During 1967 the Joint Typhoon Warning Center issued a total of 957 tropical warnings on 20 typhoons, 15 tropical storms and six tropical depressions. Warnings were issued on two or more tropical cyclones simultaneously on a total of 62 calendar days; on 17 of the 62 days three tropical cyclones were in existence.

The following data for the JTWC area of responsibility is presented for comparison:

COMPARATIVE WESTERN PACIFIC TROPICAL CYCLONE DATA

	1960	1961	1962	1963	1964	1965	1966	1967
TOTAL NUMBER OF WARNINGS	766	738	815	663	730	805	752	957
CALENDAR DAYS OF WARNING	157	165	154	146	153	167	155	185
TROPICAL DEPRESSIONS	3	11	9	3	5	6	8	6
TROPICAL STORMS	8	11	6	6	14	13	10	15
TYPHOONS	19	20	24	19	26	21	20	20
TOTAL TROPICAL CYCLONES	30	42	39	28	45	40	38	41

In the area of the North Pacific Ocean east of 180 degrees, 474 warnings were issued on a total of 20 tropical cyclones (See Annex A). One tropical cyclone, SARAH, developed in the area between 150 degrees and 140 degrees west and tracked across the dateline into JTWC's area of responsibility. This necessitated the transfer of a cyclone from JHWC, Hawaii, to FWC/JTWC. The track of SARAH (4499 MI) was the longest in history.

There were four "Super Typhoons" (maximum sustained surface winds of 130 knots or greater) compared with three during 1966 and a record of 11 during 1965. The most intense storm of 1967 was Typhoon Carla (12-20 Oct) with maximum sustained surface winds of 160 knots. The minimum sea level pressure of 901 mb and the minimum 700 mb height of 2170 meters were observed at 142138Z. The maximum wind was observed over water, although considerable damage to property resulting from flooding occurred as CARLA tracked westward over Northern Luzon with sustained surface winds of near 100 knots.

Examples of the Fujiwhara effect were exhibited by Typhoons Marge and Nora during August, and Tropical Storm Dot and Tropical Depression Nine during July. Dot was a well-documented case of secondary eyes within the same overall circulation of a storm (see Chapter III).

An abnormal number of tropical cyclones developed north of 20 degrees north latitude during the 1967 season. Four typhoons and six tropical storms fell into this category.

As in other years, the 24, 48, and 72 hour mean forecast error for each typhoon was computed by two methods. In addition to the standard mean forecast error (Tables IV-1 and IV-2), a computation of closest-distance (right angle) error from best track (Table IV-3) has been included for comparison. This error computation is based on the closest right angle distance of the forecast position to the best track without regard to time.

Note: The positions in Tropical Storm Position Data are for periods of tropical storm intensity only; i.e., where the best track showed the intensity to be greater than 33 knots.

The following tabulation of the average forecast error for the past 18 years is given for comparison:

FORECAST VERIFICATION;
AVERAGE ERROR (NAUTICAL MILES)

	24 HR	48 HR	72 HR
1950-58	170	---	---
1959	*117	*267	---
1960	*177	*354	---
1961	136	274	---
1962	144	287	476
1963	127	246	374
1964	133	284	429
1965	151	303	418
1966	136	280	432
1967	125	276	414

*Forecast positions north of 35N were not verified.

TABLE IV-1

1967 AVERAGE FORECAST ERRORS (MI)*

TYPHOON	24 HR FORECASTS NO. OF CASES	24 HR FORECASTS MEAN ERROR	48 HR FORECASTS NO. OF CASES	48 HR FORECASTS MEAN ERROR	72 HR FORECASTS NO. OF CASES	72 HR FORECASTS MEAN ERROR
SALLY	5	74	1	78	--	---
VIOLET	35	111	28	228	12	347
ANITA	13	71	6	89	1	36
BILLE	19	136	10	276	3	254
CLARA	20	74	16	124	6	159
ELLEN	19	257	15	588	5	878
KATE	6	118	1	18	--	---
MARGE	16	188	8	405	2	543
NORA	8	83	--	---	--	---
OPAL	58	106	54	262	25	477
RUTH	27	163	20	355	8	498
SARAH	29	118	25	286	11	422
WANDA	22	144	18	290	7	406
AMY	28	144	24	388	10	718
CARLA	25	102	20	165	8	207
DINAH	38	151	34	333	14	465
EMMA	28	74	24	171	10	246
FREDA	8	89	4	226	--	---
GILDA	38	84	30	175	13	260
HARRIET	23	186	14	385	5	423

AVERAGE ERROR - 24 HR FORECASTS (465 CASES)...125 MI
AVERAGE ERROR - 48 HR FORECASTS (352 CASES)...276 MI
AVERAGE ERROR - 72 HR FORECASTS (140 CASES)...414 MI

*Includes Forecast Errors during tropical storm intensity

TABLE IV-2

1967 FORECAST ERRORS*
(IN TERMS OF CLOSEST DISTANCE TO BEST TRACK)

TYPHOON	24 HR FORECASTS NO. OF CASES	24 HR FORECASTS MEAN ERROR (MI)	48 HR FORECASTS NO. OF CASES	48 HR FORECASTS MEAN ERROR (MI)	72 HR FORECASTS NO. OF CASES	72 HR FORECASTS MEAN ERROR (MI)
SALLY	5	69	1	73	--	---
VIOLET	35	51	28	100	10	156
ANITA	13	47	6	83	1	29
BILLIE	21	106	11	244	3	210
CLARA	20	56	16	98	5	89
ELLEN	17	150	13	312	4	544
KATE	6	84	1	7	--	---
MARGE	18	93	8	234	2	471
NORA	7	76	1	66	--	---
OPAL	57	84	54	204	25	385
RUTH	27	77	20	145	8	215
SARAH	29	73	23	157	11	256
WANDA	22	59	18	150	7	163
AMY	28	72	24	159	10	320
CARLA	28	63	23	131	9	104
DINAH	38	80	30	137	12	247
EMMA	28	62	24	126	9	184
FREDA	8	37	4	40	--	---
GILDA	38	55	30	114	13	193
HARRIET	23	122	10	282	4	421

AVERAGE ERROR - 24 HR FORECASTS (468 CASES)...76 MI
AVERAGE ERROR - 48 HR FORECASTS (345 CASES)..157 MI
AVERAGE ERROR - 72 HR FORECASTS (133 CASES)..256 MI

*Includes Forecast Errors during tropical storm intensity.

TABLE IV-3

To better understand the areas in which larger or smaller errors occur, the mean errors are tabulated with respect to latitude for the 24, 48 and 72 hour forecast positions (Table IV-4). Also, distances from positions given in the bulletins versus the best track positions is summarized (Table IV-5). Possibly this information will give the user a better understanding of the ability of JTWC to forecast the effects of a typhoon in a particular area.

FORECAST ERROR TABULATION (MI) - 1967

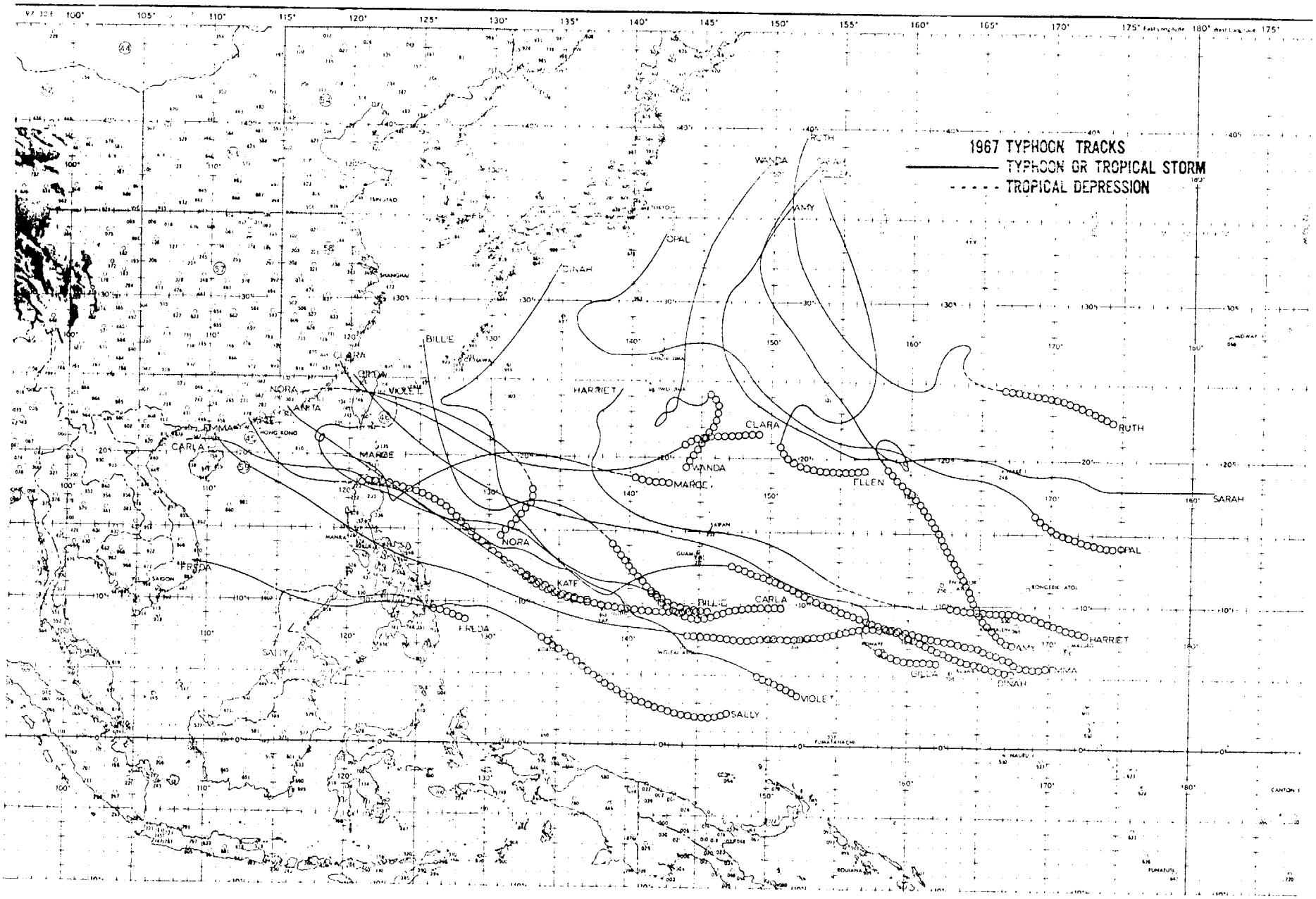
	NUMBER OF CASES	MEAN ERROR (MI)
24 Hour		
Total	465	125
Below 20N	218	111
20N-30N	216	131
Below 30N	433	121
Above 30N	31	184
48 Hour		
Total	352	276
Below 20N	138	217
20N-30N	183	301
Below 30N	321	265
Above 30N	31	386
72 Hour		
Total	140	414
Below 20N	46	294
20N-30N	79	468
Below 30N	125	404
Above 30N	15	500

TABLE IV-4

DISTANCE BETWEEN OPERATIONAL WARNING
POSITS AND BEST TRACK POSITS

CYCLONE	CASES	CYCLONE AVERAGE (MI)	MAX (MI)	MIN (MI)
1. RUBY	38	46	156	2
2. SALLY	21	33	90	4
3. THERESE	34	27	121	0
4. VIOLET	45	19	78	2
5. WILDA	21	35	111	0
6. ANITA	17	17	65	0
7. BILLIE	25	31	101	0
8. CLARA	25	23	124	2
9. T. D.	5	55	96	6
10. DOT	31	36	96	5
11. T. D.	11	35	99	7
12. ELLEN	23	30	105	2
13. GEORGIA	41	34	101	2
14. FRAN	18	34	131	4
15. HOPE	20	42	80	12
16. T. D.	4	42	73	9
17. T. D.	7	24	61	7
18. IRIS	5	36	79	6
19. LOUISE	30	32	230	3
20. JOAN	16	42	128	12
21. KATE	10	19	50	6
22. MARGE	22	21	121	0
23. T. D.	7	62	141	3
24. NORA	14	31	136	4
25. OPAL	62	16	81	1
26. PATSY	12	36	120	7
27. RUTH	31	25	66	3
28. SARAH	33	17	102	0
29. THELMA	11	43	99	7
30. VERA	12	65	250	8
31. WANDA	26	26	106	2
32. AMY	32	16	64	2
33. BABE	8	17	67	4
34. T. D.	3	40	78	4
35. CARLA	32	20	60	0
36. DINAH	42	18	56	0
37. EMMA	33	17	41	2
38. FREDA	12	18	45	6
39. GILDA	43	17	78	0
40. HARRIET	29	27	110	1
41. IVY	10	21	59	3
OVERALL AVERAGE:		27.0		

TABLE IV-5


1967 TYPHOON TRACKS
TYPHOON OR TROPICAL STORM
TROPICAL DEPRESSION
RUTH
WANDA
AMY
OPAL
DINAH
BILLIE
CLARA
GILDA
VIOLET
NORA
ANITA
EMMA
CARLA
MARGE
HARRIET
ELLEN
SARAH
KATE
FREDA
SALLY
HONG KONG
SHANGHAI
SAIGON
MANILA
GUAM
SAIPAN
TOKYO
CHICHI JIMA
IWO JIMA
MAJURO
BONGERIK ATOL
FUMATAHACHI
NAURU
CANTON
ROUJANA
FUNAFUTI

1967 TROPICAL CYCLONES

CYCLONE	TYPE	NAME	*DATE	*CALENDAR DAYS OF WARNING	*MAX SFC WND	MIN OBS SLP	MAX RADIUS SFC CIRC	TOTAL NO. WARNINGS ISSUED	NO. WARNINGS ISSUED AS TYPHOON	*DISTANCE TRAVELED
01	TS	RUBY	28 JAN-09 FEB	11	40	996	300	39	-	942
02	T	SALLY	01 ~~APR~~-06 ~~APR~~ MAR	7	85	971	180	22	9	1374
03	TS	THERESE	16 MAR-24 MAR	9	60	988	420	34	-	1614
04	T	VIOLET	01 APR-12 APR	12	120	929	450	45	32	2688
05	TS	WILDA	08 MAY-13 MAY	7	40	1002	300	21	-	642
06	T	ANITA	26 JUN-30 JUN	5	80	967	415	17	10	1164
07	T	BILLIE	02 JUL-08 JUL	7	75	979	430	25	8	1326
08	T	CLARA	06 JUL-12 JUL	7	100	960	320	25	19	1518
09	TD		20 JUL-21 JUL	2	30	993	180	5	-	114
10	TS	DOT	21 JUL-28 JUL	8	60	975	600	31	-	1842
11	TD		25 JUL-28 JUL	4	30	997	540	11	-	444
12	T	ELLEN	28 JUL-02 AUG	6	80	969	400	23	5	1380
13	TS	GEORGIA	29 JUL-08 AUG	11	60	975	540	41	-	3160
14	TS	FRAN	29 JUL-02 AUG	5	60	953	360	18	-	528
15	TS	HOPE	04 AUG-09 AUG	6	60	982	360	20	-	1242
16	TD		10 AUG-11 AUG	2	30	995	120	5	-	180
17	TD		11 AUG-13 AUG	3	30	990	120	7	-	420
18	TS	IRIS	15 AUG-16 AUG	2	50	994	180	5	-	228
19	TS	LOUISE	16 AUG-23 AUG	8	60	975	300	30	-	1632
20	TS	JOAN	18 AUG-22 AUG	5	50	985	180	16	-	654
21	T	KATE	19 AUG-21 AUG	3	70	978	300	10	3	540
22	T	MARGE	24 AUG-29 AUG	6	125	937	450	22	11	1326
23	TD		25 AUG-26 AUG	2	30	998	300	7	-	522
24	T	NORA	27 AUG-30 AUG	4	70	981	340	14	3	1026
25	T	OPAL	30 AUG-14 SEP	16	155	752	550	69	57	2544
26	TS	PATSY	04 SEP-07 SEP	4	50	995	300	12	-	786
27	T	RUTH	06 SEP-13 SEP	8	110	939	350	31	14	1674

TABLE IV-6

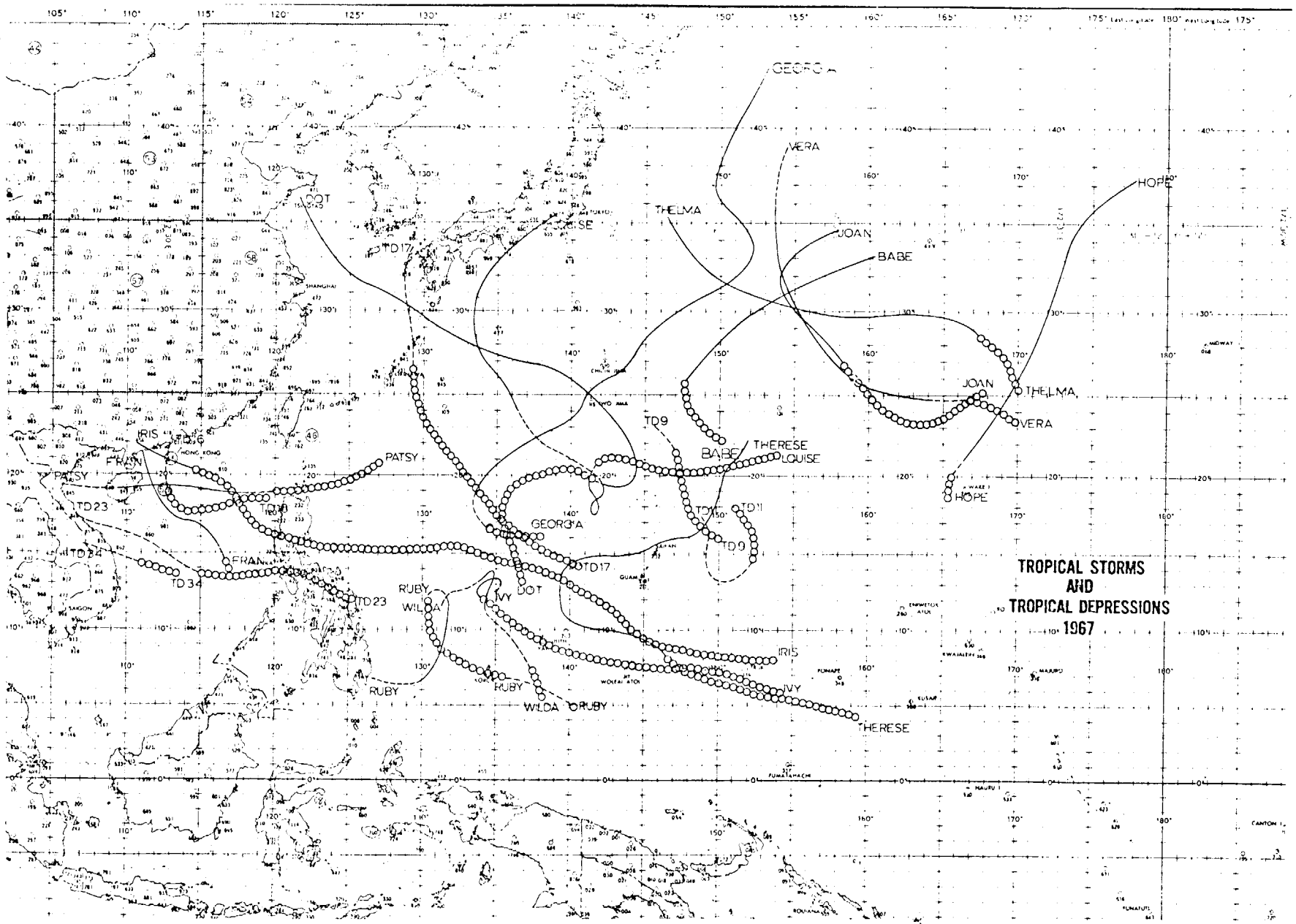
1967 TROPICAL CYCLONES (Cont'd)

CYCLONE	TYPE	NAME	*DATE	*CALENDAR DAYS OF WARNING	*MAX SFC WND	MIN OBS SLP	MAX RADIUS SFC CIRC	TOTAL NO. WARNINGS ISSUED	NO. WARNINGS ISSUED AS TYPHOON	*DISTANCE TRAVELED
28	T	**SARAH	06 SEP-22 SEP	15	125	930	500	55	33	4499
29	TS	THELMA	10 SEP-12 SEP	3	50	991	120	11	--	1212
30	TS	VERA	13 SEP-16 SEP	4	45	994	180	12	--	1290
31	T	WANDA	18 SEP-24 SEP	7	95	960	360	26	18	1356
32	T	AMY	28 SEP-06 OCT	9	80	961	500	32	7	1872
33	TS	BABE	08 OCT-10 OCT	3	60	967	300	8	--	798
34	TD		08 OCT-09 OCT	2	30	1000	360	3	--	174
35	T	CARLA	12 OCT-20 OCT	9	160	901	675	32	20	2046
36	T	DINAH	17 OCT-27 OCT	12	100	948	725	44	24	2334
37	T	EMMA	31 OCT-08 NOV	9	140	908	550	33	18	2184
38	T	FREDA	07 NOV-10 NOV	4	85	971	250	12	7	1044
39	T	GILDA	08 NOV-18 NOV	12	130	890	600	45	32	2580
40	T	HARRIET	17 NOV-24 NOV	8	110	953	275	29	15	2028
41	TS	IVY	17 DEC-19 DEC	3	60	980	330	10	--	222
			TOTALS:					957	345	

*DATA TAKEN FROM BEST TRACK

**COMBINED DATA; JTWC, GUAM AND FWC, PEARL

TABLE IV-6 (Cont'd)


TROPICAL STORMS
AND
TROPICAL DEPRESSIONS
1967
GEORGIA
VERA
HOPE
THELMA
JOAN
BABE
DOT
LOUISE
TD17
TD9
THERESE
TD11
IRIS
PATSY
FRAN
TD23
TD24
TD34
RUBY
WILDA
IVY

TROPICAL STORMS 1967
POSITION DATA

TROPICAL STORM RUBY
28 JAN-09 FEB

DTG	LAT	LONG	DTG	LAT	LONG
050000Z	12.3N	131.6E	060000Z	09.5N	131.7E
050600Z	11.6N	131.8E	060600Z	08.8N	131.5E
051200Z	10.9N	131.8E	061200Z	08.2N	131.3E
051800Z	10.2N	131.8E	061800Z	07.4N	130.9E

TROPICAL STORM THERESE
16 MAR-24 MAR

DTG	LAT	LONG	DTG	LAT	LONG
160600Z	08.8N	146.2E	201200Z	14.7N	142.7E
161200Z	09.3N	145.5E	201800Z	14.8N	143.7E
161800Z	09.7N	144.1E	210000Z	15.2N	145.3E
170000Z	09.9N	142.8E	210600Z	16.0N	146.6E
170600Z	10.0N	141.9E	211200Z	16.0N	147.8E
171200Z	10.2N	141.0E	211800Z	16.4N	148.7E
171800Z	10.4N	140.3E	220000Z	16.9N	149.3E
180000Z	10.7N	139.9E	220600Z	17.7N	149.7E
180600Z	11.0N	139.7E	221200Z	18.4N	149.9E
181200Z	11.4N	139.5E	221800Z	19.2N	150.1E
181800Z	12.0N	139.4E	230000Z	19.8N	150.2E
190000Z	12.8N	139.3E	230600Z	20.2N	150.3E
190600Z	13.4N	139.4E	231200Z	20.6N	150.6E
191200Z	13.9N	139.6E	231800Z	21.0N	151.0E
191800Z	14.5N	140.2E	240000Z	21.5N	151.5E
200000Z	14.7N	141.0E	240600Z	22.1N	151.9E
200600Z	14.8N	141.8E			

TROPICAL STORM WILDA
08 MAY-13 MAY

DTG	LAT	LONG	DTG	LAT	LONG
100000Z	11.5N	134.1E	101200Z	13.4N	134.6E
100600Z	12.6N	134.6E	101800Z	13.3N	134.1E

TROPICAL STORM DOT
21 JUL-28 JUL

DTG	LAT	LONG	DTG	LAT	LONG
210600Z	19.5N	142.2E	250000Z	29.3N	130.8E
211200Z	19.3N	143.1E	250600Z	29.7N	130.1E
211800Z	19.8N	144.2E	251200Z	30.0N	129.5E
220000Z	21.2N	144.4E	251800Z	30.3N	128.9E
220600Z	22.7N	143.6E	260000Z	30.7N	128.1E
221200Z	24.1N	142.5E	260600Z	31.1N	127.3E
221800Z	25.3N	141.0E	261200Z	31.4N	126.5E
230000Z	26.3N	139.3E	261800Z	31.8N	125.7E
230600Z	26.8N	137.6E	270000Z	32.1N	125.1E
231200Z	27.3N	136.0E	270600Z	32.5N	124.5E
231800Z	27.6N	134.8E	271200Z	32.8N	124.0E
240000Z	28.0N	133.7E	271800Z	33.5N	123.3E
240600Z	28.4N	132.7E	280000Z	34.4N	122.7E
241200Z	28.8N	131.9E	280600Z	35.8N	122.0E
241800Z	29.1N	131.3E			

TROPICAL STORM GEORGIA
29 JUL-08 AUG

DTG	LAT	LONG	DTG	LAT	LONG
291200Z	18.3N	133.5E	031200Z	30.8N	148.9E
291800Z	19.1N	133.8E	031800Z	31.3N	149.9E
300000Z	19.8N	134.2E	040000Z	31.8N	151.0E
300600Z	20.5N	134.7E	040600Z	32.7N	152.0E
301200Z	21.1N	135.3E	041200Z	33.6N	152.3E
301800Z	21.6N	136.0E	041800Z	34.3N	152.1E
310000Z	22.0N	136.7E	050000Z	34.8N	151.5E
310600Z	22.4N	137.5E	050600Z	35.2N	151.0E
311200Z	22.6N	138.0E	051200Z	35.5N	150.6E
311800Z	22.8N	138.5E	051800Z	35.7N	150.3E
010000Z	22.9N	139.0E	060000Z	35.9N	150.1E
010600Z	23.0N	139.3E	060600Z	36.3N	149.8E
011200Z	23.3N	139.8E	061200Z	37.1N	149.7E
011800Z	23.8N	140.6E	061800Z	37.9N	149.8E
020000Z	24.9N	141.8E	070000Z	38.7N	150.2E
020600Z	26.2N	143.0E	070600Z	39.6N	150.8E
021200Z	27.6N	144.3E	071200Z	40.6N	151.4E
021800Z	28.8N	145.7E	071800Z	41.8N	152.3E
030000Z	29.6N	146.8E	080000Z	33.2N	153.4E
030600Z	30.2N	147.9E			

TROPICAL STORM FRAN
29 JUL-02 AUG

DTG	LAT	LONG	DTG	LAT	LONG
291200Z	15.5N	116.3E	311800Z	18.2N	112.3E
291800Z	16.2N	115.8E	010000Z	18.5N	112.1E
300000Z	16.7N	115.2E	010600Z	18.8N	111.9E
300600Z	16.9N	114.6E	011200Z	19.3N	111.7E
301200Z	17.0N	114.1E	011800Z	19.7N	111.5E
301800Z	17.1N	113.6E	020000Z	20.2N	111.3E
310000Z	17.4N	113.3E	020600Z	20.7N	111.2E
310600Z	17.6N	112.9E	021200Z	21.4N	111.1E
311200Z	17.9N	112.6E			

TROPICAL STORM HOPE
04 AUG-09 AUG

DTG	LAT	LONG	DTG	LAT	LONG
041800Z	20.8N	166.4E	070000Z	34.0N	173.8E
050000Z	21.2N	166.8E	070600Z	34.5N	174.8E
050600Z	21.9N	167.4E	071200Z	35.6N	175.2E
051200Z	23.2N	168.3E	071800Z	36.3N	176.0E
051800Z	24.7N	169.3E	080000Z	36.7N	176.5E
060000Z	26.5N	170.3E	080600Z	36.8N	176.9E
060600Z	28.7N	171.4E	081200Z	37.0N	177.4E
061200Z	30.9N	172.2E	081800Z	37.2N	177.8E
061800Z	32.7N	173.0E			

TROPICAL STORM IRIS
15 AUG-16 AUG

DTG	LAT	LONG	DTG	LAT	LONG
150600Z	20.4N	114.3E	151800Z	21.1N	112.1E
151200Z	20.7N	113.1E	160000Z	21.4N	111.3E

TROPICAL STORM LOUISE
16 AUG-23 AUG

DTG	LAT	LONG	DTG	LAT	LONG
161200Z	20.3N	141.5E	201200Z	28.4N	133.5E
161800Z	20.0N	141.3E	201800Z	29.1N	133.4E
170000Z	19.4N	141.2E	210000Z	29.8N	133.4E
170600Z	18.7N	141.5E	210600Z	30.6N	133.5E
171200Z	17.8N	141.9E	211200Z	31.5N	133.9E
171800Z	18.3N	141.5E	211800Z	32.2N	134.3E
180000Z	18.8N	142.1E	220000Z	32.9N	135.0E
180600Z	19.7N	142.0E	220600Z	33.6N	135.7E
191200Z	24.0N	136.4E	221200Z	34.2N	136.4E
191800Z	25.7N	135.6E	221800Z	34.5N	137.0E
200000Z	26.8N	134.4E	230000Z	34.8N	137.6E
200600Z	27.7N	133.8E			

TROPICAL STORM JOAN
18 AUG-22 AUG

DTG	LAT	LONG	DTG	LAT	LONG
180600Z	27.0N	158.2E	200600Z	31.9N	154.0E
181200Z	27.9N	157.6E	201200Z	32.3N	154.1E
181800Z	28.6N	156.8E	201800Z	32.7N	154.3E
190000Z	29.3N	156.0E	210000Z	33.1N	154.7E
190600Z	29.8N	155.2E	210600Z	33.5N	155.2E
191200Z	30.4N	154.5E	211200Z	33.9N	155.9E
191800Z	30.9N	154.1E	211800Z	34.2N	156.7E
200000Z	31.5N	154.0E			

TROPICAL STORM PATSY
04 SEP-07 SEP

DTG	LAT	LONG	DTG	LAT	LONG
041200Z	18.8N	118.2E	050600Z	19.1N	113.7E
041800Z	18.9N	116.7E	051200Z	19.2N	112.0E
050000Z	19.0N	115.2E	051800Z	19.2N	110.5E

TROPICAL STORM THELMA
10 SEP-12 SEP

DTG	LAT	LONG	DTG	LAT	LONG
100000Z	28.8N	167.1E	111200Z	30.2N	154.3E
100600Z	29.3N	166.2E	111800Z	31.0N	151.6E
101200Z	29.7N	164.8E	120000Z	32.0N	149.2E
101800Z	29.9N	162.8E	120600Z	33.4N	147.3E
110000Z	29.8N	160.1E	121200Z	35.2N	146.4E
110600Z	29.8N	157.1E			

TROPICAL STORM VERA
13 SEP-16 SEP

DTG	LAT	LONG	DTG	LAT	LONG
131200Z	24.8N	164.2E	141800Z	29.8N	155.2E
131800Z	25.0N	161.9E	150000Z	31.2N	154.4E
140000Z	25.6N	159.6E	150600Z	32.6N	153.8E
140600Z	26.9N	157.6E	151200Z	34.4N	153.4E
141200Z	28.5N	156.2E			

TROPICAL STORM BABE
08 OCT-10 OCT

DTG	LAT	LONG	DTG	LAT	LONG
080600Z	25.8N	147.9E	090600Z	30.1N	152.4E
081200Z	26.8N	148.5E	091200Z	31.1N	154.7E
081800Z	27.8N	149.5E	091800Z	32.3N	157.6E
090000Z	29.0N	150.6E	100000Z	33.3N	160.4E

TROPICAL STORM IVY
17 DEC-19 DEC

DTG	LAT	LONG	DTG	LAT	LONG
170600Z	12.1N	133.9E	181200Z	13.2N	134.2E
171200Z	12.4N	133.6E	181800Z	13.5N	135.1E
171800Z	12.5N	133.6E	190000Z	13.1N	135.5E
180000Z	12.5N	133.6E	190600Z	12.8N	135.4E
180600Z	12.8N	133.7E	191200Z	12.7N	135.2E

TROPICAL DEPRESSIONS 1967
POSITION DATA

TROPICAL DEPRESSION NINE
20 JUL-21 JUL

DTG	LAT	LONG	DTG	LAT	LONG
200600Z	21.7N	147.0E	210000Z	22.8N	146.1E
201200Z	22.1N	146.8E	210600Z	23.1N	145.7E
201800Z	22.4N	146.5E			

TROPICAL DEPRESSION ONE ONE
25 JUL-27 JUL

DTG	LAT	LONG	DTG	LAT	LONG
250600Z	14.3N	152.0E	251800Z	13.8N	149.1E
251200Z	13.7N	151.5N	270000Z	14.9N	149.1E
251800Z	13.3N	150.9E	270600Z	15.9N	149.4E
260000Z	13.0N	150.2E	271200Z	16.9N	149.2E
260600Z	13.1N	150.0E	271800Z	17.4N	148.9E
261200Z	13.2N	149.7E			

TROPICAL DEPRESSION ONE SIX
10 AUG-11 AUG

DTG	LAT	LONG	DTG	LAT	LONG
101200Z	19.2N	112.8E	110000Z	21.2N	112.9E
101800Z	20.2N	112.8E	110600Z	22.2N	113.0E

TROPICAL DEPRESSION ONE SEVEN
11 AUG-13 AUG

DTG	LAT	LONG	DTG	LAT	LONG
111200Z	26.7N	129.2E	121200Z	31.5N	128.8E
111800Z	27.7N	129.3E	121800Z	32.6N	128.9E
120000Z	28.9N	129.1E	130000Z	33.6N	129.2E
120600Z	30.3N	128.8E			

TROPICAL DEPRESSION TWO THREE
25 AUG-26 AUG

DTG	LAT	LONG	DTG	LAT	LONG
250000Z	13.7N	114.8E	260000Z	16.4N	109.4E
250600Z	14.3N	113.3E	260600Z	16.8N	108.0E
251200Z	15.2N	112.0E	261200Z	17.3N	106.7E
251800Z	16.0N	110.7E			

TROPICAL DEPRESSION THREE FOUR
08 OCT-09 OCT

DTG	LAT	LONG	DTG	LAT	LONG
081200Z	14.4N	110.4E	090000Z	15.4N	107.5E
081800Z	14.9N	109.1E			