBL	4	N	4	VRBL	1		
21	VRBL	4	ESE	8	ESE	8	ESE	6	VRBL	4	VRBL	2	S	7	ESE	5	VRBL	4	VRBL	5	ESE	3		
22	W	4	ESE	7	SE	5	ESE	6	ESE	5	VRBL	2	VRBL	5	ESE	6	VRBL	6	E	6	VRBL	2		
23	E	6	ESE	7	ESE	7	ESE	6	ESE	5	VRBL	3	WSW	8	ESE	4	VRBL	3	ENE	4	E	3		
24	ESE	5	ESE	10	ESE	8	W	5	ESE	6	WSW	2	WSW	11	ESE	4	VRBL	3	E	4	NNE	3		
25	ESE	5	E	8	ENE	7	W	6	VRBL	4	N	8	WSW	8	VRBL	3	WSW	4	VRBL	3	VRBL	4		
26	ESE	4	ESE	6	ESE	7	ESE	6	VRBL	12	VRBL	4	VRBL	5	ESE	5	VRBL	3	ESE	3	E	4		
27	VRBL	2	ESE	7	ESE	7	ESW	7	VRBL	6	VRBL	3	WNW	3	VRBL	3	ESE	4	E	3	VRBL	3		
28	ESE	5	W	3	ESE	8	S	5	VRBL	3	WSW	3	WSW	4	VRBL	2	ESE	6	VRBL	2		3		
29	VRBL	3	/	/	ESE	10	ESE	8	VRBL	4	VRBL	3	VRBL	3	VRBL	3	SE	5	ESE	4	ESE	3		
30	ESE	5	/	/	ESE	9	VRBL	7	ESE	5	VRBL	3	VRBL	3	VRBL	3	VRBL	4	E	4	VRBL	2		
31	VRBL	4	/	/	ESE	6	/	/	E	5	/	/	WSW	7	VRBL	2	/	/	VRBL	4	/	/	/	/
TOTAL																								
MEAN	ESE	4	ESE	6	ESE	6	ESE	7	VRBL	5	VRBL	4	WSW	6	ESE	5	VRBL	4	VRBL	5	VRBL	3		

LEFT SIDE, WIND VELOCITY (KNOT), RIGHT SIDE, WIND DIRECTION, / , NO RECORD

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WIND VELOCITY AND WIND DIRECTION

STATION MLA, MANILA — YEAR 1972

DATE \ MONTH	JAN	FEB	MAR		APR		MAY		JUNE		JULY		AUG		SEP		OCT		NOV		DEC	
1			N	8	E	7	W	4	VRBL	3	W	2	WSW	4	VRBL	5	VRBL	5	VRBL	2	VRBL	2
2			N	6	E	7	ESE	8	ESE	6	VRBL	3	NNE	3	SE	4	SE	4	VRBL	3	E	6
3			WNW	2	E	7	SE	9	SSE	3	W	3	VRBL	2	SSE	4	SSE	4	VRBL	4	NNE	7
4			E	9	ESE	10	ESE	8	W	5	W	4	VRBL	2	VRBL	3	VRBL	3	WNE	4	N	4
5			VRBL	8	ESE	10	ESE	9	W	5	VRBL	4	VRBL	3	W	3	W	3	E	8	E	5
6			E	6	SE	8	ESE	11	WSW	8	SW	9	W	4	SSE	3	SSE	3	ESE	7	E	6
7			E	6	VRBL	6	ESE	9	W	8	SSE	6	W	3	VRBL	3	W	3	ESE	6	VRBL	5
8			WESE	6	VRBL	4	ESE	9	VRBL	4	VRBL	4	W	5	WNW	3	SSE	3	ESE	2	ESE	4
9			VRBL	5	ENE-ESE	5	VRBL	5	WNW	3	VRBL	6	W	5	VRBL	4	VRBL	3	ESE	4	ESE	4
10			E	7	ESE	4	W	4	VRBL	4	SSW	8	W	6	W	4	WNW	4	VRBL	2	ESE	7
11			SSE	5	ENE	7	SW	5	VRBL	2	SSW	10	W	6	W	3	VRBL	4	E	4	ESE	6
12			W	3	ESE	6	W	6	W	4	SW	9	WSW	5	W	3	W	3	VRBL	3	W	1
13			VRBL	4	VRBL	7	W	6	W	5	SW	9	W	6	W	5	W	3	ESE	4	NNE	3
14			E	5	VRBL	9	E	3	W	4	SW	9	W	8	W	4	W	5	ESE	2	VRBL	2
15			E	7	ESE	7	WSW	5	W	4	WSW	10	WSW	10	VRBL	5	W	4	ESE	5	E	4
16			E	5	ESE	6	W	5	VRBL	4	WSW	13	VRBL	6	W	4	W	5	ESE	5	E	4
17			ESE	7	ESE	6	W	4	VRBL	5	VRBL	7	W	5	W	3	VRBL	4	E	5	E	3
18			NNE	5	SSE	8	VRBL	4	VRBL	4	W	8	WSSE	3	W	4	W	3	E	4	E	4
19			WNWW	4	SE	8	W	5	E	3	VRBL	3	VRBL	5	W	2	W	4	ESE	3	W	3
20			WE	4	SE	8	VRBL	5	E ESE	4	NEW	3	W	3	WSW	3	W	2	E	4	VRBL	2
21			ESE	5	VRBL	5	W	4	VRBL	4	W	6	W	4	WSW	1	W	3	VRBL	3	W	2
22			ESE	5	E	6	NNE	5	SSW	4	W	12	W	4	VRBL	2	WSW	1	SE	4	N	5
23			SE	8	ESE	9	W	3	VRBL	3	W	9	W	5	VRBL	2	NW	2	VRBL	2	WNW	3
24			ESE	6	ESE	4	W	4	W	4	W	8	W	5	WNW	2	VRBL	2	VRBL	3	ESE	3
25			SE ESE	6	ESE	5	VRBL	4	VRBL	9	W	9	W	4	VRBL	3	VRBL	2	VRBL	4	E	5
26			E	7	VRBL	7	ESE	2	SW	4	W	10	VRBL	4	VRBL	1	VRBL	3	VRBL	2	ESE	4
27			ESE	6	E	6	VRBL	4	WSW	8	SSW	10	VRBL	4	W	4	VRBL	1	VRBL	2	W	3
28			E	5	ESE	8	W	5	VRBL	6	WSW	8	VRBL	4	VRBL	3	VRBL	4	E	3	VRBL	4
29			ESE	4	ESE	6	ESE	7	ESE	3	WSW	6	VRBL	2	VRBL	3	VRBL	3	E	5	E	4
30			ESE	6	SE	8	VRBL	5	VRBL	3	W	5	ESE	4	VRBL	3	E	3	VRBL	4	W	3
31			E	7			W	4			VRBL	6		9			E	3			E	4
TOTAL																						
MEAN			E	6	ESE	7	W	5	VRBL	5	W	9	W	5	W	3	W	3	VRBL	4	E	4

LEFT SIDE, WIND VELOCITY (KNOT), RIGHT SIDE, WIND DIRECTION, / , NO RECORD

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WIND VELOCITY AND WIND DIRECTION

STATION MLA, MANILA — YEAR 1973

DATE \ MONTH	JAN		FEB		MAR		APR		MAY		JUNE		JULY		AUG		SEP		OCT		NOV		DEC	
1	VRBL	3	VRBL	1	NESE	5	ESE	10	ESE	7	SE	5	SE	3			S	3			ESE	4	E	3
2	W	4	VRBL	2	ESE	6	ESE	10	ESE	9	SSE	6	E	3			W	2			ENE	3	N	3
3	ESE	5	VRBL	5	ESE	11	SE	9	SE	9	W	5	SSE	2			E,NW	3			ESE	3	E	4
4	ESE	5	E.ESE	6	E	9	W	7	ESE	7	W	4	ESE	6			ESE	6			ESE	4	N.SE	4
5	VRBL	3	E	4	E	8	ESE	13	ESE	9	W	4	ESE	9			ESE	8			W	2	E	3
6	E	7	E	7	E	9	ESE	9	ESE	11	SSW	4	E	7			SSE	2			NE,SSE	3	ESE,N	2
7	VRBL	3	E.ESE	8	E	10	ESE	9	SE	9	WNW	5	ESE,SE	7			WNW	3			ENE	3	E	2
8	SE	3	E	5	E	7	ESE	10	SE	9	N.W	4	ESE	3			W	4			E	3	SE	4
9	SE	3	ESE	10	ESE	9	ESE	9	ESE	10	SE	4	W	1			W	2			E	7	WNW, NE	1
10	VRBL	2	ESE	11	ESE	9	ESE	10	SE	8	SW	3	SSE	2			W	2			ESE	4	E	4
11	N	4	ESE	7	ESE	10	ESE	8	SES	6	W	4	SSE	3			SE,SSE	2			E.ESE	4	E	3
12	VRBL	4	ESE	5	ESE	10	ESE	11	S	5	W	5	SSE	4			SE	3			NE	5	NNE	4
13	VRBL	4	E	7	E.ESE	8	E	9	W	5	WSE	4	WSW	4			ESE	3			NNW	3	ESE	4
14	NWE	2	ESE	7	ESE	6	ESE	9	SSW	3	S	4	S.SW	5			VRBL	3			E	6	ESE, ENE	2
15	SSE	2	ESE	8	ESE	8	ESE	9	WNW	4	W	5	SW	4			ESE, WNW	3			E	5	NNE	4
16	SE, SSE	6	ESE	5	ESE	8	E	10	W	4	W	4	SW	6			SE	1			E.ESE	5	NE	3
17	ESE	5	E	6	ESE	8	E	10	W.WSW	5	W	5	SW	8			VRBL	1			E	3	VRBL	5
18	SE	3	E.ESE	7	ESE	7	ESE	11	W	4	W	6	WSW	11			W	1			NE	4	SE	3
19	E.ESE	7	SE	5	E	8	ESE	10	W	5	W	7	WSW	6			ESE	5			NNE	9	SE	4
20	SE	6	SE	7	ESE	10	ESE	9	E	6	W	5	W	5			E	3			N	11	NNE	2
21	W	4	ESE	9	SE	7	ESE	10	ESE	8	WSW	3	W	6			W.WNW	2			N	13	SW	2
22	ESE	5	ESE	7	ESE	7	ESE	8	ESE.E	10	W	5	W	6			SE	3			E	9	VRBL	3
23	SE	4	ESE	5	ESE	8	ESE	11	SE.ESE	7	W	5	W	7			SE	3			E.ESE	9	S	3
24	W	3	ESE	10	ESE	7	ESE	9	ESE	7	W	5	W	2			NNE	1			SE	6	E	8
25	VRBL	4	ESE	8	ESE	7	SE	9	SE	8	W	5	W	2			E	3			E	4	E	7
26	W	3	ESE	7	ESE	11	SE	9	SE	5	VRBL	4	VRBL	2			VRBL	3			E.ESE	3	E	5
27	E	4	ESE	7	E	9	SSE	5	ESE	3	SSE	3	WNW	1			E.ENE	2			WNW	1	N	3
28	VRBL	3	SE	7	E	10	ESE	7	SE	6	VRBL	4	W	3			WNW	2			NNE	3	N	3
29	E	4			E.ESE	7	ESE	7	ESE	8	W	3	W	3			S.SSE	3			E	3	NNE	3
30	E	7			ESE	9	ESE	10	ESE	8	SE	3	SE	3			E	3			W	3	NNNE	3
31	NNE	5			ESE	11			SE	9			WSW	3									E	4
TOTAL																								
MEAN	SE	4	ESE	7	ESE	8	ESE	9	ESE	7	W	4	W	4			W	3			E	5	E	3

LEFT SIDE, WIND VELOCITY (KNOT), RIGHT SIDE, WIND DIRECTION, / , NO RECORD

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WIND VELOCITY AND WIND DIRECTION

STATION MLA, MANILA — YEAR 1974

DATE \ MONTH	JAN		FEB		MAR		APR		MAY		JUNE		JULY		AUG		SEP		OCT		NOV		DEC	
1	W	4	ESE	8	E	11	ESE	8	S	4	WSW	8	SW	8	NNE	4	W	8	VRBL	2	NNW	13	ESE	6
2	WSE	3	WNW	4	E	9	ESE	9	W	5	SW	8	WSW	10	NNE	4	W	8	VRBL	2	E	7	ESE	4
3	N	3	ESE	8	E	6	ESE	12	ESE	4	SW	10	SW	9	NNE	4	WSW	6	ESE	4	ESE	6	E	4
4	E	8	ESE	7	ESE	8	E	9	SSW	6	SW	6	WSW	9	SW	4	W	6	ESE	4	WNW	2	E	5
5	E	9	S	4	ESE	11	ESE	12	E	3	SSW	5	SSW	10	SW	3	W	4	E	4	W	4	E,ENE	4
6	E	9	WNW	6	ESE	8	E	10	ENE	5	WSW	4	SW	7	SSW	4	W,WSW	5	SSW	4	WSW	10	E	4
7	E	7	ESE	5	ESE	8	ESE	11	ESE	7	S	5	WSW	6	S	5	W	3	N,NW	3	WSW	10	VRBL	4
8	E	4	E	5	E	6	ESE	11	ESE	7	WSW	8	SW	6	SSE	9	NSW	4	N,W	2	WSW	4	ENNE	3
9	E	4	E	7	E	8	ESE	11	E	6	W	7	SSW	5	WSW	10	W	6	S	3	WSW	3	N	3
10	ESE	4	E	6	SE	6	ESE	12	ESE	9	SE	7	SW	6	SSW	10	W	5	WSW	4	E	3	E	4
11	SE	11	N	8	ESE	7	ESE	9	E	7	SSE	9	SW	8	SSW	5	WSW	4	WSW	6	ENE	4	E	4
12	ESE	8	E	12	ESE	10	E	11	NE	5	ESE	8	SW	6	WSW	8	WSW	3	S	5	N	5	E	4
13	E	4	E	12	ESE	10	E,ESE	10	ESE	5	ESE	5	SW	7	SSW	8	W	4	SE	2	N	4	NNE	2
14	E	6	ENE	8	E	8	ESE	11	ESE	8	E	6	SE	5	SSW	8	NNW	4	W	2	E	4	NNE	4
15	E	8	ESE	6	E	9	ESE	7	E	8	W	5	SSW	5	SSW	7	W	4	NNW	7	E	4	NNE	8
16	E	8	ESE	6	E	7	SE	8	E	9	W	8	VRB	6	SSW	9	E,ESE	4	SE	12	ENE	2	E	5
17	ESE	5	ESE	4	SE	8	ESE	11	E,ESE	9	WSW	6	SW	6	SW	10	ENE	4	ESE	4	SSE	3	E	9
18	WNW	6	ESE	4	ESE	6	SE	8	ESE	5	WNW	8	VRB	6	SSW	8	ESE	6	ESE	4	NE	4	E	6
19	E	7	ESE	6	E	8	SSE	7	E	5	WSW	6	SW	8	SW	7	E	2	S	4	E	4	SE	3
20	E	4	SE	8	E	7	SSE	7	E	7	WSW	8	SSW	10	SW	8	ESE	3	S	3	ENE	3	N	4
21	WNW	6	ESE	9	ESE	8	S	5	ESE	10	WSW	7	VRB	5	SW	8	E	3	SSW	4	ENE	4	N	5
22	SE	5	SE	9	ESE	10	S	5	ESE	10	WSW	7	SW	4	W	6	VRBL	2	S	6	N	3	E	4
23	ESE	5	SE	7	ESE	11	SSW	7	ESE	8	SE	5	NNE	4	WSW	9	SE	2	W	6	ESE	3	E	5
24	ESE	6	ESE	8	ESE	11	ESE	7	ESE	9	W	4	ESE	7	WSW	6	VRBL	4	WSW	4	NNE	4	E	4
25	ESE	6	SSE	7	ESE	9	NNW	6	SE	8	VRBL	4	SSW	5	VRBL	7	SW	6	VRBL	3	NE	4	E	8
26	ESE	6	VRBL	7	ESE	10	ESE	7	W	5	NE	5	SSW	4	SW	6	WSW	5	WNW	4	NW	4	E	7
27	E,ESE	7	NNE	3	SE	6	SE	7	SE	6	NE	4	NNE	4	WSW	3	SW	5	WSW	9	W	9	E	9
28	ESE	6	E	8	ESE	7	W	8	E	4	SE	5	NNE	5	WSW	12	W	4	SSE	3	SE	16	E	4
29	ESE	6	/	/	ESE	9	S	5	SSW	7	SSE	5	E	5	WSW	6	VRBL	4	S	4	ESE	3	E	6
30	E	9	/	/	ESE	9	SSW	5	SW	7	SW	5	NNE	4	SW	4	SSE	3	WSW	4	ESE	4	E	7
31	ESE	9	/	/	ESE	10	/	/	SW	7	/	/	NE	4	SW	6	/	/	NW	7	/	/	E	6
TOTAL																								
MEAN	E	6	ESE	7	ESE	8	ESE	9	ESE	7	WSW	7	SW	6	SW	7	W	4	S	5	E	5	E	5

LEFT SIDE, WIND VELOCITY (KNOT), RIGHT SIDE, WIND DIRECTION, / , NO RECORD

WIND VELOCITY AND WIND DIRECTION

STATION: MLA, MANILA — YEAR: 1975

DATE \ MONTH	JAN	FEB	MAR	ARR	MAY	JUNE	JULY		AUG		SEP		OCT		NOV		DEC	
1							SSW	4	SSW	4	E	3	E	7	WSW	3	VRBL	4
2							SSW	5	WSW	10	ESE	2	ESE	4	SSE	5	E	7
3							WSW	6	WSW	4	E	2	ENE	4	VRBL	3	E	4
4							WSW	5	WSW	5	N	4	SE	5	VRBL	3	E	3
5							WSW	6	EWE	5	ESE	5	SSE	4	E	3	ESE	5
6							W	7	SSW	5	ESE	5	ESE	4	NNE	3	ESE	4
7							WSW	6	SSW	7	E	3	NNESSE	3	ENE	2	ESE	7
8							WSW	6	SSW	7	SE	3	NNE.E	4	E	3	ESE	4
9							S	3	SSW	5	WWNW	3	E	5	E	2	ESE	5
10							WSW	3	SSW	6	E	3	WSW	3	ENE	4	ESE	5
11							VRBL	3	WSW	8	E	5	W	5	VRBL	3	ESE	6
12							E.ESE	3	WSW	9	E	4	WSW	4	E	4	ESE	7
13							ESE	3	SSW	10	W	3	SSW	4	W	3	ESE	7
14							ESE	4	SSW	5	ENE	3	E	4	ESE	3	ESE	6
15							ESE	2	SSW	6	VRBL	3	ESE	4	E	4	ESE	2
16							ESE	4	WSW	11	N	3	VRBL	3	VRBL	3	N	3
17							VRBL	2	WSW	11	VRBL	6	W	4	E	3	N	4
18							ESE	5	WSW	8	E	4	WSW	7	VRBL	2	N	3
19							VRBL	4	WSW	6	ESE	2	S	7	ENE	4	N	2
20							SW	4	WSW	7	WSW	5	ESE	7	ENE	4	N	3
21							W	2	WSW	8	SSE	4	ESE	6	E	2	N	3
22							E.WSW	4	WSW	7	SSW	6	S	4	SE	2	VRBL	2
23							E	3	WSW	4	WSW	5	WSWS	4	N	5	VRBL	3
24							S	3	WSW	6	VRBL	3	VRBL	4	ENE	4	VRBL	1
25							ESE	3	SSE	4	WSW	4	E	3	E	5	NNW	4
26							W	3	ESE	3	W	3	W	4	W	4	VRBL	2
27							SSE WSE	4	ESE	2	VRBL	3	NW	1	WNW	2	NW	9
28							WSW	4	WNW	4	E	4	W	3	ESE	3	NW	5
29							WSW	7	WNW	4	VRBL	2	W	3	E	4	E	4
30							WSW	6	E	4	E	4	VRBL	1	E	3	E	8
31							WSW	6	E	6			VRBL	3			E	5
TOTAL																		
MEAN							WSW	4	WSW	6	E	3	VRBL	4	E	3	E	4

LEFT SIDE ; WIND VELOCITY (KNOT), RIGHT SIDE; WIND DIRECTION, / , NO RECORD

WIND VELOCITY AND WIND DIRECTION

STATION: MTA, MANILA — YEAR: 1976

DATE \ MONTH	JAN		FEB		MAR		APR		MAY		JUNE		JULY		AUG		SEP		OCT		NOV		DEC	
1	E	4	ESE	6			VRBL	8	ESE	12			WSW	10										
2	E	7	ESE	4			ENE	5	VRBL	10			WSW	8										
3	ESE	5	ESE	6			E	6	SSE	5			WSW	8										
4	ESE	4	N	5			E	8	SW	6			WSW	6										
5	ESE	5	SE	4			ESE	10	W	6			WSW	5										
6	N	4	ENE	6			ESE	5	W	5			WSW	2										
7	ESE	4	ENE	7			ESE	10	VRBL	2			VRBL	2										
8	E	4	E	4			ESE	7	VRBL	5			WSW	3										
9	E	6	ESE	4			E	3	VRBL	5			WSW	5										
10	NW	2	ESE	8			ESE	3	W	2			WNW	3										
11	VRBL	3	E.ESE	9			SE	6	VRBL	4			WNW	2										
12	VRBL	6	E	10			SSE	5	VRBL	3			ESE	5										
13	E	4	E.ESE	7			VRBL	5	VRBL	3			E	4										
14	ESE	3	SSE	4			W	5	ESE	3			VRBL	5										
15	ESE	4	ESE	10			SW	4	ESE	4			VRBL	5										
16	W	3	E	10			ESE	6	VRBL	4			WSW	5										
17	ESE	4	E	10			SE	7	WSW	5			WSW	7										
18	ESE	7	E	6			ESE	6	WNW	12			WSW	6										
19	ESE	7	E	5			E	9	WSW	11			SSE	3										
20	E	5	E	6			VRBL	12	SW	17			W	3										
21	ENE	5	ESE	4			E	10	SW	25			WSW	3										
22	E	8	VRBL	4			E	10	SW	22			SSW	5										
23	E	10	E	6			E	8	SW	20			WSW	6										
24	E	6	ESE	9			E	9	SSW	14			VRBL	4										
25	E	7	ESE	10			E	9	SSW	15			VRBL	3										
26	E	4	E.ESE	9			E	8	SSW	7			WNW	4										
27	ENE	4	ESE	10			ESE	8	VRBL	2			W	4										
28	E	4	ESE	6			E	7	VRBL	2			WSW	4										
29	E	4	W	3			ESE	6	WNW	2			WSW	3										
30	E	4					E	9	VRBL	2			W	5										
31	VRBL	4							VRBL	3			WSW	6										
TOTAL																								
MEAN	E	5	ESE	7			E	7	VRBC	8			WSW	5										

LEFT SIDE, WIND VELOCITY (KNOT), RIGHT SIDE, WIND DIRECTION, / ; NO RECORD

R-6 Record of Sunshine Time and Cloudness

SUNSHINE TIME AND CLOUDINESS

STATION	MIA, MANILA																				YEAR	1966		
MONTH / DATE	JAN		FEB		MAR		APR		MAY		JUNE		JULY		AUG		SEP		OCT		NOV		DEC	
1	198	9	540	2	630	1	594	2	642	4	486	3	0	9	456	9	96	6	204	6	576	5	84	9
2	378	8	576	6	624	1	606	2	690	2	546	1	564	7	678	7	32	9	312	8	582	3	204	5
3	18	9	414	4	510	6	612	3	672	6	516	3	474	9	234	8	198	9	37	7	666	4	0	9
4	546	7	642	2	474	4	600	1	216	9	474	9	408	7	312	8	234	10	438	4	648	4	42	9
5	234	5	642	2	618	2	630	1	102	9	432	7	480	7	486	8	0	10	144	7	642	3	150	7
6	414	5	438	4	198	5	624	1	102	9	318	9	516	7	510	7	84	10	102	9	204	8	0	7
7	594	2	138	9	624	0	648	4	456	6	384	6	564	4	552	8	0	10	216	7	498	8	24	7
8	552	3	384	6	540	3	480	4	278	9	420	9	444	6	252	9	0	10	156	6	312	9	150	2
9	570	1	642	3	354	6	588	1	174	10	288	10	462	8	192	7	32	10	354	5	396	9	78	5
10	390	3	450	4	552	3	630	3	342	9	642	9	300	9	330	7	120	9	516	4	480	8	258	8
11	564	3	516	5	552	4	456	7	498	8	354	9	0	10	24	9	0	10	444	5	486	5	516	6
12	612	1	612	3	498	5	552	5	342	6	312	6	66	10	96	9	18	10	450	4	510	6	612	4
13	660	2	564	3	528	1	660	2	576	6	618	6	402	10	102	9	360	6	540	5	0	8	420	7
14	486	4	96	5	648	1	666	1	510	4	618	6	336	8	354	9	210	7	414	4	642	6	6	8
15	552	2	660	2	510	6	702	1	654	5	540	8	444	8	588	5	180	9	540	6	228	7	312	5
16	360	7	522	5	618	4	666	2	102	10	528	3	372	9	642	6	276	9	390	5	0	10	468	6
17	324	3	660	2	354	6	624	3	120	10	594	7	192	8	648	4	0	10	78	8	282	7	462	7
18	192	4	648	2	600	2	624	2	0	10	696	7	486	8	690	2	6	7	618	4	204	7	474	9
19	552	4	642	2	648	2	690	1	0	10		5	438	9	618	7	606	5	90	9	336	10	18	10
20	474	4	652	3	636	1	720	2	0	10	468	5	258	9	654	5	126	10	0	10	0	10	258	10
21	612	3	672	1	648	2	708	4	72	6	432	5	132	10	372	9	0	8	408	8	0	10	300	8
22	318	7	480	3	696	1	678	2	450	9	504	4	0	10	636	7	570	6	330	10	6	8	396	8
23	420	5	678	2	606	4	612	3	420	10	486	6	0	10	642	8	522	8	120	6	138	9	480	5
24	630	1	192	10	600	4	654	2	0	10	402	9	48	9	486	8	552	6	162	8	132	8	468	8
25	612	3	306	8	588	2	684	2	0	10	240	9	672	8	522	9	108	9	366	9	258	6	426	8
26	258	8	408	3	594	2	702	2	0	9	534	9	252	9	270	8	90	7	312	4	30	9	30	10
27	162	9	642	1	552	8	708	3	0	9	258	9	126	9	354	9	492	6	630	5	66	10	0	10
28	306	7	588	4	492	6	684	2	204	8	66	10	222	7	348	9	258	7	348	8	0	9	0	10
29	636	2			390	5	666	3	252	8	174	9	216	7	180	9	168	5	432	8	78	4	450	8
30	348	4			468	4	648	3	486	7	492	9	336	9	66	10	0	3	186	9	216	3	ERRONEOUS	7
31	618	1			342	5			384	7			156	10	144	8			354	8			210	9
TOTAL	13590	136	14404	106	16602	106	19116	74	8744	244	12822	202	9366	260	12438	237	6038	241	9690	206	8616	213	(7296)	231
MEAN	438	4	513	4	535	3	637	3	282	8	442	7	302	8	401	8	201	8	313	7	287	7	243	7

LEFT SIDE : SUNSHINE TIME (MINUTES), RIGHT SIDE : CLOUDINESS (0 - 10), /: NO RECORD.

R 73 1

SUNSHINE TIME AND CLOUDINESS

STATION: MIA, MANILA — YEAR: 1967

DATE \ MONTH	JAN		FEB		MAR		APR		MAY		JUNE		JULY		AUG		SEP		OCT		NOV		DEC	
1	588	4	402	7	522	5	594	2	690	4		10		6		8	NO	8	24	9	594	7		6
2	432	6	540	7	594	4	600	1	666	2		10		8		10	FORMS	10	552	6	108	6		8
3	0	10	162	9	576	6	600	3	684	3		10		7		10	270	10	180	8	204	10		3
4	222	8	102	8	240	8	582	3	690	3		8		10		10	186	8	312	7	0	10		3
5	204	9	474	6	114	8	504	4	720	1		8		10		10	90	8	432	7	0	9		5
6	186	10	612	3	168	9	564	3	588	2		10		10		8	318	6	222	9	558	8		4
7	372	6	438	2	90	8	540	7	732	1		10		7		10	SPOILED	6	372	9	66	8		9
8	498	4	522	6	504	4	0	8	720	1		10		6		8	222	9	90	9	72	8		4
9	330	7	306	6	570	4	498	6	594	3		10		8		9	186	9	258	7	84	7		5
10	300	6	306	8	438	7	582	4	582	3		10		10		8	—	7	390	9	438	4		7
11	234	6	78	8	546	3	588	1	702	3		7		9		6	282	8	132	9	234	7		6
12	306	7	432	4	228	7	438	3	708	5		5		8		10	168	10	342	8	522	6		4
13	204	10	600	4	366	6	684	2	540	6		3		7		10	168	10	276	9	264	5		8
14	0	10	372	6	474	4	642	2	660	5		7		8		10	144	9	72	9	138	6		5
15	0	10	192	7	588	2	594	2	606	5		9		8		10	228	5	198	10	396	10		5
16	258	10	402	7	576	2	630	5	442	4		4		8		7	246	10	0	10	0	10		5
17	324	7	612	6	594	3	534	7	462	5		5		7		10	0	10	0	10	324	9		4
18	606	6	522	2	582	4	540	6	618	6		5		6		10	0	10	402	10	96	7		6
19	450	8	534	4	480	2	540	6	672	7		6		6		10	150	9	156	9	516	2		6
20	0	9	630	3	582	1	558	5	552	9		5		9		8	438	8	426	4	306	5		5
21	564	3	504	4	570	3	660	6	678	5		4		9		5	288	8	402	10	444	5		4
22	588	5	636	3	504	7	534	5	594	3		7		9		8	318	5	342	8	474	3		4
23	618	3	498	7	414	9	660	3	696	5		10		9		10	228	6	438	8	594	1		6
24	552	4	588	4	450	5	672	5	696	8		10		7		10	84	8	510	8	558	2		6
25	606	5	324	3	546	3	576	3	690	5		7		8		9	420	8	162	8	258	6		4
26	318	6	582	4	300	5	678	2	444	5		6		6		10	468	8	498	4	54	7		2
27	558	3	384	8	528	3	522	5		5		10		9		10	402	8	606	2	546	7		5
28	594	8	0	9	588	1	588	7		7		10		10		10	234	7	426	7	468	5		4
29	372	9			594	1	516	6		7		10		10		9	558	6	12	10	552	6		5
30	420	7			600	1	708	3		6		8		10		10	636	7	234	6	144	5		7
31	174	6			594	2				8				9		10			528	3				8
TOTAL	10678	212	11754	155	14520	137	16926	125	(16626)	142		234		254		283	(6732)	241	8994	242	9012	191		165
MEAN	351	7	420	6	468	4	564	4	640	5		8		8		9	259	8	290	8	300	6		5

LEFT SIDE : SUNSHINE TIME (MINUTES), RIGHT SIDE : CLOUDINESS (0 - 10), / : NO RECORD

SUNSHINE TIME AND CLOUDINESS

STATION	MIA, MANILA																											
																									YEAR		1968	
DATE \ MONTH	JAN		FEB		MAR		APR		MAY		JUNE		JULY		AUG		SEP		OCT		NOV		DEC					
1	/	5	/	4	522	3	600	1	640	5	/	5	/	9	/	7	/	7	/	6	552	4	546	3				
2	/	7	/	4	492	5	588	3	672	4	/	6	/	8	/	8	/	6	/	9	594	2	552	4				
3	/	3	/	3	192	6	618	2	618	5	/	5	/	8	/	8	/	7	/	8	486	3	564	2				
4	/	4	/	3	300	6	594	2	648	4	/	7	/	6	/	9	/	9	/	5	156	5	558	2				
5	/	4	/	2	396	3	588	2	552	5	/	8	/	8	/	8	/	10	/	6	552	4	552	3				
6	/	2	/	7	510	2	492	2	600	4	/	7	/	7	/	9	/	8	/	6	426	6	576	2				
7	/	2	/	2	474	4	156	4	660	3	/	7	/	5	/	9	/	8	/	7	234	7	534	3				
8	/	7	/	4	372	5	456	3	708	5	/	8	/	7	/	10	/	10	/	6	78	7	204	6				
9	/	5	/	6	174	7	378	2	558	3	/	7	/	7	/	9	/	9	/	5	462	6	324	8				
10	/	4	/	8	300	7	588	1	588	3	/	8	/	7	/	9	/	8	/	5	422	8	168	6				
11	/	8	/	8	468	5	324	5	/	3	/	6	/	6	/	9	/	7	/	8	348	4	522	2				
12	/	4	/	5	558	2	654	2	/	5	/	4	/	9	/	9	/	8	/	9	402	4	588	2				
13	/	6	/	5	534	4	456	3	/	6	/	5	/	9	/	10	/	9	/	10	282	4	—	4				
14	/	5	/	5	570	2	570	3	/	4	/	8	/	9	/	7	/	9	/	8	540	3	132	5				
15	/	5	/	8	570	3	312	3	/	4	/	5	/	9	/	9	/	9	0	10	366	5	360	3				
16	/	7	294	6	570	2	660	2	/	3	/	6	/	7	/	7	/	8	270	9	252	5	510	5				
17	/	5	558	7	528	3	684	1	/	5	/	6	/	7	/	8	/	8	384	7	378	5	264	6				
18	/	5	666	6	570	1	684	2	/	7	/	5	/	7	/	10	/	8	558	7	528	6	330	6				
19	/	4	516	6	600	4	528	5	/	6	/	6	/	8	/	10	/	9	114	10	114	9	384	3				
20	/	6	252	7	612	3	588	3	/	8	/	5	/	9	/	9	/	7	330	9	96	8	210	4				
21	/	6	138	6	588	3	684	2	/	5	/	7	/	10	/	6	/	9	498	7	312	4	462	2				
22	/	7	336	7	576	3	672	4	/	8	/	6	/	10	/	7	/	7	510	6	418	5	348	7				
23	/	9	360	7	522	2	618	4	/	9	/	7	/	10	/	8	/	9	424	5	258	7	222	6				
24	/	5	420	5	498	2	486	5	/	9	/	6	/	10	/	9	/	8	—	6	48	9	414	4				
25	/	4	504	4	390	5	654	3	/	6	/	8	/	10	/	9	/	8	624	2	360	6	372	4				
26	/	9	576	4	594	1	672	2	/	7	/	8	/	8	/	9	/	10	498	5	570	2	336	5				
27	/	7	552	5	612	2	630	4	/	6	/	9	/	7	/	9	/	10	492	4	570	2	282	7				
28	/	9	378	4	582	1	528	4	/	6	/	9	/	7	/	10	/	10	414	4	330	5	300	7				
29	/	9	618	3	600	1	672	3	/	6	/	10	/	8	/	10	/	10	516	3	0	9	336	8				
30	/	8	/	/	600	2	624	4	/	8	/	8	/	5	/	9	/	9	486	3	612	3	540	2				
31	/	8	/	/	546	1	/	/	/	6	/	/	/	6	/	8	/	/	444	5	/	/	558	4				
TOTAL		179	(6168)	151	15420	100	16758	86	(6246)	168		202		243		268		254	(6726)	200	10746	157	12048	135				
MEAN		6	441	5	497	3	559	3	625	5		7		8		9		8	422	6	358	5	389	4				

LEFT SIDE : SUNSHINE TIME (MINUTES), RIGHT SIDE : CLOUDINESS (0 - 10), / : NO RECORD

SUNSHINE TIME AND CLOUDINESS

STATION: M I A, MANILA — YEAR: 1969

DATE \ MONTH	JAN		FEB		MAR		APR		MAY		JUNE		JULY		AUG		SEP		OCT		NOV		DEC	
1	444	3	576	4	534	4	390	7	708	1	/	6	/	8	/	10	/	10	/	10	/	5	/	8
2	306	6	174	4	534	5	546	3	720	3	/	10	/	9	/	10	/	10	/	9	/	6	/	6
3	606	5	648	1	570	1	564	1	486	4	/	8	/	9	/	10	/	8	/	8	/	8	/	5
4	—	3	640	2	600	1	582	1	702	2	/	9	/	7	/	10	/	8	/	8	/	8	/	9
5	618	2	78	7	—	2	546	3	516	5	/	9	/	8	/	10	/	10	/	7	/	3	/	6
6	606	3	426	5	240	5	492	6	690	3	/	9	/	9	/	10	/	10	/	9	/	3	/	6
7	54	7	486	5	498	2	486	6	672	3	/	9	/	7	/	9	/	10	/	8	/	4	/	5
8	270	9	570	3	594	4	558	3	708	1	/	7	/	9	/	9	/	9	/	7	/	3	/	6
9	618	4	624	2	570	6	594	2	436	2	/	7	/	7	/	8	/	9	/	4	/	4	/	8
10	—	3	630	3	594	2	492	3	612	6	/	9	/	5	/	10	/	8	/	5	/	7	/	6
11	600	5	624	2	462	5	282	6	606	8	/	9	/	7	/	8	/	10	/	7	/	5	/	10
12	216	9	642	2	438	5	330	4	504	7	/	8	/	7	/	8	/	10	/	9	/	5	/	7
13	264	6	654	4	96	10	690	2	276	8	/	8	/	8	/	4	/	10	/	8	/	5	/	7
14	606	3	312	4	150	6	684	2	606	8	/	8	/	7	/	6	/	10	/	5	/	5	/	7
15	570	4	384	6	582	4	702	1	—	6	/	7	/	9	/	8	/	9	/	8	/	5	/	8
16	600	4	588	2	600	3	594	4	468	5	/	7	/	9	/	6	/	10	/	5	/	2	/	4
17	618	3	630	1	162	8	672	2	468	5	/	7	/	8	/	5	/	6	/	6	/	6	/	6
18	624	3	660	2	138	7	282	5	516	6	/	6	/	7	/	6	/	8	/	4	/	9	/	8
19	624	3	666	2	546	3	660	2	462	6	/	6	/	9	/	5	/	10	/	6	/	10	/	7
20	636	1	654	3	576	2	660	2	690	5	/	6	/	10	/	5	/	9	/	8	/	10	/	8
21	636	1	612	3	588	1	426	4	534	4	/	5	/	10	/	5	/	9	/	5	/	7	/	10
22	636	2	624	3	528	2	588	3	600	5	/	9	/	9	/	6	/	9	/	5	/	4	/	8
23	534	3	660	1	504	2	648	3	624	5	/	8	/	8	/	4	/	9	/	5	/	6	/	4
24	540	2	630	2	462	2	438	4	564	6	/	7	/	6	/	6	/	9	/	8	/	9	/	5
25	540	4	666	2	600	2	460	3	522	8	/	6	/	9	/	7	/	8	/	4	/	9	/	5
26	436	1	570	2	540	4	684	1	504	7	/	4	/	10	/	8	/	9	/	7	/	9	/	6
27	354	5	666	1	534	2	606	2	324	8	/	8	/	10	/	8	/	9	/	4	/	7	/	6
28	582	2	648	3	606	2	702	2	336	8	/	9	/	10	/	6	/	9	/	7	/	6	/	6
29	39	4	/	/	588	3	666	2	546	8	/	8	/	9	/	10	/	9	/	8	/	9	/	9
30	504	3	/	/	522	3	708	2	348	9	/	8	/	10	/	10	/	10	/	9	/	8	/	9
31	624	2	/	/	558	5	/	/	420	9	/	/	/	10	/	8	/	/	/	6	/	/	/	5
TOTAL	14856	115	15744	81	14514	113	16872	91	16368	71	/	227	/	260	/	235	/	274	/	209	/	187	/	210
MEAN	479	4	562	3	468	4	562	3	545	6	/	8	/	8	/	8	/	9	/	7	/	6	/	7

LEFT SIDE : SUNSHINE TIME (MINUTES), RIGHT SIDE : CLOUDINESS (0-10). / : NO RECORD

SUNSHINE TIME AND CLOUDINESS

STATION: MIA, MANILA — YEAR: 1970

DATE \ MONTH	JAN		FEB		MAR		APR		MAY		JUNE		JULY		AUG		SEP		OCT		NOV		DEC	
1		4		3		5		6		2		6		9		10		10		9		10		10
2		4		3		3		5		4		6		10		10		10		8		10		7
3		8		4		3		3		2		7		10		10		10		6		8		7
4		T		3		6		6		5		8		9		9		10		6		7		5
5		6		5		2		5		3		8		9		9		9		6		8		7
6		5		7		2		4		3		9		7		10		8		7		9		6
7		6		6		3		6		3		9		7		10		8		7		8		4
8		6		7		1		3		4		8		5		4		8		7		8		4
9		6		4		1		2		6		10		5		7		8		8		9		5
10		5		4		3		2		6		9		8		9		10		10		9		6
11		4		3		3		1		7		9		9		9		10		9		9		5
12		4		2		1		3		6		10		10		9		9		10		10		9
13		5		3		1		3		6		10		10		9		6		10		9		10
14		2		3		6		3		7		9		10		9		8		10		8		10
15		5		5		3		5		6		9		9		10		9		8		8		8
16		3		3		3		4		7		9		3		10		9		8		10		9
17		4		3		5		3		5		9		5		10		8		7		10		9
18		5		2		6		2		8		9		6		10		6		8		9		9
19		8		2		6		2		5		10		5		8		7		7		8		8
20		7		5		2		4		4		10		8		9		10		10		6		8
21		4		5		2		3		5		9		7		9		9		10		5		6
22		3		4		5		5		5		9		7		7		8		9		9		6
23		4		4		8		5		5		9		9		9		7		8		8		6
24		6		6		7		4		5		9		8		10		8		7		8		4
25		6		9		7		3		6		8		8		9		9		7		9		7
26		4		6		8		2		8		10		8		7		9		9		9		8
27		2		3		4		5		6		9		9		10		9		10		8		5
28		2		6		3		3		8		6		10		9		8		8		7		6
29		4				6		3		7		9		10		9		9		9		9		8
30		2				4		3		4		10		9		10		10		8		8		5
31		4				3				5				10		10				10				5
TOTAL		145		120		122		108		163		262		245		280		257		255		254		215
MEAN		5		4		4		4		5		9		8		9		9		8		8		7

LEFT SIDE : SUNSHINE TIME (MINUTES), RIGHT SIDE : CLOUDINESS (0 - 10), ／ : NO RECORD

SUNSHINE TIME AND CLOUDINESS

STATION: MIA, MANILA — YEAR: 1971

DATE \ MONTH	JAN		FEB		MAR		APR		MAY		JUNE		JULY		AUG		SEP		OCT		NOV		DEC	
1		5		8		3		1		6		9		6		8		9		9		5		
2		7		8		4		1		10		8		6		7		5		8		6		
3		7		6		5		2		7		8		10		7		8		10		5		
4		7		8		7		3		6		6		9		7		9		10		5		
5		4		6		4		4		5		9		7		10		6		10		7		
6		2		5		7		3		5		8		7		9		6		10		3		
7		8		8		4		3		8		9		8		9		5		9		6		
8		4		9		7		3		8		8		9		10		8		9		8		
9		4		7		8		7		9		5		10		10		7		10		10		
10		4		7		9		6		8		8		10		9		8		10		8		
11		6		8		10		5		7		9		10		8		9		10		5		
12		3		7		10		2		7		10		9		7		8		10		7		
13		3		5		8		5		8		9		9		8		9		8		8		
14		5		4		8		7		8		10		10		8		9		7		8		
15		5		9		9		4		7		10		9		7		10		9		7		
16		8		9		9		4		6		10		8		6		9		7		4		
17		5		6		9		3		7		8		9		8		9		8		6		
18		3		8		9		5		6		7		9		8		9		6		8		
19		1		7		7		5		7		6		10		8		9		4		9		
20		2		5		4		5		8		7		10		6		6		9		8		
21		3		5		4		4		8		8		10		6		8		9		8		
22		3		3		4		3		6		7		10		5		8		9		6		
23		4		2		5		4		6		7		9		7		8		7		8		
24		3		4		6		5		6		9		9		6		9		8		10		
25		4		3		3		7		5		10		10		7		9		9		9		
26		4		2		2		6		10		6		10		6		9		9		5		
27		8		3		3		5		9		6		4		7		9		9		9		
28		9		4		4		7		5		9		5		7		9		7		10		
29		8				4		5		5		7		8		7		8		6		8		
30		5				2		3		6		7		9		7		9		4		7		
31		8				2				10				6		8				3				
TOTAL		152		166		180		127		219		240		265		233		244		255		216		
MEAN		5		6		6		4		7		8		9		8		8		8		7		

LEFT SIDE : SUNSHINE TIME (MINUTES), RIGHT SIDE : CLOUDINESS (0 - 10), / : NO RECORD

R 78 1

SUNSHINE TIME AND CLOUDINESS

STATION: MIA, MANILA — YEAR: 1972

DATE \ MONTH	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEP	OCT	NOV	DEC
1			8	7	8	9	9	10	10	8	7	8
2			8	6	7	8	10	10	9	7	7	7
3			9	8	5	6	10	10	10	6	6	9
4			8	3	3	7	9	10	10	6	9	10
5			6	2	4	5	10	10	8	6	10	9
6			5	2	4	9	10	9	5	10	9	8
7			4	3	6	10	10	7	6	7	6	6
8			8	4	4	10	10	5	9	6	6	5
9			5	5	8	10	10	8	10	3	8	5
10			5	7	6	8	10	9	10	6	7	5
11			2	5	6	8	9	9	10	5	5	4
12			5	5	4	6	9	9	10	5	9	9
13			9	6	8	7	9	10	10	6	7	10
14			6	7	9	7	9	10	9	7	7	9
15			7	4	8	7	10	10	8	5	4	5
16			8	4	8	6	10	10	8	6	7	3
17			8	4	8	7	10	10	9	7	6	1
18			10	2	8	6	10	9	10	4	4	1
19			8	2	7	7	10	9	9	8	5	5
20			8	2	9	7	10	10	8	7	4	6
21			5	3	9	9	10	9	10	9	5	9
22			5	4	8	9	10	9	9	9	7	6
23			4	6	9	9	10	9	6	7	7	3
24			6	6	8	10	10	9	8	9	9	3
25			8	4	9	10	9	10	7	9	7	2
26			4	4	9	8	10	9	8	8	9	6
27			6	6	9	9	10	9	8	7	8	6
28			6	5	7	9	10	10	9	9	4	2
29			4	6	8	9	10	9	9	8	8	3
30			3	8	8	10	10	10	7	7	7	6
31			3		9		10	10		5		4
TOTAL			191	140	223	242	303	287	259	214	203	175
MEAN			6	5	7	8	10	9	9	7	7	6

SUNSHINE TIME AND CLOUDINESS

STATION: MIA, MANILA — YEAR: 1973

DATE \ MONTH	JAN		FEB		MAR		APR		MAY		JUNE		JULY		AUG		SEP		OCT		NOV		DEC	
1	5		8		2		2		3		6		10				10				6		5	
2	1		8		1		2		5		7		9				10				7		5	
3	7		5		2		2		5		9		7				8				9		9	
4	4		3		2		3		3		9		8				9				7		9	
5	7		4		6		3		4		8		9				9				9		7	
6	2		8		4		3		5		9		10				9				10		8	
7	5		5		5		2		5		8		9				8				6		5	
8	3		5		6		2		3		9		10				9				9		8	
9	7		3		5		2		6		9		9				7				7		10	
10	5		3		3		2		3		9		9				8				4		7	
11	7		3		2		7		4		9		10				10				7		7	
12	9		9		2		6		6		8		10				10				8		8	
13	7		9		4		7		9		9		10				10				10		6	
14	9		9		7		6		7		9		10				9				8		8	
15	7		5		5		3		6		9		10				10				6		8	
16	4		6		4		4		6		9		9				8				6		10	
17	6		5		8		5		5		6		8				9				5		7	
18	7		8		8		7		4		7		8				10				8		8	
19	7		2		6		6		7		7		7				9				9		6	
20	7		2		2		3		6		8		4				9				10		9	
21	4		7		1		1		6		7		7				9				10		9	
22	2		1		4		2		6		5		7				10				9		10	
23	3		1		3		4		5		6		9				9				6		8	
24	5		2		5		4		7		6		9				10				3		6	
25	6		3		4		3		6		7		8				9				5		3	
26	7		4		2		2		7		6		8				9				6		5	
27	9		3		5		4		8		7		7				9				7		9	
28	9		5		8		5		6		9		9				9				6		9	
29	8				8		5		7		10		9				9				8		7	
30	6				6		4		6		10		10				8				5		5	
31	8				4				6				7										7	
TOTAL	183		136		134		110		172		237		266				272				216		228	
MEAN	6		5		4		4		6		8		9				9				7		7	

LEFT SIDE : SUNSHINE TIME (MINUTES), RIGHT SIDE : CLOUDINESS (0 - 10), — : NO RECORD.

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SUNSHINE TIME AND CLOUDINESS

STATION: MIA, MANILA — YEAR: 1974

DATE \ MONTH	JAN		FEB		MAR		APR		MAY		JUNE		JULY		AUG		SEP		OCT		NOV		DEC	
1		9		5		7		3		6		6		8		8		9		6		10		2
2		9		5		9		2		7		10		9		9		9		6		9		7
3		9		4		6		3		9		9		8		8		9		9		9		5
4		10		5		8		4		9		10		9		9		8		9		10		3
5		6		5		6		3		5		10		10		10		8		9		10		4
6		9		7		5		2		8		9		8		10		5		9		10		4
7		10		9		3		2		5		8		10		10		8		10		10		9
8		9		9		4		3		4		9		8		10		10		9		9		9
9		10		8		5		3		5		10		9		9		9		9		9		9
10		10		7		8		2		3		10		8		10		8		10		7		9
11		9		7		7		1		7		10		8		10		8		10		7		7
12		8		8		5		2		7		9		7		9		7		10		10		4
13		5		8		5		2		9		7		7		9		8		10		10		6
14		4		7		5		1		6		5		8		10		6		9		10		9
15		4		8		4		4		5		7		7		10		6		9		6		10
16		4		7		3		6		8		8		8		10		6		10		9		10
17		4		5		7		7		5		8		10		10		8		10		7		6
18		3		6		8		4		4		6		9		10		7		10		5		6
19		3		6		6		4		6		7		10		10		9		9		6		7
20		5		4		3		6		6		4		10		9		7		9		5		10
21		8		4		5		8		3		4		8		9		10		9		4		10
22		4		3		4		8		5		3		5		4		8		10		9		9
23		5		2		6		5		5		6		4		10		9		9		7		7
24		3		3		6		5		6		7		5		9		9		10		5		7
25		3		7		6		6		9		8		7		9		9		9		8		6
26		4		9		2		6		9		4		9		9		9		10		10		7
27		5		9		3		6		9		4		9		9		6		10		10		8
28		5		6		3		3		10		4		8		7		6		10		10		6
29		4				3		7		8		5		7		10		7		10		7		8
30		3				1		9		8		9		9		10		8		9		5		4
31		4				2				9				8		5				10				8
TOTAL		190		173		155		127		204		216		250		281		236		288		253		216
MEAN		6		6		5		4		7		7		8		9		8		9		8		7

LEFT SIDE : SUNSHINE TIME (MINUTES), RIGHT SIDE : CLOUDINESS (0-10), / : NO RECORD

SUNSHINE TIME AND CLOUDINESS

STATION: MIA, MANILA — YEAR: 1975

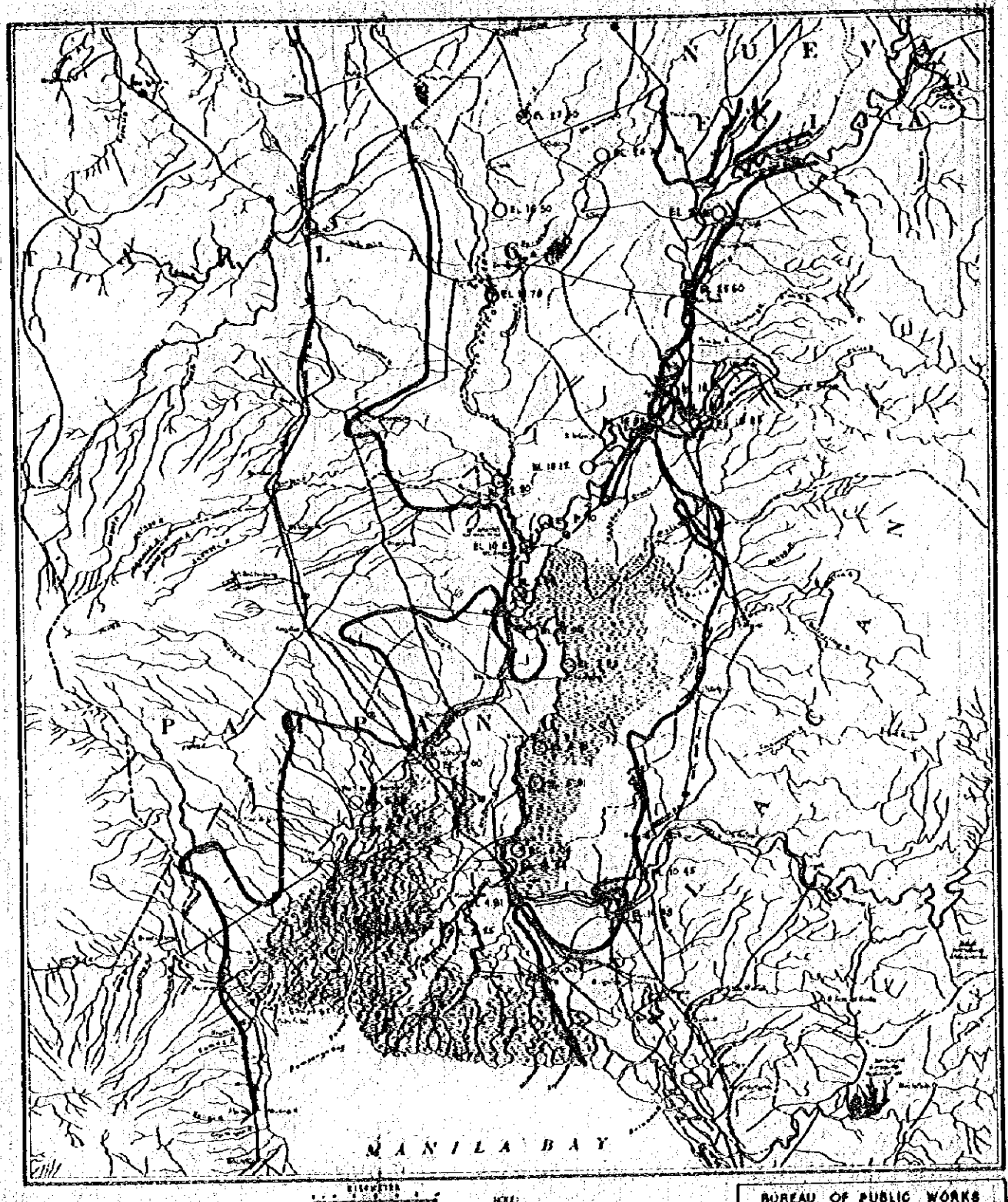
DATE \ MONTH	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEP	OCT	NOV	DEC
1							9	8	10	8	10	4
2							7	7	10	9	9	3
3							6	8	10	8	8	5
4							5	8	10	7	8	7
5							4	9	9	9	5	7
6							5	9	8	8	5	5
7							6	10	9	10	7	4
8							9	10	8	8	8	8
9							8	10	8	6	7	5
10							9	10	7	6	5	5
11							7	10	7	5	4	7
12							10	8	10	9	4	7
13							8	10	9	10	8	7
14							10	10	9	7	6	9
15							9	9	4	8	6	10
16							10	6	6	8	3	10
17							10	0	10	10	6	9
18							9	10	8	10	8	10
19							5	10	7	10	8	9
20							4	8	9	10	8	9
21							8	8	8	9	7	9
22							8	10	7	7	8	9
23							9	10	8	7	8	10
24							8	10	9	6	8	10
25							8	10	10	9	7	10
26							8	10	9	8	3	10
27							6	10	8	9	5	10
28							7	10	8	8	9	10
29							7	9	8	9	7	6
30							7	7	8	9	6	8
31							8	8		9		10
TOTAL							234	280	251	254	199	242
MEAN							8	9	8	8	7	8

SUNSHINE TIME AND CLOUDINESS

STATION: MIA, MANILA — YEAR: 1976

DATE \ MONTH	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEP	OCT	NOV	DEC
1	7	6		1	3		9					
2	7	5		4	2		6					
3	6	3		2	3		5					
4	4	3		3	4		6					
5	4	7		5	8		5					
6	8	6		7	9		8					
7	8	2		4	8		8					
8	8	5		5	8		8					
9	9	6		8	8		6					
10	10	9		6	7		5					
11	7	9		8	8		6					
12	8	5		5	8		7					
13	8	5		4	8		7					
14	9	7		6	6		8					
15	7	6		4	7		9					
16	4	3		4	10		8					
17	8	2		3	9		8					
18	7	2		6	10		6					
19	5	2		3	10		7					
20	7	2		5	10		9					
21	6	4		3	10		10					
22	8	6		5	10		10					
23	10	7		3	10		10					
24	6	4		4	10		10					
25	4	4		5	10		10					
26	5	1		6	10		8					
27	6	1		4	10		10					
28	7	2		6	9		9					
29	4	3		6	8		9					
30	7			3	8		9					
31	6				6		6					
TOTAL	210	127		138	247		245					
MEAN	7	4		5	8		8					

R-7 Flood Plain of the Pampanga River Basin



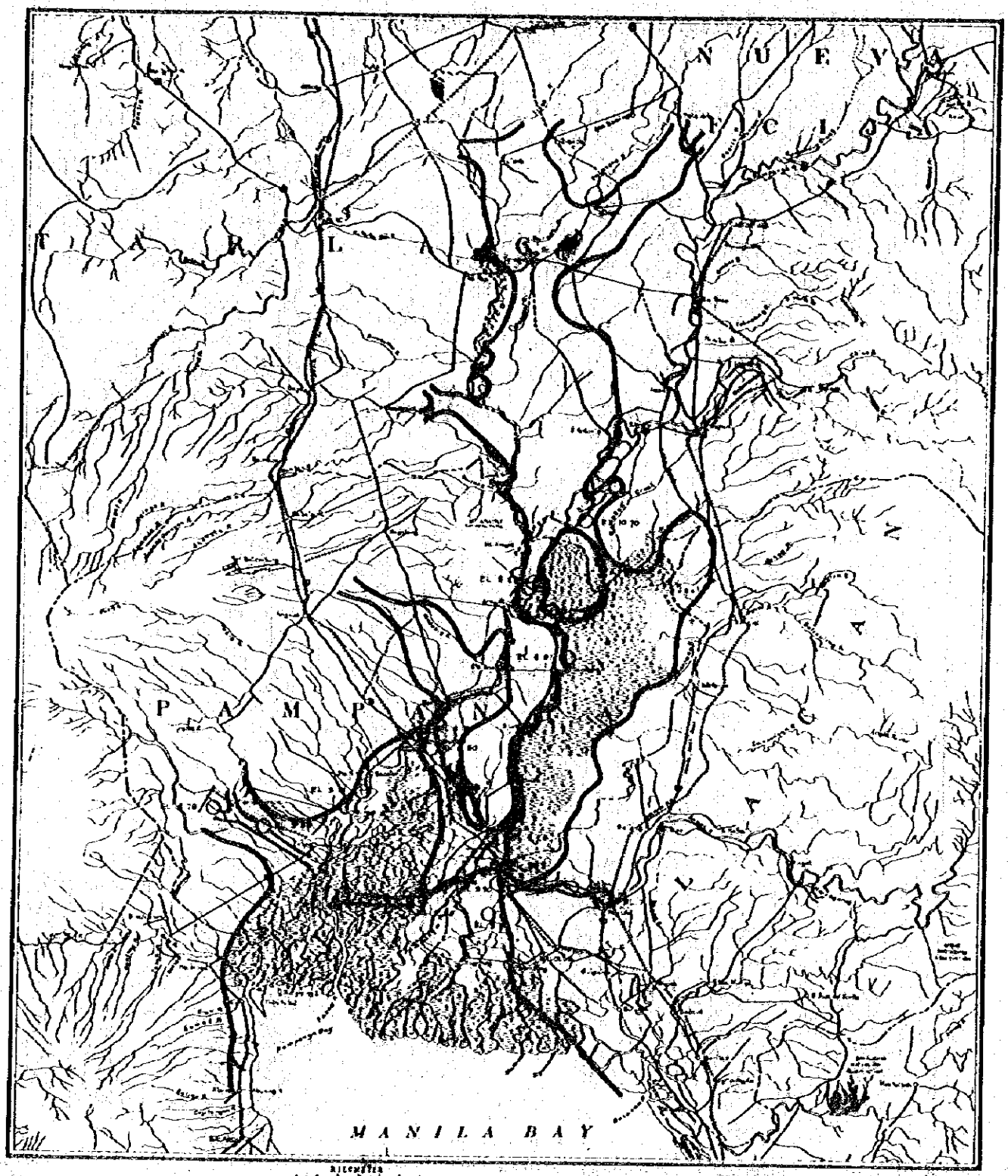
SCALE 1:100,000

NOTE:
TRACED FROM THE BUREAU OF LANDS AND GEODETIC SURVEY MAP

BUREAU OF PUBLIC WORKS
MANILA, PHILIPPINES

FLOOD PLAIN OF THE PAMPANGA RIVER SYSTEM

AUGUST, 1960
FLOOD LIMITS

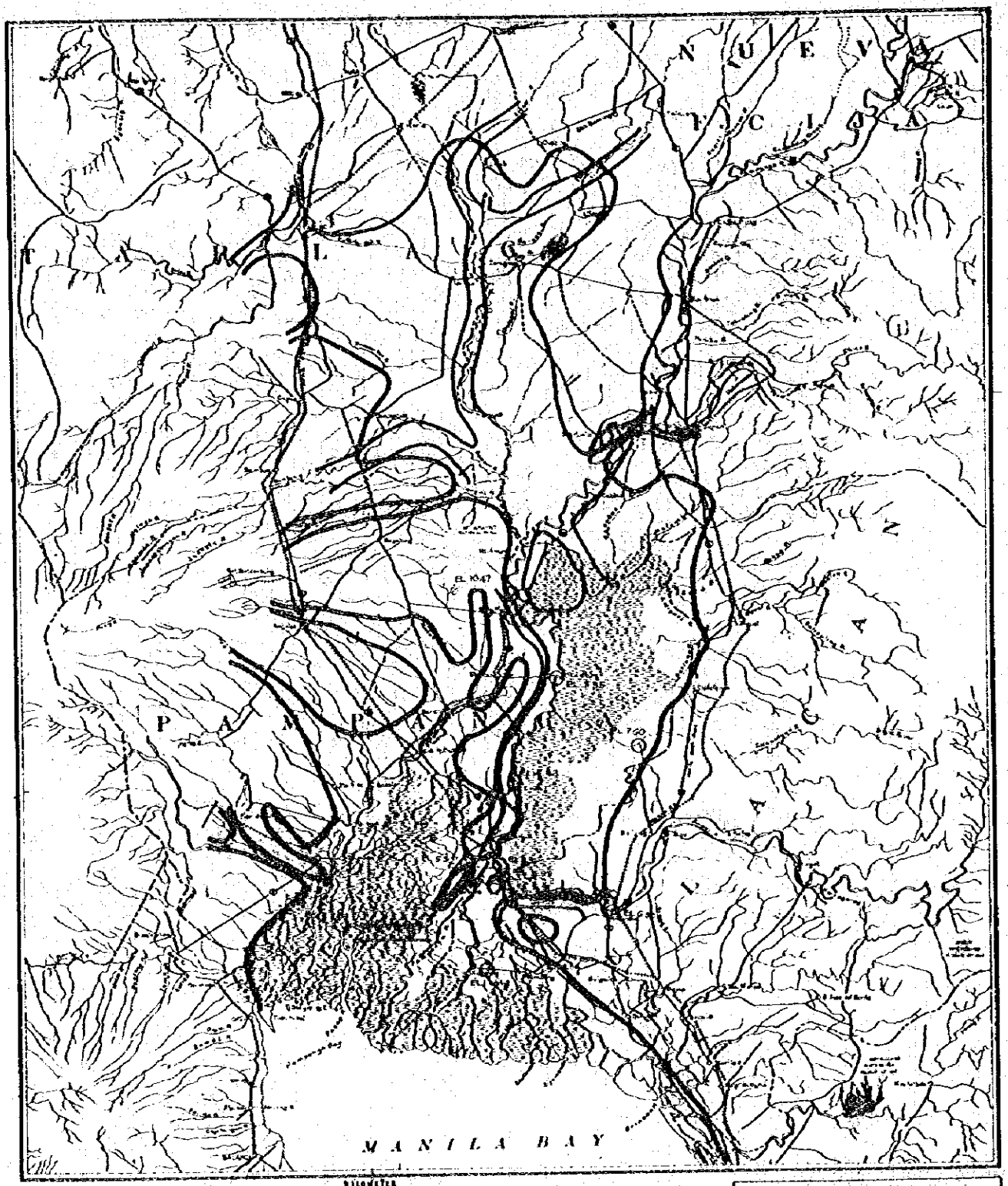


SCALE 1:200,000

NOTE:
TRACED FROM THE BUREAU OF COAST AND GEODETIC SURVEY MAP.

BUREAU OF PUBLIC WORKS
MANILA, PHILIPPINES

FLOOD PLAIN OF THE PAMPANGA RIVER SYSTEM
MAY 18 - 21 1966
FLOOD LIMITS



KILOMETER

SCALE 1:100,000

NOTE:
TRACED FROM THE BUREAU OF LANDS AND GEODETIC SURVEY MAP.

BUREAU OF PUBLIC WORKS
MANILA, PHILIPPINES

FLOOD PLAIN OF THE PAMPANGA RIVER SYSTEM

JULY & AUGUST 1972 FLOOD LIMITS

R-8 Flood Report of Main Floods

May 30, 1966

The Director of Public Works
M a n i l a

S i r :

This has reference to the Pasig-Potrero River Control Project which extends from Porac down to Bacolor and Guagua through Sta. Rita, Pampanga.

Last Friday, May 27, 1966, this Office reported to that Bureau that two (2) sections of the existing dyke were washed out in barrio Mancatian, Porac thereby endangering the lives of the people within the place because they were in the direct path of the down-rushing floodwaters escaping from the breached section from Sta. -(0+525) to Sta. -(0+675). Please see approved plan set RCV-1158, sheet 1 of 2 on file in that Bureau.

We also mentioned in our report that we immediately dispatched a bulldozer on that date, May 27, 1966, to repair the said sections.

However, as of this writing the flood has already subsided and we were able to steer the flood flow clear of the washed-out sections. The barrio people of Mancatian are now enjoying a breather from the mental torture which they experienced on Thursday night, May 26, 1966, at the height of the flood.

But then a new and more disastrous catastrophe menaces the town of Porac -- there are two (2) other sections of the dyke from Sta. - (0+925) to Sta. - (1+015) and from Sta. - (1+085) to Sta. - (1+335) which are in imminent danger of being washed away in the general direction of the said town should a flood similar, merely similar, to the flood on the night of May 26, 1966.

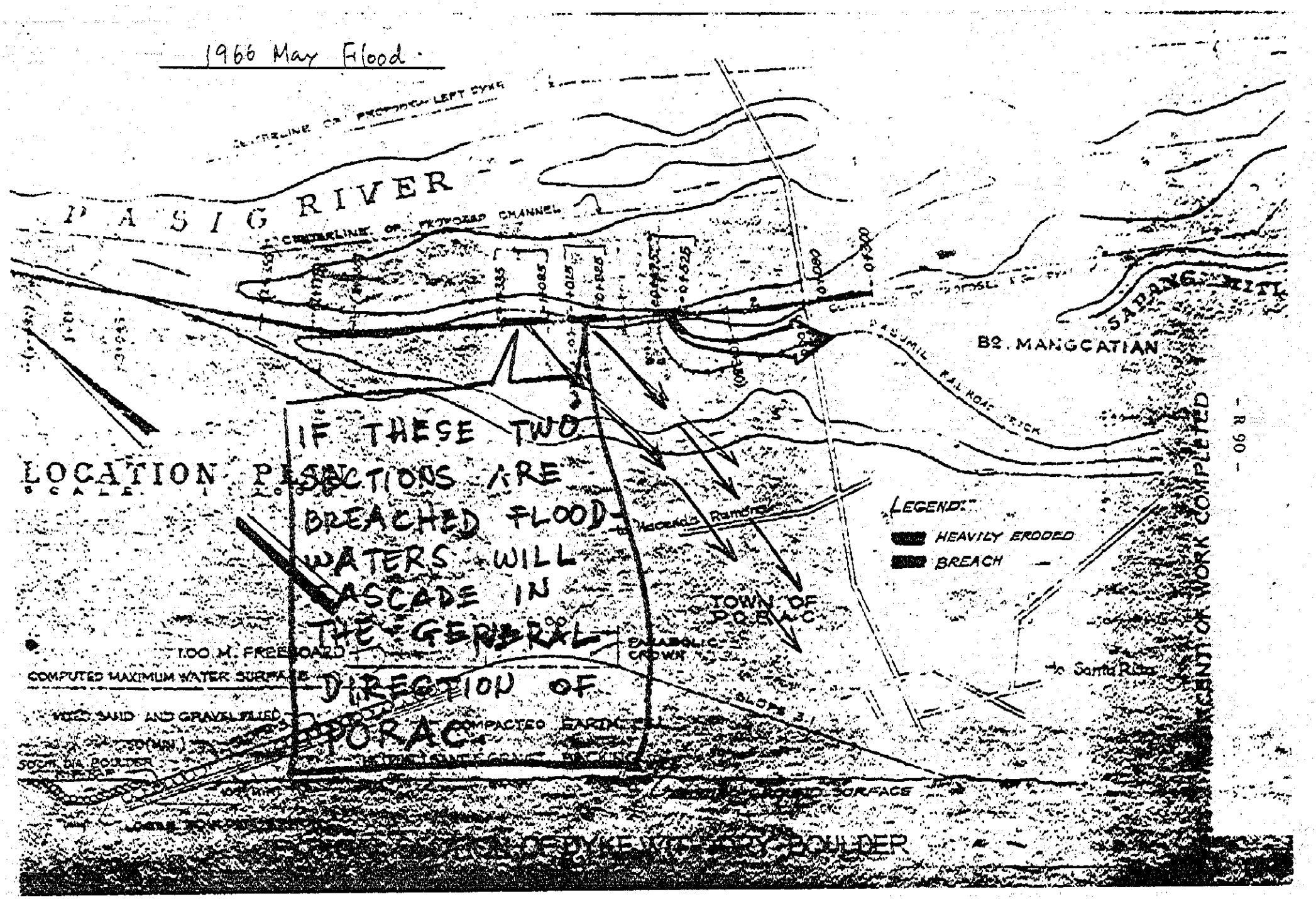
It is therefore earnestly requested the amount of P100,000 be immediately released to defray the cost of repair and improvement of the sections mentioned above, particularly those in the next preceding paragraph, in order that the towns of Porac may be saved from impending disaster.

Very truly yours,

AMADOR M. GATUS
River Control District Engineer

Encl.
Sketch plan of
washed out and
critical sections of the dyke of
the Pasig-Potrero River Control

1966 May Flood.



Republic of the Philippines
DEPARTMENT OF PUBLIC WORKS
BUREAU OF PUBLIC WORKS
RIVERS, FLOOD CONTROL AND IRRIGATION
Office of the Superintending Engineer
Balanga, Bataan

September 14, 1970

The Director of Public Works
Manila

Sir:

I have the honor to submit our report on the flood from September 1, 1970 to September 5, 1970 which was caused by four (4) days of continuous heavy rains unleased by typhoons "Loleng" and "Nading" and the flood from September 11, 1970 to September 13, 1970 caused by typhoon "Titang" inundating several towns of Pampanga:

OMBAIN-PORAC-CULIANIN RIVER CONTROL PROJECT: Lubao and Floridablanca, Pampanga: - The discharging floodwaters along the Ombain-Porac Diversion Channel nearly overtopped the dykes. A free board of .10 to .2 meters was observed on some portion of the parallel dykes when the maximum gage reading at 3.00 PM on September 11, 1970 at the Sta. Cruz Highway Bridge registered 4.90 meters above mean sea level. The present state of the channel which was badly silted trained the floodwaters to traverse the existing gaps, thus inundating 350 hectares of rich agricultural lands of barrios Remedios, Sta. Catalina, Sta. Barbara, San Nicolas, San Agustin and Del Carmen, Lubao, Pampanga. The gaps which previously measured 973 meters wide increased to about 80 meters more on account of the swift current passing thru it. Estimated cost of damages to agricultural crops is about P500,000.00. The perenial flooding of this area can be solved by dredging the Channel from Sta. 11/492 to Sta. 8/000, closing of the existing gaps, raising the parallel dykes from Sta. 8/000 to Sta. 9/500 and paving with boulder riprap all the critical sections of the dykes to prevent it from being washed away or eroded.

PASIG-POTRERO RIVER CONTROL PROJECT: - Porac, Sta. Rita and Basolor Pampanga: - The floodwaters of Pasig-Potrero River heavily secured the right dyke from Sta. -0/750 to Sta. -0/900; Sta. -1/130 to Sta. -1/300 and from Sta. -1/500 to Sta. -1/750 at Manaatian, Porac, Pampanga. About 300 hectares of rich agricultural lands and numerous residential lots were inundated in the towns of Basolor, Otagan and Sta. Rita. Transportation was parallyzed causing a mark slump in trade and other business activities.

In view of the perrenial flooding of this area, it is recommended that the Pasig-Potrero River Control Project be completed as per Approved Plan RCV 1158.

COMBINED ABACAN-SAN FERNANDO RIVER CONTROL PROJECT:-Angeles, Mexico, San Fernando, Pampanga: - The flooding of San Fernando, Mexico, Sta. Ana, Minalin and Sto. Tomas, all in the province of Pampanga is aggravated by the floodwaters coming from the Combined Abacan-San Fernando River and its tributaries. The Mac Arthur Highway from Bo. Sto. Domingo, Minalin to Bo. San Agustin, San Fernando, Pampanga have been under water causing the congestion of traffic. The annual flood of this area could be prevented by dredging the San Fernando River and the Sapang Bungang Guinto from Minalin to Mexico, Pampanga.

ARNEDO DYKE: - San Simon-San Luis Section: - Portions of the Arnedo dyke from Sta. 9/510 to Sta. 9/560; Sta. 13/630 to Sta. 13/660 and from Sta. 16/700 to Sta. 16/760 were overtopped. Emergency work was undertaken by the Bo. people on the overtopped section by filling the critically scoured portion with sand bags. The entire length of this structure from Apalit to Arayat needs repair and improvement including the shifting of sections of the line being threatened by cave-ins of the Pampanga River Bank.

APALIT POCKET DIKE: - Section of the Pocket Dyke from Sta. 1/289 to Sta. 1/350 and Sta. 1/600 to Sta. 1/700 has been threatened by cave-ins of the

of the Pampanga River. It is feared that unless remedial measures be undertaken, the dyke in this section will be completely eroded.

APALIT-MASANTOL RIVER: - No damage have been incurred on this project. The flooding of Macabebe and Masantol, Pampanga was caused by floodwaters coming from the swollen Pampanga River which found its way through the uncompleted portion of the Apalit-Masantol Setback Levee in Masantol, Pampanga.

BIBE-SAN ESTEBAN CUT-OFF CHANNEL: - Portions of the left dyke from Sta. 2/400 to Sta. 7/100 and from Sta. 2/400 to Sta. 5/100 of the right dyke and the floodgate at Sapang Masi at Sta. Cruz, Masantol were badly damaged.

GAUGE READING: - Maximum flood heights obtained at the following strategic points are: Sulipan Bridge 4.18 m., Calumpit Bridge 4.00 m., Bagbag Bridge 3.78 m. September 5, 1970 and at Sta. Cruz Bridge, 4.90 m. on September 11, 1970 all above mean sea. level. The maximum experienced flood heights at Sulipan Bridge were 5.80 meters above mean sea level, Manila Bay. In Sta. Cruz Bridge it was 5.06 meters above mean sea level Manila Bay.

Estimated total flood damage in Pampanga is P5,000,000.00.

In view hereof, it is respectfully requested that all pending requests for the release of project funds be now favorably acted upon to carry on the most needed improvement and urgent repair work on our various flood control and drainage structures in Central Luzon River Control District.

Very truly yours,

AMADOR R. MATUS
River Control District Engineer

PRL/pem

FILE COPY

August 19, 1974

MEMORANDUM REPORT For:
The Director of Public Works
M a n i l a

SUBJECT : Flood Damages To Existing Flood Control Structure

I. APALIT-MASANTOL LEVEE:

(a) Francia Floodgate:

The newly reconstructed portion of the levee closing the Francia River was washed out at 4:30 A.M. August 19, 1974. After the water level reached the peak elevation of 5.41 meter at Sulipan Bridge, Apalit, the elevation of 5.41 meter was registered from 2:00 A.M. to 4:15 A.M. after which the levee failed. At 4:10 A.M. cracks and marks of settlement of the slope of the embankment was observed near the left wing wall (facing downstream of the Francia River) elevation of water in the upstream of the floodgate is 5.30 meter and at the Sulipan Bridge is 5.41 meter. At 4:15 A.M. these cracks were observed to have widened as the embankment slowly showed settlement. At this point, flood water rushed out at the left wing wall and the embankment slid down. It was also observed that the upstream wing wall of the floodgate (Masantol Side - Channel Side) developed a crack of about 4". At 4:30 A.M. the approach was washed out and the upstream wing wall (channel side) collapsed completely. The gap is approximately 20 meters wide and it widened up to 60 meter approximately. Before the breaching of the levee there were small cracks observed along the slope of the embankment but no indication of seepage was observed.

Immediately after the breaching, the staff gage at the upstream of the floodgate indicated the water elevation of 5.10 meter and the Sulipan Bridge 5.30 meter at 4:50 A.M.

(b) The Levee:

No indication of erotion on the section of the levee except the approach of the Francia Floodgate (Masantol Side) but a portion of the levee was overtopped between Sta. 8+000 to Sta. 9+000 (downstream end of the Apalit-Masantol Levee). This section is still below the designed grade and is projected to be raised in accordance with the designed grade of the approved plan RCV-1077. We made emergency measures by placing sand bag on top of the levee at this section and we were able to control the overflowing. The flash boards of the existing culvert along the levee at Sapang Boyong broke down; immediately, we furnished the necessary lumber to replace the broken flash boards. In this manner, we were able to stop the exit of floodwater to the other side of the levee.

Estimated Cost of damage and emergency works - P400,000.00

II. APALIT-ARAYAT SETBACK LEVEE:

The levee system is functioning well, no indication of erosion was observed except those old ones which is projected for reconstruction and improvement. However, the existing drainage culverts along the levee from Apalit to San Luis were forcibly opened of their gates by unscrupulous persons probably residents along the floodway on the early morning of August 17, 1974. These opened drainage culverts were already closed except two located at station 3+975 and station 5+680. In this connection, emergency laborers were hired supervised by Foreman and dyke tender to patrol the whole length of the levee round-the clock operation. We requested the assistance of the Pampanga Philippines Constabulary and the 1st PC Zone, Camp Olivas, San Fernando, Pampanga. A contingent of the PC Command was dispatched to patrol the levee under the overall Command of the Deputy Zone Commander, IPOS. Col. Marcelino De La Rea.

The estimated cost of the emergency work is P100,000.00 including materials and wages of hired laborers.

APALIT REVETMENT NOS. 1, 2 and 3

No damages were sustained by the structures, as per observation.

III. ARNEDO DIKE:

Emergency works were undertaken along the low and critical sections of the Arnedo Dike during the early stage of the flood. Sand bagging was made in Bo. Sucad, Alauli and Paralaya, Apalit and Bos. San Jose, San Simon and Mahabasig, Candaba. Only the emergency work in Alauli, Apalit was maintained intact while the other emergency work undertaken all along the Arnedo Dike was washed away when the flood crest reached its maximum height. Elevation in Sulipan Bridge - 5.41 meter.

The Estimated Cost of these emergency work is P73,000.00.

IV. ARAYAT-CABIAO RING LEVEE:

The ring levee was breached at the following sections:

(1) Between Sta. 18+000 to Sta. 19+000, inclusive
Estimated Cost - - - - - - - - - - P900,000.00

(2) Between Sta. 2+700 to Sta. 3+000 - 300 Lin. meter
Estimated Cost - - - - - - - - - - P250,000.00

Gage Reading at the Arayat Bridge indicated the flood elevation of 10.72 M. which is higher by .66 meter of the maximum flood in 1972.

Item 2 was eroded and breached by the floods of July-August 1972 and was reconstructed immediately after the flood under the 1972 Calamity Funds.

The status of the whole ring levee has not as yet been relayed to this Office by our field personnel due to poor means of communication, However, a follow-up report will be sent to that Office as soon as the complete and detailed report will be received from our fieldmen.

V. BABE-SAN ESTEBAN CUT-OFF CHANNEL:

(a) Right Dike: - A portion of the right dike from Sta. 4+400 to Sta. 5+000 was overtopped. This portion is not yet completed to designed grade.

(b) Left Dike: - No damages incurred.

VI. POBAC-GUMAIN-CADLAMAN RIVER CONTROL PROJECT:

(a) Left dike sustained river side slope scouring from Sta. 9+000 to Sta. 9+500. The dike was also breached approximately at Sta. 10+300 to Sta. 10+500.

Estimated Cost - - - - - - - - - - - - ₱250,000.00

(b) Right dike - erosion on the river side slope also occurred in the right dike approximately 100 lineal meters from the downstream of the Sta. Cruz Bridge. The dike was breached also approximately from Sta. 10+450 to Sta. 10+550 downstream of the soil cemented section of the dike.

Estimated Cost - - - - - - - - - - - - ₱150,000.00

VII. PASIG-POTRERO RIVER CONTROL PROJECT:

The soil cemented section of the right dike at the downstream of the concrete bridge was washed out.

Length - 500 Lineal Meters

The newly constructed portion of the left dike at Sitio Cutud, Potrero, Bacolor was also washed out.

Estimated Cost - - - - - - - - - - - - ₱100,000.00

Additional information will follow as soon as reports from the field comes in.

1974 A.D.

RODOLFO P. PALMARA
Public Works District Engineer II
Officer-In-Charge

DBC/beg.

FILE COPY

Republic of the Philippines
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
[illegible]
Office of the District Public Works Engineer
[illegible]

August 20, 1974

MEMORANDUM REPORT For:
The Director of Public Works
M a n i l a

SUBJECT : Flood Damages To Existing Flood Control Structures (Continuation of the Report dated August 19, 1974)

I. GUMAIN-PORAC DIVERSION CHANNEL:

(a) Right dike sustained erosion and scouring at the following sections.

(1) Between Sta. 0+000 to Sta. 0+250, this section of the dike was entirely eroded due to caving-in. Floodwater did not reach the adjoining sugar cane field because the field is in higher elevation.

Estimated Cost - - - - - - ₱85,000.00

(2) Between Sta. 0+260 to Sta. 1+200, the river side slope of the dike was scoured.

Estimated Cost - - - - - - ₱150,000.00

(3) Between Sta. 4+580 to Sta. 4+920, the dry boulder rip-rap along the right dike at San Pablo, Lubao, Pampanga also eroded.

Estimated Cost - - - - - - ₱300,000.00

Additional information will follow as soon as reports from the field comes in.

[illegible]
Public Works District Engineer II
Officer In-Charge

DB-/bag.

Republic of the Philippines
Department of Public Works
- R 97 -
[illegible] CONTROL DISTRICT
Office of the Assistant Project Engineer
Malolos, Apalit, Pampanga

July 12, 1972

The Director of Public Works
M a n i l a

S i r :

I have the honor to submit herewith a preliminary report on the current floods in Pampanga, Bulacan, and Nueva Ecija caused by heavy rains which came in the wake of Typhoon Ebeng since July 6, 1972.

The heavy rains swelled the Pampanga River and its tributaries and all the other major rivers within the Pampanga River Basin, e.g. Rio Chico, Peñarando, Talavera, Parua, Abatan, Pasig-Potrero, Porac, Gumain, and the Candaba Rivers.

A. BULACAN:-

As usual and because of the inadequate outlet for floodwaters to discharge into the sea the towns of Hagonoy, Paombong, Calumpit, and Malolos, all in Bulacan, are flooded.

Seepage through the drainage culverts found its way into the area within the Calumpit Pocket Dyke. As of this writing that portion of the MacArthur Highway within the Pocket Dyke is under water.

B. PAMPANGA:-

1. ARAYAT-APALIT-MASANTOL LEVEE

The Arayat-Apalit-Masantol Levee which extends from Arayat to Masantol, a distance of about fifty (50) kilometers, is not in danger of being overtopped as can be gleaned from the attached gage reading reports.

In spite of this, the towns of Masantol and Macabebe were inundated because of backwaters which found its way to these towns through the Sapang Maragul and other streams on the lower reaches of the setback levee.

2. BERE-SAN ESTEBAN CUT-OFF-CHANNEL

Fishponds on both sides of the [illegible] Channel were likewise inundated because of overtopping of the [illegible] along the said channel.

3. ARNEDO DYKE

Many sections of the Arnedo Dyke from Apalit to [illegible] were overtopped. This office and other agencies of the [illegible] the Army and the provincial government, [illegible] send help during the emergency [illegible].

4. CULIAT-PORAC [illegible]

We have just completed closing the [illegible] Guagua-Porac diversion channel [illegible] Dyke at four points, [illegible] on the So. Fla. Drive side of the project.

Around ₱25,000.00 is needed to close all these four (4) [illegible].

5. PASIG POTRERO RIVER CONTROL

Flood waters coming from the swollen Pasig-Potrero River inundated the towns of Sta. Rita, Guagua, and Bacolor, Pampanga.

No damage was inflicted on the dyke, dry-boulder riprap, or spur dyke at Mancatian, Porac.

However, the southern approach to the RCTO bridge at Concepcion, Porac was washed away by the flood disrupting, in effect, traffic between Angeles and Porac, Pampanga.

As usual traffic was disrupted at the Pacolor-Guagua road in Pacolor, Pampanga because there are no parallel dykes to control the floodwaters of the Pasig-Potrero River.

6. ARAYAT-CABIAO RING LEVEE

Several sections of the Arayat-Cabiao Ring Levee in Bo. Concepcion, Arayat, Pampanga were overtopped by floodwaters coming from the Candaba Swamps.

7. CONDUCTED ABACAN-CAN FERNANDO RIVER CONTROL (Gloria Area)

The towns of Mexico, San Fernando, Sto. Ana, Minalin, and Sto. Tomas were inundated from floodwaters coming from the Abacan River, the San Fernando River, a tributary of the Abacan River, can not contain the floodwaters of the two rivers that is why it spreads as far as Bo. Palangoan, Sto. Tomas along the MacArthur Highway. Traffic is almost paralyzed at this point near Km. 61 of the MacArthur Highway.

Very truly yours,

[illegible]
District Engineer II

Hereunder are Gage Readings for July 7,1972 to July 11,1972

July 7, 1972

LOCATION	TIME	GAGE READING	REMARKS
Sulipan Bridge	11:00AM	0.69 M.	Top of levee 8.20 M.

July 8, 1972

LOCATION	TIME	GAGE READING	REMARKS
	9:00AM	3.48 M.	
Calumpit Bridge	12:30PM	3.50 M.	Top of wall 7.20 M.
	9:00AM	3.50 M.	
Sulipan Bridge	12:30PM	3.69 M.	Top of levee 8.20 M.
	9:00AM	3.68 M.	
Bagbag Bridge	12:30PM	3.68 M.	Top of levee 7.20 M.

July 9, 1972

LOCATION	TIME	GAGE READING	REMARKS
	10:00AM	4.09 M.	
Calumpit Bridge	12:00N	4.11 M.	Top of wall 7.20 M.
	2:00PM	4.16 M.	
	10:00AM	4.28 M.	
Sulipan Bridge	12:00N	4.33 M.	Top of levee 8.20 M.
	2:00PM	4.40 M.	
	10:00AM	3.84 M.	
Bagbag Bridge	12:00N	3.87 M.	Top of levee 7.20 M.
	2:00PM	3.87 M.	

July 10, 1972

LOCATION	TIME	GAGE READING	REMARKS
	8:00AM	4.42 M.	
Calumpit Bridge	9:00AM	4.46 M.	Top of wall 7.20 M.
	12:20PM	4.38 M.	
	8:00AM	4.50 M.	
Sulipan Bridge	9:00AM	4.57 M.	Top of levee 8.20 M.
	12:20PM	4.60 M.	
	8:00AM	4.01 M.	
Bagbag Bridge	9:00 AM	4.06 M.	Top of levee 7.20 M
	12:20PM	4.04 M.	

July 11, 1972

LOCATION	TIME	GAGE READING	REMARKS
	9:00AM	4.60 M.	
Calumpit Bridge	11:30AM	4.65 M.	Top of wall 7.20 M.
	3:30PM	4.60 M.	
	9:00AM	4.70 M.	
Sulipan Bridge	11:30AM	4.72 M.	Top of levee 8.20 M.
	3:30PM	4.71 M.	
	9:00AM	4.39 M.	
Bagbag Bridge	11:30AM	4.39 M.	Top of levee 7.20 M.
	3:30PM	4.41 M.	

ANACLETO BAUTISTA
District Engineer II

Republic of the Philippines
DEPARTMENT OF PUBLIC WORKS AND COMMUNICATIONS
BUREAU OF PUBLIC WORKS
PAMPANGA RIVER CONTROL SYSTEM
Office of the Flood Control System Engineer
Sulipan, Apalit, Pampanga

FILE COPY
Flood Damage Survey

May 29, 1976

The Director of Public Works
Thru: The Officer-In-Charge
Flood Control and Drainage Division
M a n i l a

Sir:

I have the honor to submit herewith a tabulated report on damages to Flood Control Structures for the provinces of Pampanga & Tarlac caused by flood and continuous heavy rains on May 27-28, 1976 due to Typhoon "Didang".

Attached herewith is a map showing the flooded areas.

Very truly yours,

ROMULO E. VILLEGA
Flood Control System Engineer

odu

REPORT OF DAMAGES ON FLOOD CONTROL STRUCTURES
CAUSED BY TYPHOON "DIDANG" May 22 - 28, 1976

PAMPANGA AND ALLIED RIVER CONTROL PROJECTS

PROJECTS AND STATION LIMITS	CAUSE AND EXTENT OF DAMAGE	ESTIMATED COST OF DAMAGE	ESTIMATED COST OF REPAIR	REMARKS
PORAC - GUMAIN DIVERSION CHANNEL				
a. Right Dike				
Sta. 10+350 to Sta. 10+850	500 lin. meters of Embankment with boulders protection washed out.	P195,000.00	P234,000.00	
b. Left Dike				
Sta. 9+350 to Sta. 9+950	600 lin. meters of Embankment with boulders protection washed out.	P120,600.00	P144,720.00	EMERGENCY WORK UNDERTAKEN P40,000.00
Sta. 10+400 to Sta. 10+800				P40,000.00
PASIG - POTRERO RIVER CONTROL				
a. Right Dike				
Sta. 5+300 to Sta. 6+250	950 lin. meters of Embankment with boulders protection washed out.	P253,650.00	P304,380.00	P35,000.00
Sta. 9+530 to Sta. 10+250	720 lin. meters of Embankment with boulders protection washed out.	P188,550.00	P226,260.00	
Sta. 7+333	Road Range washed out	P 6,000.00	P 7,200.00	
Sta. 0+050 to Sta. 0+282	232 lin. meters of Embankment with boulders protection washed out.	P236,850.00	P287,260.00	EMERGENCY WORK UNDERTAKEN P25,200.00
b. Left Dike				
Sta. 4+750 to Sta. 5+050	300 lin. meters of Embankment with boulders protection washed out	P 75,600.00	P 90,720.00	

PROJECTS AND STATION LIMITS	CAUSE AND EXTENT OF DAMAGE	ESTIMATED COST OF DAMAGE	ESTIMATED COST OF REPAIR	REMARKS
Sta. 7+250 to Sta. 9+700	2,450 lin. meters of Embankment with boulders protection washed out.	P194,040.00	P232,848.00	
Sta. 7+545	Road Dumps washed out.	P 5,590.00	P 6,600.00	
Sta. 8+842	Road Dumps washed out.	P 5,500.00	P 6,600.00	
PAMPANGA RIVER CONTROL PROJECT				
a. Left Dike Sta. 0+250 to Sta. 1+050	800 lin. meters of Embankment with boulders protection washed out.	P345,600.00	P414,720.00	
Sta. 4+950 to Sta. 7+050	2,100 lin. meters of Embankment with boulders protection washed out.	P588,000.00	P705,600.00	
b. Right Dike Sta. 0+830 to Sta. 2+050	1,220 lin. meters of Embankment with boulders protection washed out.	P527,050.00	P632,460.00	
Sta. 2+950 to Sta. 5+050	3,800 lin. meters of Embankment with boulders protection washed out.	P1,401,200.00	1,681.440.00	
Sta. 5+850 to Sta. 6+050	1,000 lin. meters of embankment washed out.	220,000.00	264,000.00	
Sta. 6+850 to Sta. 7+600	1,650 lin. meters of embankment washed out.	330,000.00	396,000.00	

PROJECTS AND STATION LIMITS	CAUSE AND EXTENT OF DAMAGE	ESTIMATED COST OF DAMAGE	ESTIMATED COST OF REPAIR	REMARKS
4. ARAYAT - CABIAO RING LEVEE				
Sta. 1+650 to Sta. 1+850	200 lin. meters of embankment washed out.	P172,800.00	P288,576.00	
Sta. 1+450 to Sta. 1+550	100 lin. meters of embankment washed out.	P 86,400.00	P144,288.00	
Sta. 8+900 to Sta. 9+900	1000 lin. meters of embankment washed out.	P864,000.00	P1,442,880.00	
5. APALIT-ARAYAT SETBACK LEVEE				
Sta. 1+500 to Sta. 1+700	Almost overtopped			EMERGENCY WORK UNDERTAKEN P20,000.00
Sta. 2+000	Seepage			P 5,000.00
Sta. 2+800	-do-			P10,000.00
Sta. 11+000	-do-			P 5,000.00
Sta. 28+920 to Sta. 29+800 (INCLUSIVE)	200 lin. meters almost overtopped.			P50,000.00
6. SUPPLEMENTARY DIKE AT SAN JUAN BASO, ARAYAT, PAMPANGA.				
Sta. 0+000 to Sta. 0+300				P40,000.00
7. CABIAO SAN ISIDRO LEVEE				
Sta. 2+000 to Sta. 3+000				P50,000.00
Sta. 3+500 to 4+000				P25,000.00
ARAYAT-CABIAO RING LEVEE				
Sta. 15+500 to Sta. 15+600	200 lin. meters of embankment washed out.	P 86,400.00	P144,288.00	

PROJECTS AND STATION LIMITS	CAUSE AND EXTENT OF DAMAGE	ESTIMATED COST OF DAMAGE	ESTIMATED COST OF REPAIR	REMARKS
Sta. 154700 to Sta. 154750 - - - - - - - -	50 lin. meters of embankment washed out.	P 43,200.00	P 72,144.00	
TOTAL - - - - - - - - - - - -		P3,865,140.00	P7,626,984.00	P545,000.00

PREPARED BY:

MIGUEL T. LUCUS
Associate Civil Engineer

CHECKED BY:

DOMINGO B. COTTADO
Supervising Civil Engineer II

SUBMITTED BY:

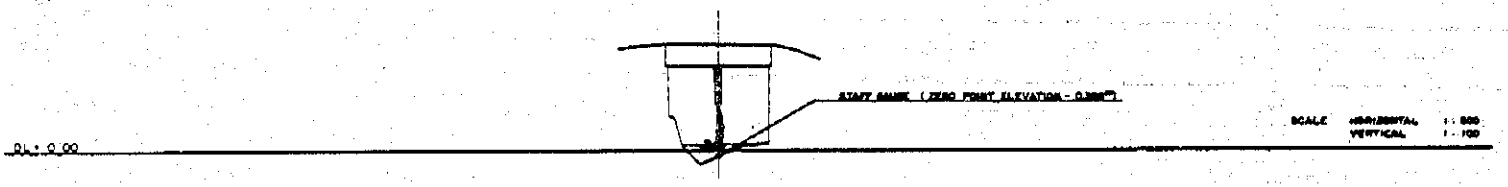
RODOLFO R. PALMERA
Flood Control System Engineer

MTL/cdu

R-9 Cross Section at Water Stage Observation Station

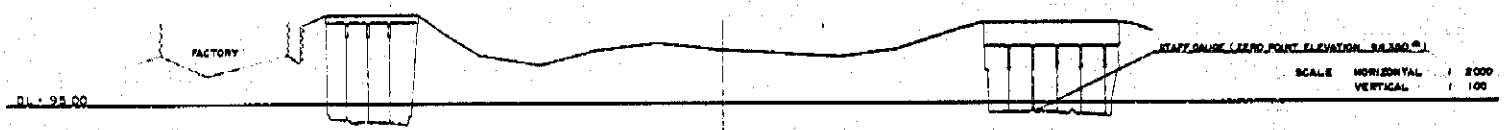
PA 1 BACOLOR GAUGE

0 K + 0.00



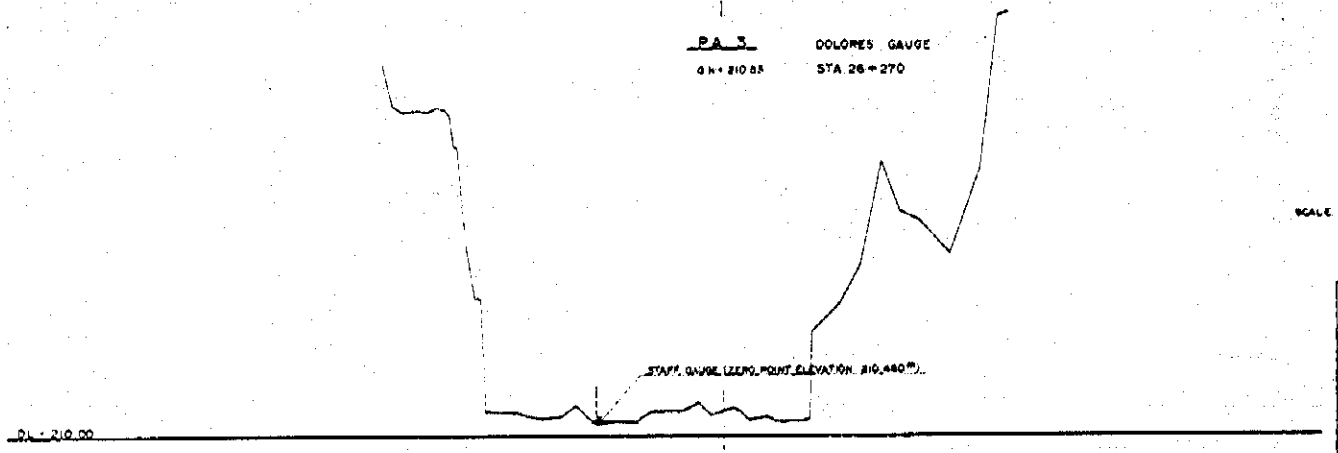
PA 2 MACANTIAN GAUGE

0 K + 96.16 STA. 18 + 400



PA 3 DOLORES GAUGE

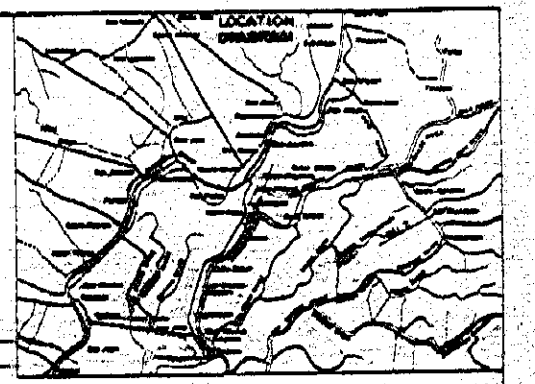
0 K + 210.85 STA. 26 + 270



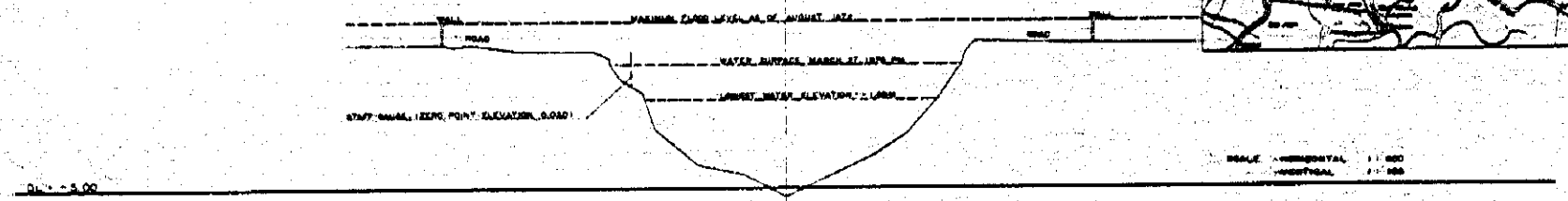
DPWTC

PASIG-POTRERO RIVER FLOOD CONTROL AND SABO PROJECT PHILIPPINES

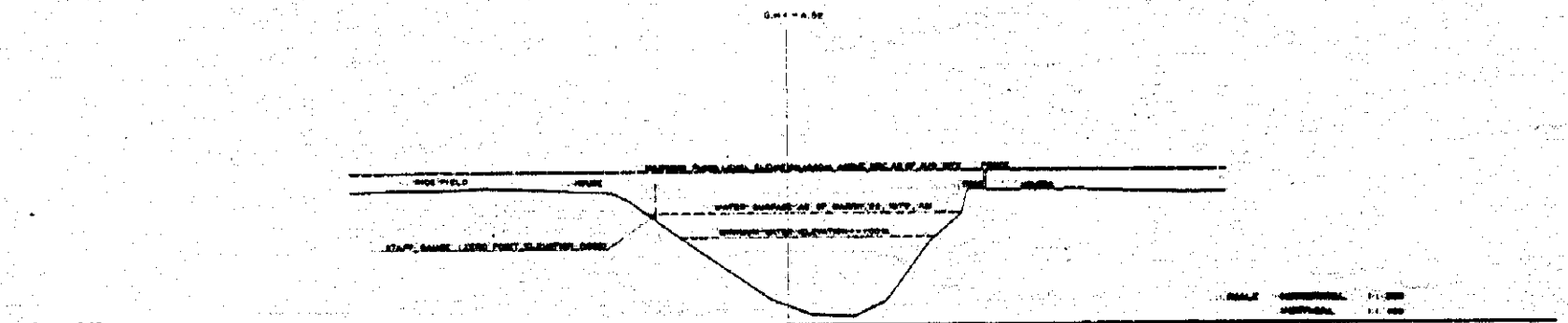
JAPAN INTERNATIONAL COOPERATION AGENCY



GU 1 GUA GUA GAUGE



GU 2 SAN FRANCISCO GAUGE

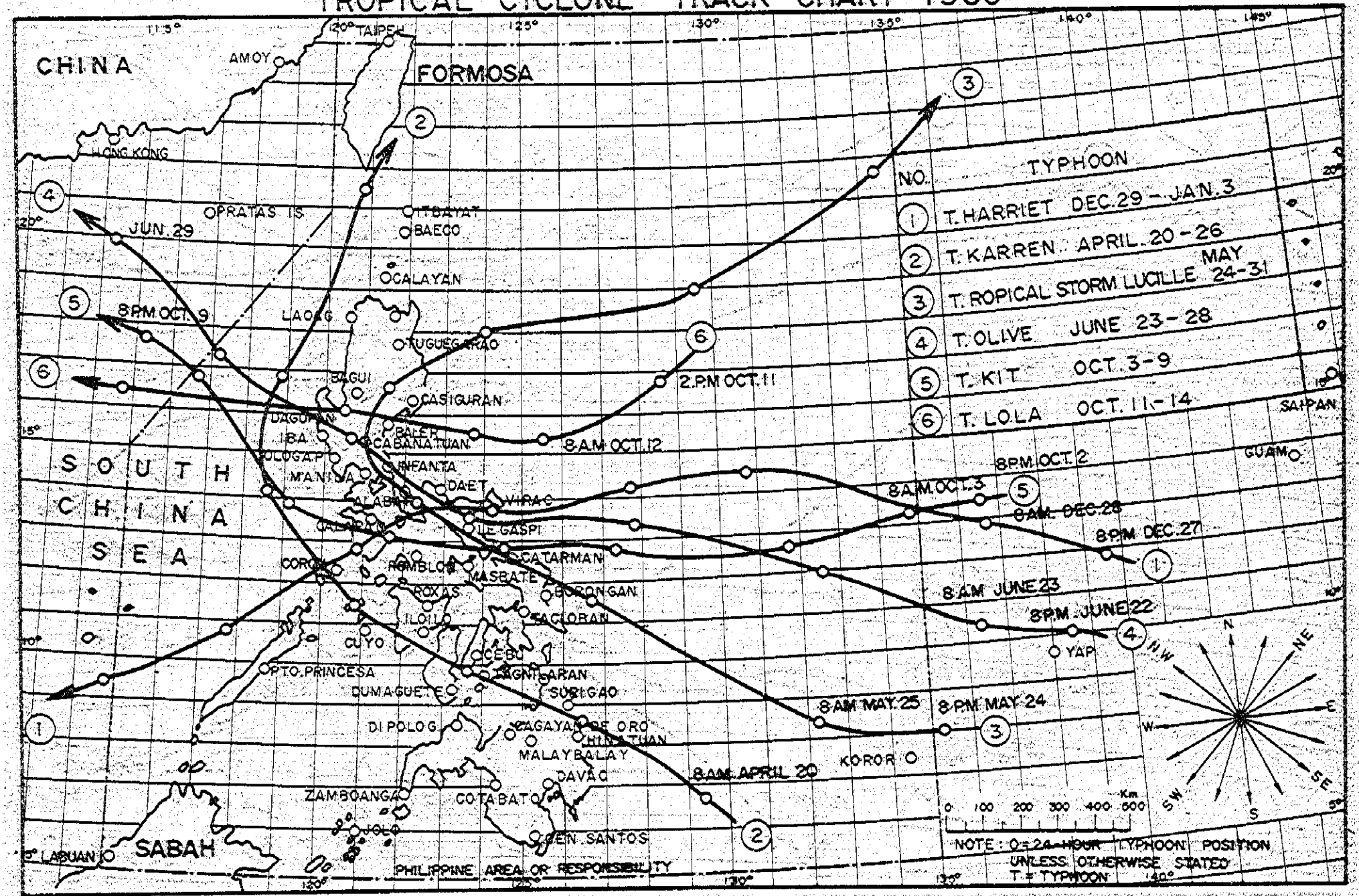


G.P.J.T.C

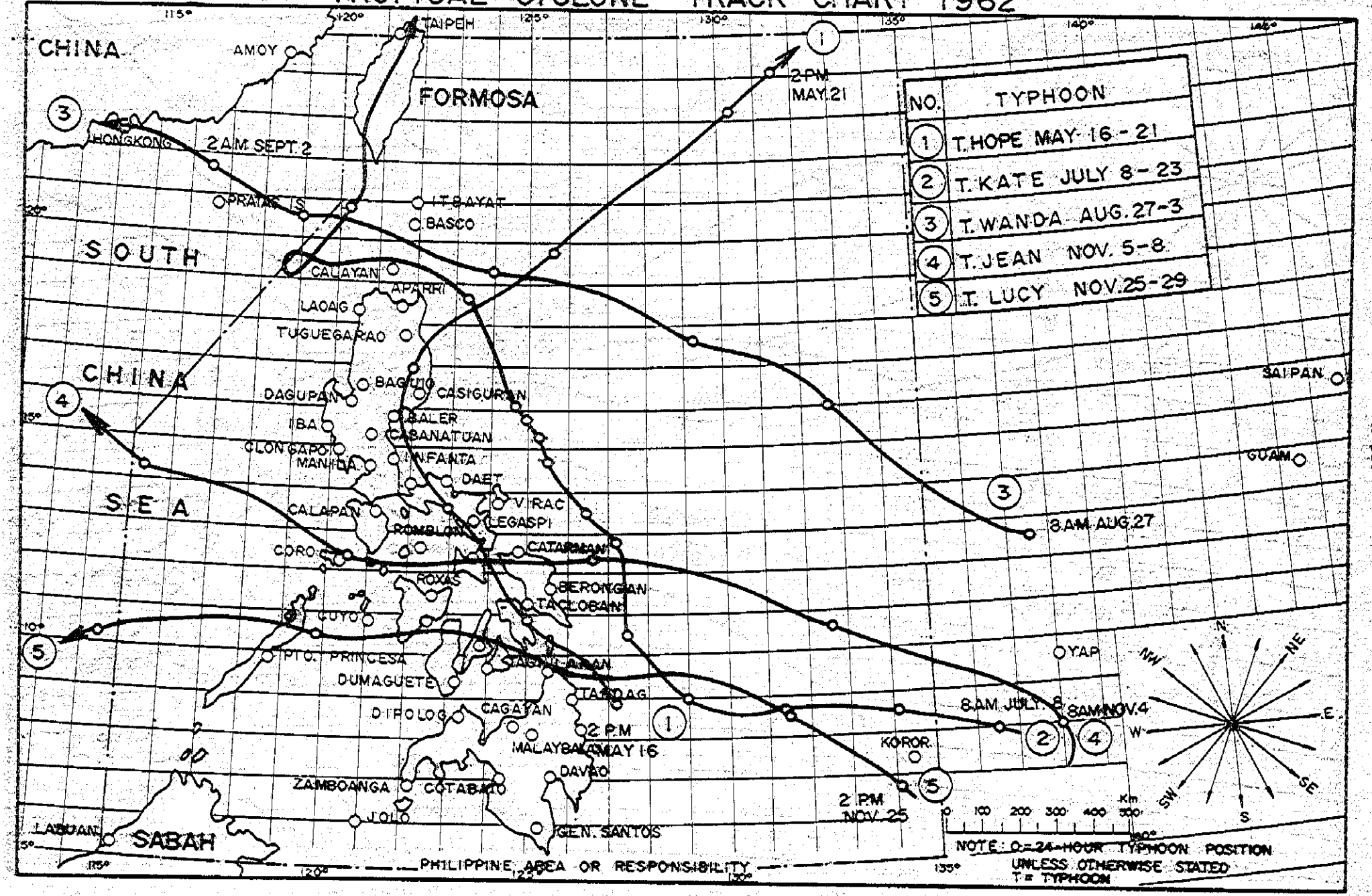
FRIO-FORENO RIVER FLOOD CONTROL AND SABO PROJECT (PHASE II)

R-10 Tropical Cyclon Track Chart

TROPICAL CYCLONE TRACK CHART 1960

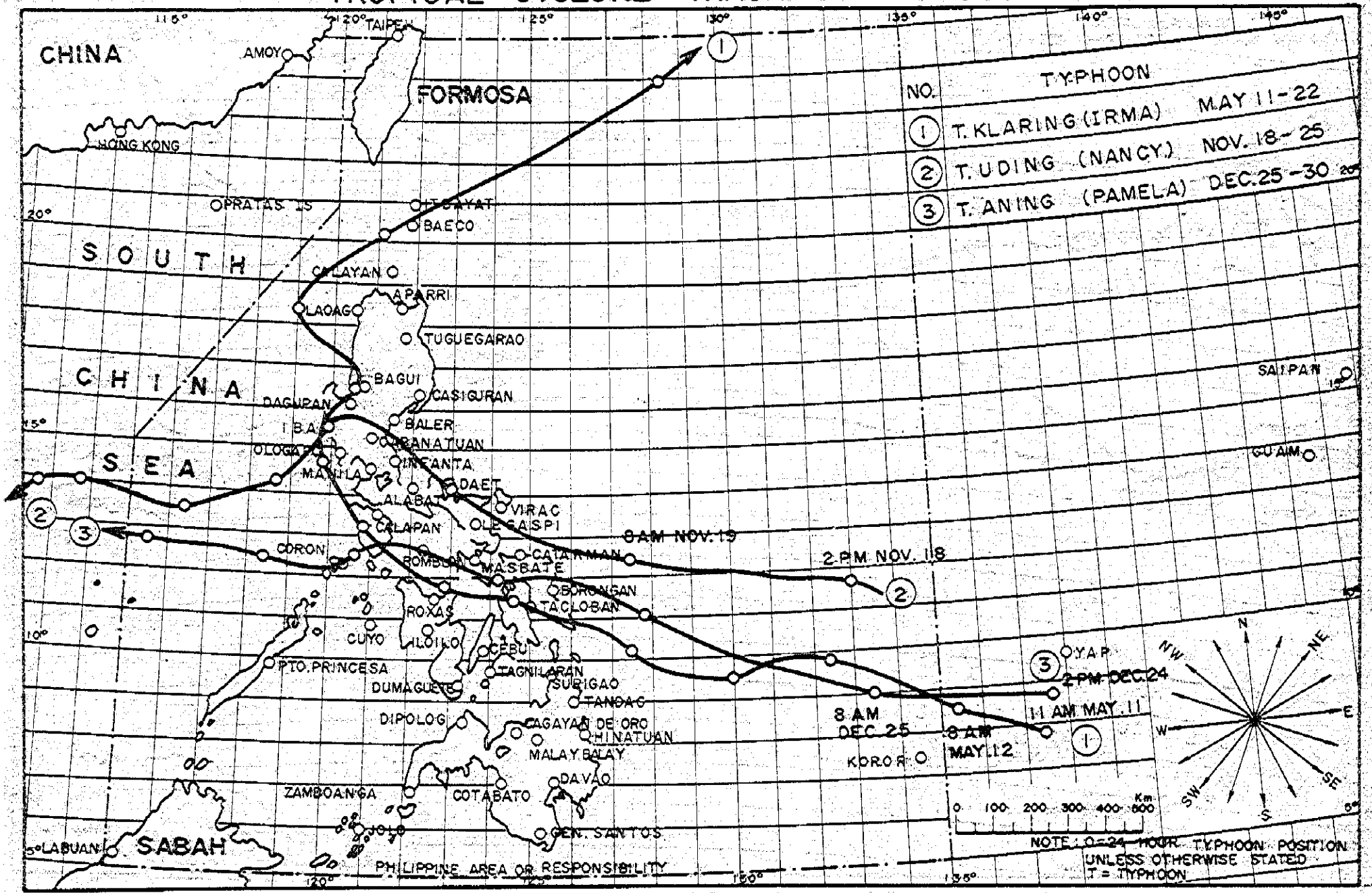


TROPICAL CYCLONE TRACK CHART 1962



NO.	TYPHOON
1	T. HOPE MAY 16 - 21
2	T. KATE JULY 8 - 23
3	T. WANDA AUG. 27-3
4	T. JEAN NOV. 5-8
5	T. LUCY NOV. 25-29

TROPICAL CYCLONE TRACK CHART 1966

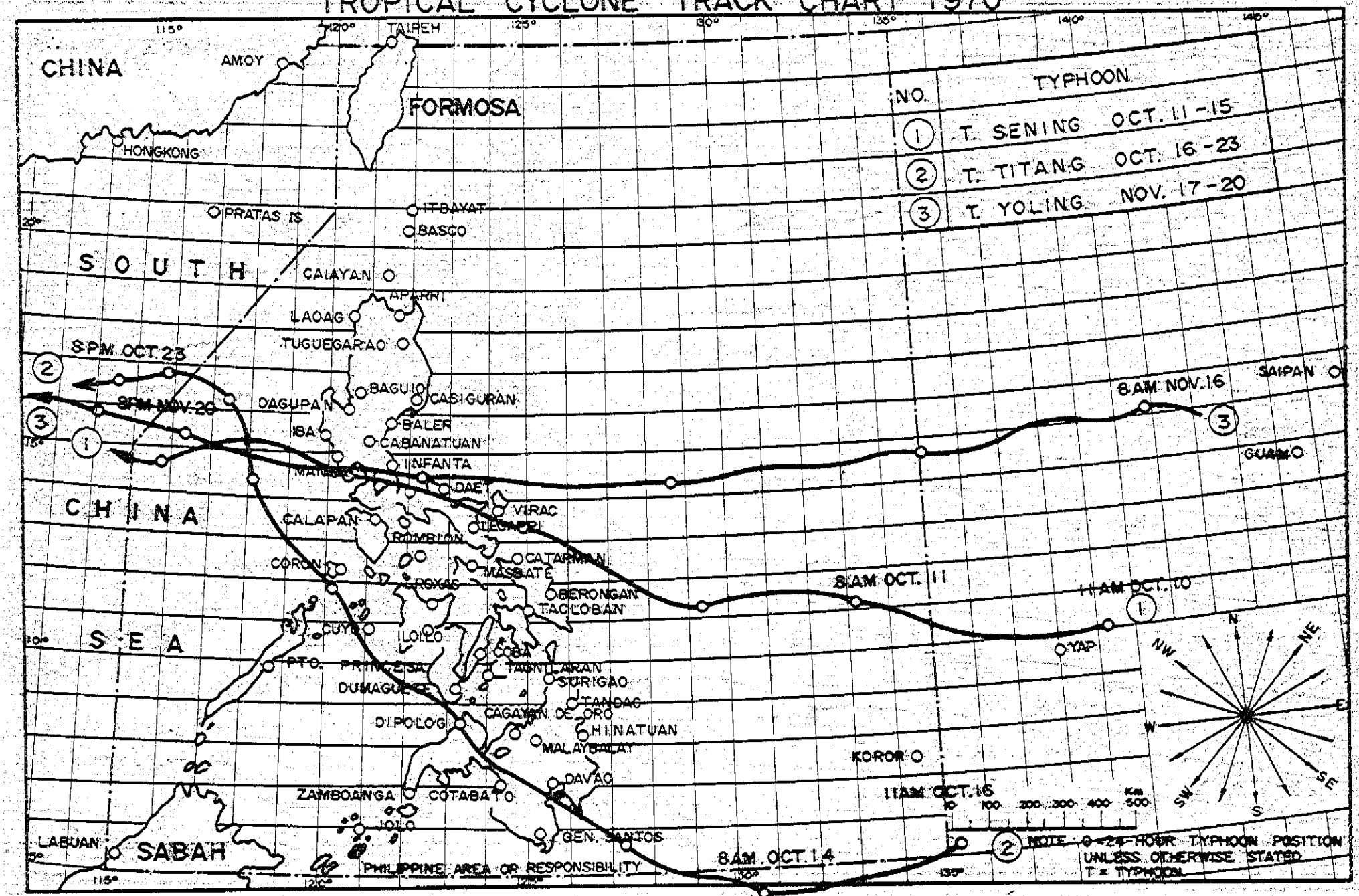


NO.	TYPHOON
(1)	T. KLARING (IRMA) MAY 11-22
(2)	T. UDING (NANCY) NOV. 18-25
(3)	T. ANING (PAMELA) DEC. 25-30

NOTE: 0=24 HOUR TYPHOON POSITION
UNLESS OTHERWISE STATED
T = TYPHOON

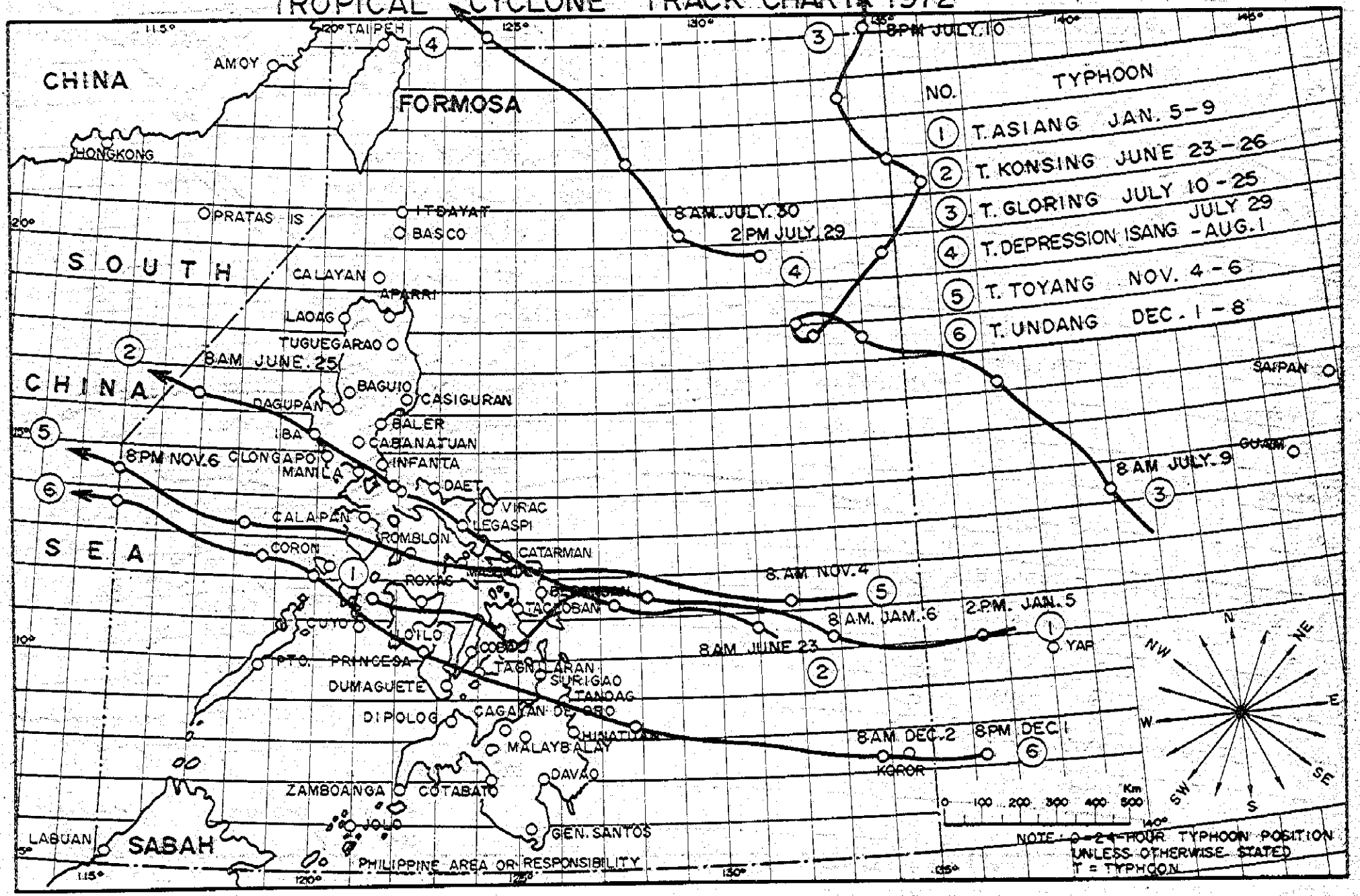
PRRI

TROPICAL CYCLONE TRACK CHART 1970



- R112 -

TROPICAL CYCLONE TRACK CHART 1972



TROPICAL CYCLONE TRACK CHART 1974