NOAA Technical Memorandum NWS NHC

ANNUAL DATA AND VERIFICATION TABULATION OF ATLANTIC CYCLONES 1974

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National Hurricane Center
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U. S. DEPARTMENT OF COMMERCE

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

NATIONAL WEATHER SERVICE

ANNUAL DATA AND VERIFICATION TABULATION

ATLANTIC TROPICAL CYCLONES

1974

JOHN R. HOPE AND STAFF, NATIONAL HURRICANE CENTER

JANUARY 1976

INTRODUCTION

This report, prepared at the National Hurricane Center (NHC), is the first of an annua series to provide a source of summarized data on Atlantic tropical cyclones. It wil not duplicate the narrative overview of the hurricane season and the description of individual storms, which will continue to be published in the Monthly Weather Review.

To a considerable extent, the information contained herein replaces that which appeared during the past years in the U.S. Navy's Annual Hurricane Summary, that series having been discontinued after the 1971 hurricane season This summary also is similar in some respects to the Annual Typhoon Report prepared by the U.S. Navy Fleet Weather Central/Joint Typhoon Warning Center in Guam.

In addition to data supplied by the National Weather Service, materials have been furnished by the NOAA National Environmenta Satellite Service (NESS), and the CARCAH (Chief, Aerial Reconnaissance Coordination, Al Hurricanes)

OBJECTIVE FORECAST TECHNIQUES.

The following tropical cyclone prediction models were used at the National Hurricane Center for forecasting motion on an operational basis:

NHC-67 (Miller, Hi , Chase, 1968). A stepwise screening regression model using predictors derived from the current and 24-hour old 1000-700-, and 500mb data, and includes persistence during the early forecast periods.

2. SANBAR (Sanders and Burpee, 1968). A filtered barotropic model using nput data derived from the 1000- to 100 mb pressure weighted winds. The model requires the use of "bogus" data in data-void areas. The

system was modified by Pike (1972) so that the initial wind near the storm would conform to the current storm motion.

3. HURRAN (Hope and Neumann, 1970). An analog system using as a data base the tracks of all Atlantic tropical storms and hurricanes dating back to 1886.

4 CLIPER (Neumann, 1972). Stepwise multiple screening regression using predictors derived from climatology and persistence.

5. NHC-72 (Neumann, Hope, Miller, 1972). A modified stepwise multiple screening regression system which combines the NHC-67 concept and the CLIPER system into a single model.

6. NHC-73 (Neumann and Lawrence, 1973). Similar in concept to NHC-72 except t also uses the "perfect prog and MOS (model output statistics) methods to introduce NMC (National Meteorological Center) numerica prognostic data into the prediction equations.

The National Hurricane Center uses the above models as guidance in the formulation of ts forecasts. The hurricane forecaster also makes extensive use of analyses and prognoses produced by NMC and RCTM (Regional Center for Tropical Meteorology) in Miami

VERIFICATION

Verification statistics for the 1974 season are shown in Table average errors for official forecasts for the 5-year period 1970-1974 are shown in Table 2. (Pelissier, 1974).

Table 1. Verification of 1974 tropical storm and hurricane forecasts. Figures in parenthesis are number of cases

METHOD	INITIAL POSITION ERROR (N.MI.)	FORECAST DISPLACEMENT ERRORS (N.MI.) 12 HR.	24 HR.	48 HR.	72 HR.
Official	18 (99)	46 (99)	90 (86)	199 (62)	346 (41)
NHC-67	19 (100)	49 (100)	104 (87)	217 (63)	330 (43)
NHC-72	19 (100)	46 (100)	89 (87)	138 (63)	372 (43)
NHC-73	17 (48)	49 (48)	102 (42)	161 (31)	226 (21)
HURRAN	20 (53)	64 (53)	142 (44)	297 (31)	357 (26)
SANBAR	17 (48)	54 (48)	100 (41)	185 (30)	339 (20)
CLIPER	19 (100)	52 (100)	104 (87)	193 (63)	298 (43)

Table 2. Five-year summary, 1970-1974, of verification of official forecasts. Figures in parenthesis are number of forecasts.

INITIAL POSITION ERROR (N.MI.	FORECAST DISPLACEMENT ERROR (N.MI.) 24 HR.	48 HR.	72 HR
21 (513)	102 (435)	243 (297)	405 (207)

The initial position error in Tables 1 and 2 is the difference between the

operational initial position and that determined during post analysis (best track position). The forecast displacement error s the vector difference between the forecast displacement and the actual displacement computed from best-track positions.

Another verification statistic computed following the 1974 season was the landfal prediction error for the official forecasts. That error is defined as the distance from the predicted landfall point, made 24 hours prior to actual andfall, to the actual landfall point. In the few cases where the storm either crossed an island or made landfal when predicted to remain offshore, the error was designated as the distance from the landfall point to the nearest point on the forecast track. These data are shown in Table 3.

Table 3. Landfal errors of named tropical storms and hurricanes

STORM	LANDFALL ERROR (N.MI.)
Alma	40
Becky	no landfal
Carmen (Belize)	18
Carmen (Louisiana)	40
Dolly	no landfall
Elaine	no landfall
Fifi	0
Gertrude	25
Average	25

The mean landfal error for al storms during the period 1970-1974 computed as described above was 47 n.mi. (23 cases), while that for only those that struck the United States (9 cases) was 44 n.mi.

A summary of 1974 North Atlantic tropical cyclone statistics is shown in Table 4. Tracks of 1974 tropical cyclones are in Figure

The best track positions for 1974 named storms are in Table 5, along with forecast positions, initial position, and forecast errors.

Table 6 lists al center fix positions and intensity evaluations used operationally at the National Hurricane Center during 1974. Fixes are in chronological order, and include those obtained by aerial reconnaissance penetrations and radar, satel te (Miami SFSS), and land-based radar

Table 7 s an aerial reconnaissance summary for the 1974 season, and Table 8 summarizes tropical cyclone reconnaissance over a 10-year period

A number of vortex profiles constructed from data obtained by aerial reconnaissance are in Figure 2. These profiles show winds, temperatures dew points, D-values, and weather in the four quadrants of the storms at specified distances from the center out to 80 n.mi. Figure 3 is a diagram of the paths flown in obtaining the vortex profiles.

Graphs of the lowest central pressure vs. time for 1974 tropical cyclones are in Figure 4.

Daily satellite photographs (SMS- or ATS-3) of 1974 named tropical cyclones are in Figure 5.

Main contributors were: Ms. Dorothy Mixon, who listed the center fixes in chronological order; Ms. Mary Watson, who did the graphics; Ms. Lilias Wilson, who typed the tables and manuscript; Dr. Joseph Pelissier, who computed the verification statistics; and Captain Michael Westman, U. S. Air Force (CARCAH), who plotted the vortex profiles

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Pelissier, J. M., 1974: Minutes of the Interdepartmental Hurricane Warning Conference, National Hurricane Center, Coral Gables, Florida.

LIST OF FIGURES AND TABLES

Table 4. Summary of North Atlantic tropical cyclone statistics, 1974.

NO.	NAME	CLASS	DATES	MAXIMUM SUSTAINED WINDS (KT)	LOWEST PRESSURE (MB)	U.S. DAMAGE ($ MILLIONS)	DEATHS
1.	Alma	T	Aug. 12-15	55	1007		Trinidad - 2
2.	Becky	H	Aug. 26-Sept. 2	100	977		
3.	Carmen	H	Aug. 29-Sept. 10	130	928	150	U. S.
4.	Dolly	T	Sept. 2-5	45	1005		
5.	Elaine	T	Sept. 4-13	60	1001		
6.	Fifi	H	Sept. 14-22	95	971		*Honduras-3,000-10,000
7.	Gertrude	H	Sept. 28-Oct. 3	65	999		

*The Red Cross has confirmed 3,000 fatalities, other estimates range up to 10,000.

Figure Tracks of 974 tropica cyclones

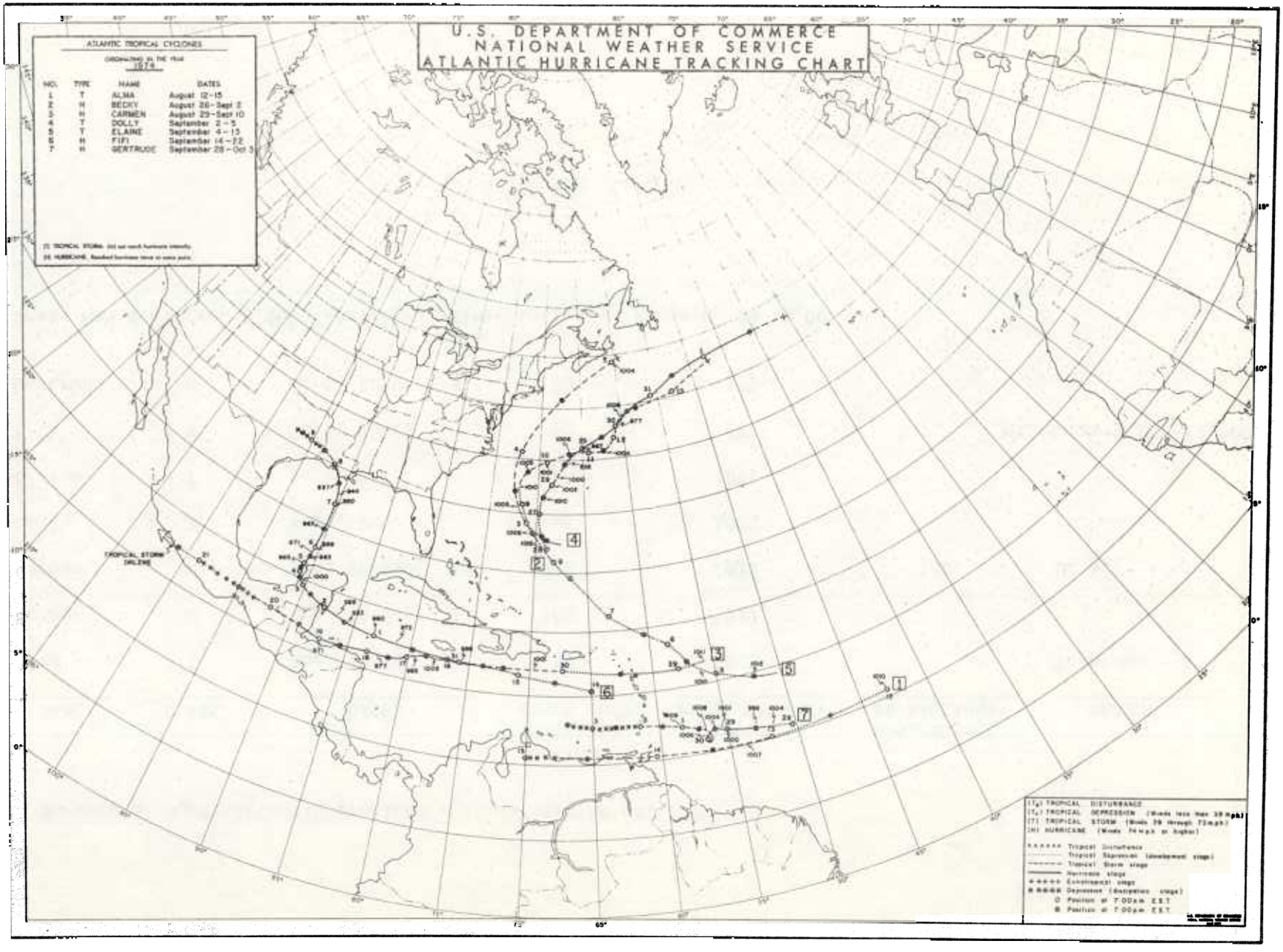


Table 5. Best track and forecast positions, initial position error, and forecast errors for 1974 tropical cyclones.

TROPICAL STORM ALMA 12-15 AUGUST 1974

DATE/TIME (GMT)	BEST TRACK LAT.	BEST TRACK LONG.	OPERATIONAL POSITION LAT.	OPERATIONAL POSITION LONG.	POSITION ERROR (N.MI.)	12 HOUR FORECAST LAT.	12 HOUR FORECAST LONG.	12 HOUR FORECAST ERROR (N.MI.)	24 HOUR FORECAST LAT.	24 HOUR FORECAST LONG.	24 HOUR FORECAST ERROR (N.MI.)	48 HOUR FORECAST LAT.	48 HOUR FORECAST LONG.	48 HOUR FORECAST ERROR (N.MI.)	72 HOUR FORECAST LAT.	72 HOUR FORECAST LONG.	72 HOUR FORECAST ERROR (N.MI.)
1312	10.1	52.0	10.1	52.0	6	10.1	57.1	36	11.0	61.0	62	14.0	68.0		16.0	73.0	
1318	10.0	54.0	10.0	54.0	0	10.3	59.0	32	11.0	63.0	42	13.0	69.0		15.0	74.0	
1400	10.1	56.5	10.5	56.0	38	10.5	60.5	30	11.5	64.0	72	13.0	70.0		14.5	75.0	
1406	10.1	58.5	10.4	58.5	18	11.0	62.2	53	12.0	65.5		14.0	72.0		15.5	78.0	
1412	10.2	60.5	10.4	60.9	27	11.2	65.3	51	12.0	68.5		14.0	74.0		16.0	79.0	

HURRICANE BECKY 26 AUGUST - 2 SEPTEMBER 1974

2812	32.7	68.5	32.6	68.6	8	34.5	67.0	16	37.0	64.0	85	42.5	57.0	334	48.0	48.0	583
2818	33.7	67.8	33.5	67.9	13	35.5	66.0	26	37.0	63.0	64	41.0	55.0	294	45.0	45.0	491
2900	34.5	67.2	34.8	66.9	23	36.0	65.0	23	38.0	62.0	48	42.0	53.0	304	47.0	43.0	501
2906	35.3	66.1	35.4	66.0	8	37.5	63.5	56	39.5	60.5	138	43.5	52.0	333	49.0	40.0	594
2912	36.0	65.0	36.0	65.3	15	38.0	62.5	67	40.0	59.0	161	44.0	50.0	357	47.0	38.0	501
2918	36.5	63.9	36.8	63.9	18	38.2	61.5	39	39.5	58.5	90	42.5	51.0	172	46.0	40.0	251
3000	37.0	62.8	37.2	62.5	19	38.2	60.0	33	39.5	57.0	88	42.0	49.0	152	45.0	39.0	121
3006	37.3	61.8	38.0	62.0	43	38.8	58.5	92	40.3	55.0	148	43.0	46.0	203	46.0	35.0	
3012	38.0	61.0	38.0	61.0	0	39.0	58.0	59	40.5	54.0	92	43.0	44.0	168	46.0	33.0	
3018	38.5	60.2	38.4	60.2	6	39.5	58.0	24	41.0	55.0	23	44.0	46.0	93	46.0	35.0	
3100	39.3	59.2	39.3	59.5	14	40.3	57.4	50	41.5	53.5	25	44.0	46.0	220	46.0	35.0	
3106	40.0	58.0	40.0	58.4	18	41.0	55.5	27	42.5	51.5	39	45.0	43.0		47.0	33.0	
3112	40.3	56.0	39.8	56.2	31	40.5	53.0	42	41.5	49.0	61	43.0	41.0		44.0	32.0	
3118	41.0	54.5	40.8	54.8	18	41.5	52.0	63	42.0	49.0	192	43.5	41.0		44.0	31.0	
0100	41.7	52.7	41.6	53.0	15	42.3	48.5	25	43.0	44.0	127	44.0	34.0		45.5	23.0	
0106	42.1	50.4	42.2	49.3	49	43.0	46.0	114	43.5	41.5		44.5	31.0		44.5	20.0	
0112	42.7	47.8	42.5	47.5	18	43.0	41.5	44	43.2	36.0		43.5	25.0		43.5	14.0	

able 5. (continued)

HURRICANE CARMEN 29 AUGUST - 10 SEPTEMBER 1974

DATE/TIME (GMT)	BEST TRACK LAT.	BEST TRACK LONG.	OPERATIONAL POSITION LAT.	OPERATIONAL POSITION LONG.	POSITION ERROR (N.MI.)	12 HOUR FORECAST LAT.	12 HOUR FORECAST LONG.	12 HOUR FORECAST ERROR (N.MI.)	24 HOUR FORECAST LAT.	24 HOUR FORECAST LONG.	24 HOUR FORECAST ERROR (N.MI.)	48 HOUR FORECAST LAT.	48 HOUR FORECAST LONG.	48 HOUR FORECAST ERROR (N.MI.)	72 HOUR FORECAST LAT.	72 HOUR FORECAST LONG.	72 HOUR FORECAST ERROR (N.MI.)
3100	17.0	72.2	17.0	72.5	17	17.1	77.2	52	18.0	81.0	66	20.0	87.0	128	23.0	91.0	247
3106	17.0	74.2	17.0	74.7	29	17.3	79.0	35	18.3	82.5	56	20.0	87.0	98	23.0	91.0	227
3112	17.0	76.0	17.0	75.7	17	17.2	79.5	6	17.5	83.0	13	19.0	89.0	83	21.0	93.0	194
3118	17.2	77.9	17.1	77.8	8	17.2	81.6	17	17.5	85.5	53	18.5	90.0	75	20.0	94.0	209
0100	17.3	79.8	17.4	79.6	13	18.0	83.5	31	18.7	87.0	82	20.0	91.0	118	22.0	94.0	227
0106	17.5	81.5	17.4	81.8	18	17.6	85.5	29	18.3	88.2	63	20.0	92.3	139	22.0	95.0	249
0112	17.7	83.2	18.0	83.0	21	18.0	86.5	49	18.5	89.0	78	21.0	92.5	155	23.5	94.0	249
0118	17.8	84.7	17.9	84.9	13	17.8	87.8	62	18.5	90.0	62	20.0	93.0	135	21.0	97.0	326
0200	18.0	85.9	17.8	85.9	12	17.9	88.2	35	18.5	90.5	72	20.0	93.5	158	21.0	97.0	344
0206	18.4	86.8	18.3	86.3	29	18.9	88.5	17	19.5	90.3	65	21.5	93.0	176	24.0	96.0	361
0212	18.6	87.9	18.6	88.0	6	19.3	89.7	21	20.0	91.0	46	21.0	92.5	89	21.0	92.5	90
0218	18.8	88.8	18.8	88.9	6	19.5	90.6	47	20.0	92.0	85	20.0	92.0	59	20.0	92.0	112
0300	19.1	89.3	19.1	89.7	23	19.3	91.1	34	19.5	92.2	69	19.5	94.0	168	19.5	96.0	320
0306	19.3	89.7	19.1	90.4	41	19.8	91.5	23	20.0	92.5	57	20.5	94.5	163	21.0	96.5	304
0312	19.6	90.2	19.9	89.9	25	20.1	91.0	36	20.2	92.3	93	20.5	95.0	259	20.5	98.0	469
0318	19.9	90.4	20.0	90.4	6	20.0	92.0	69	20.0	93.3	134	20.0	96.0	312			
0400	20.0	90.7	20.2	90.8	13	19.7	91.8	62	19.2	92.7	140						
0406	20.1	90.8	20.5	91.3	37	20.0	91.5	54	20.0	92.5	100	20.5	94.5	239	21.0	96.5	438
0412	20.3	91.0	20.0	91.3	25	20.2	91.5	21	20.2	91.5	48	20.5	92.0	145	21.0	93.0	355
0418	20.5	91.0	20.1	91.5	37	20.5	91.0	23	20.5	91.0	38	23.0	91.0	19	26.0	90.0	97
0500	20.7	90.9	20.6	91.0	8	20.5	91.0	36	21.0	91.0	53	23.0	91.0	96	27.0	90.0	107
0506	20.9	20.9	20.9	90.9	0	21.5	91.0	17	22.0	91.0	37	23.5	91.0	137	28.0	89.0	147
0512	21.2	90.8	21.2	90.8	0	22.5	90.5	36	23.5	90.2	38	27.5	89.0	81	31.0	85.0	372
0518	21.5	90.7	21.8	90.7	18	22.6	90.5	6	24.0	90.3	6	28.0	89.0	74	32.0	86.0	346
0600	21.9	90.5	22.0	90.6	8	23.0	90.4	6	24.5	90.0	25	28.5	88.5	128	33.0	85.0	
0606	22.4	90.5	22.4	90.5	0	23.6	90.5	8	25.0	90.0	45	29.0	88.0	175	33.0	84.0	
0612	22.9	90.4	22.8	90.5	8	24.3	90.3	13	26.0	89.8	53	30.0	87.0	270	33.5	83.0	
0618	23.7	90.4	23.7	90.4	0	25.3	90.1	26	27.2	89.6	56	30.5	87.0	290	34.0	82.5	
0700	24.6	90.3	24.7	90.3	6	26.0	90.0	56	27.4	89.2	119	30.3	87.3		34.6	83.2	
0706	25.7	90.3	25.7	90.3	0	27.6	90.3	13	30.0	90.3	63	34.0	87.0				
0712	26.8	90.3	26.8	90.4	5	29.1	90.4	36	32.0	89.5	184	34.0	86.0		36.0	78.0	
0718	27.8	90.4	27.7	90.6	12	29.6	90.6	50	31.7	90.3	150	36.0	87.0				
0800	28.7	90.8	28.5	90.9	13	29.5	91.0	65	31.0	91.0		33.5	89.0		38.0	81.0	
0806	29.4	91.3	29.1	91.2	19	30.5	92.5	18	31.0	93.5		33.5	92.5		35.5	91.0	

Table 5. (continued)

DATE/TIME (GMT)	BEST TRACK LAT.	BEST TRACK LONG.	OPERATIONAL POSITION LAT.	OPERATIONAL POSITION LONG.	POSITION ERROR (N.MI.)	12 HOUR FORECAST LAT.	12 HOUR FORECAST LONG.	12 HOUR FORECAST ERROR (N.MI.)	24 HOUR FORECAST LAT.	24 HOUR FORECAST LONG.	24 HOUR FORECAST ERROR (N.MI.)	48 HOUR FORECAST LAT.	48 HOUR FORECAST LONG.	48 HOUR FORECAST ERROR (N.MI.)	72 HOUR FORECAST LAT.	72 HOUR FORECAST LONG.	72 HOUR FORECAST ERROR (N.MI.)
TROPICAL STORM DOLLY 2-5 SEPTEMBER 1974																	
0412	35.5	72.1	35.5	72.3	10	41.5	70.5	133	45.0	62.0							
0418	37.8	70.6	37.8	71.0		43.0	66.0		46.0	59.0							
TROPICAL STORM ELAINE 4-13 SEPTEMBER 1974																	
0918	32.3	72.1	32.1	72.3	16	36.5	71.5	152	38.5	67.0	226	40.0	57.0	425	41.0	45.0	721
1000	33.8	71.3	33.8	71.4	5	37.0	69.0	133	39.0	65.0	233	40.0	52.0	573	41.0	40.0	845
1006	34.4	70.0	35.4	70.5	65	36.5	66.0	133	37.0	62.0	186	37.0	53.0	450	37.0	43.0	665
1012	34.8	69.3	34.5	70.0	39	35.2	67.5	8	36.0	64.0	76	37.0	60.0	93	38.0	53.0	137
1018	35.1	68.2	34.8	68.5	23	35.4	65.8	21	35.5	63.5	23	35.5	58.0	209	37.0	51.0	247
1100	35.4	66.7	35.6	66.8	13	36.0	64.0	34	36.2	61.0	89	36.5	54.0	287	36.5	47.0	
1106	35.4	65.3	35.5	64.5	40	35.5	62.0	41	35.5	59.5	95	35.5	53.5	275	35.5	46.0	
1112	35.5	64.5	35.5	64.0	24	35.5	61.0	60	35.5	58.0	159	35.5	54.0	307	35.5	48.0	
1118	35.6	63.6	35.5	63.5	8	35.5	61.0	57	35.5	59.0	192	35.5	54.0	391	35.5	49.0	
1200	35.7	62.7	35.6	62.0	35	35.7	60.0	76	35.7	57.5	228	36.0	53.0		36.0	48.0	
1206	36.3	61.9	35.5	61.0	65	35.7	58.5	136	36.0	56.0	186	36.0	51.0		41.0	43.0	
1212	37.0	61.2	37.4	61.2	24	38.0	59.5	132	38.5	57.5	249	43.0	47.0		44.0	40.0	
1218	38.7	60.1	38.8	60.0	8	40.5	57.5	86	42.0	54.0	173	44.0	41.0		45.0	29.0	
1300	39.6	58.3	39.6	58.5	9	41.0	56.0	126	42.0	52.0		43.0	38.0		44.0	26.0	
1306	39.8	55.9	40.0	56.5	30	41.0	53.0	101	42.0	49.0		44.0	31.0		46.0	31.0	
HURRICANE FIFI 14-22 SEPTEMBER 1974																	
1618	17.0	77.8	17.8	77.8	48	18.0	80.0	34	19.0	82.0	122	21.0	85.0	850	23.5	86.5	396
1700	17.0	78.7	17.4	78.8	25	17.7	80.6	45	18.4	82.5	110	20.0	86.0	204	23.0	88.0	362
1706	16.9	79.5	16.9	79.5	0	17.0	81.0	36	17.3	83.0	69	18.5	85.5	157	21.0	87.0	321
1712	16.6	80.2	16.9	80.3	19	16.8	82.0	17	16.8	84.0	26	16.8	87.5	25	16.5	90.5	101
1718	16.4	81.0	16.8	81.2	27	16.8	82.6	6	16.8	84.2	41	16.7	87.5	52	16.5	91.0	
1800	16.3	81.7	16.1	81.7	12	15.8	83.1	29	15.8	85.0	42	15.8	88.0	81	15.8	91.0	
1806	16.3	82.4	16.4	82.4	6	16.2	83.8	53	16.2	85.0	92	16.1	88.0	152	16.0	91.5	
1812	16.3	83.5	16.3	83.1	23	16.3	86.0	41	16.3	88.0	53	17.0	92.0	24			
1818	16.3	84.7	16.4	84.8	8	16.3	87.0	18	16.3	89.0	41	16.0	92.5				
1900	16.2	85.7	16.4	85.7	12	16.3	88.0	29	16.3	90.0	58	17.0	93.0				
1906	16.1	86.6	16.2	86.7	8	16.0	88.7	33	15.8	91.0	70						
1912	16.1	87.5	16.1	87.5	0	16.1	89.0	38	16.0	90.5	102						
1918	16.3	88.2	16.3	88.2	0	16.5	89.6	55	16.5	91.0							
2000	16.7	89.2	16.7	89.2	0	17.2	91.3	44									

Table 5. (continued)

HURRICANE GERTRUDE 28 SEPTEMBER-3 OCTOBER 1974

DATE/TIME (GMT)	BEST TRACK LAT.	BEST TRACK LONG.	OPERATIONAL POSITION LAT.	OPERATIONAL POSITION LONG.	POSITION ERROR (N.MI.)	12 HOUR FORECAST LAT.	12 HOUR FORECAST LONG.	12 HOUR FORECAST ERROR (N.MI.)	24 HOUR FORECAST LAT.	24 HOUR FORECAST LONG	24 HOUR FORECAST ERROR (N.MI.)	48 HOUR FORECAST LAT.	48 HOUR FORECAST LONG	48 HOUR FORECAST ERROR (N.MI.)	48 HOUR FORECAST LAT.	48 HOUR FORECAST LONG.	48 HOUR FORECAST ERROR (N.MI.)
2818	10.8	51.8	10.7	52.5	42	11.0	54.7	6	11.4	57.6	88	12.5	63.5	376	13.5	68.5	527
2900	11.0	53.0	11.0	53.4	24	11.2	56.0	37	11.5	59.0	153	12.5	64.0	383	13.5	69.5	548
2906	11.2	54.0	11.4	54.4	26	12.0	56.6	50	12.5	59.0	142	14.0	64.0	361	15.0	69.0	492
2912	11.4	55.0	11.5	55.5	30	11.5	57.0	35	11.7	59.0	117	12.5	63.5	276	13.0	68.0	
2918	11.5	55.4	11.4	55.5	8	11.6	56.5	24	11.8	58.0	86	13.0	62.0	184	16.0	66.0	
3000	11.7	56.0	11.5	55.8	17	11.9	57.5	92	12.0	59.0	125	13.0	63.0	205	15.0	67.0	
3006	11.3	56.4	12.0	55.0	92	11.8	56.6	91	12.0	57.0	59	13.0	59.0	13	15.0	62.0	
3012	11.0	56.6	11.3	56.6	18	11.8	56.9	27	12.0	57.5	53	12.5	59.0		13.5	62.0	
3018	11.5	56.5	11.3	56.6	13	11.5	56.5	79	11.7	58.0	61	12.5	60.0		13.0	62.0	
0100	11.9	57.1	11.8	57.0	8	12.2	57.7	32	12.5	59.0	43	13.0	62.0		14.0	65.0	
0106	12.0	57.7	12.0	57.8	6	12.2	58.7	18	12.6	60.0	36	13.5	62.5		15.0	66.0	
0112	12.1	58.3	12.0	58.2	8	12.5	59.5	17	13.0	61.0		14.0	64.0		16.0	67.0	
0118	12.2	58.9	12.2	58.7	12	12.6	60.0	19	13.5	62.0		14.5	65.0		17.0	68.0	

Table 6. Center fix positions and intensity evaluations for 1974 tropical cyclones.

TROPICAL STORM ALMA, 12-15 AUGUST 1974

CENTER FIXES

FIX NO.	DATE	TIME GMT	POSITION LAT. °N	POSITION LON. °W	UNIT	CHARACTER.	MAX WIND(KT) FLT LVL	MAX WIND(KT) SFC	ACFT ALT	MIN. PRESS. (MB)	MLN. 700MB HT(M)	TEMP(°C) IN.	TEMP(°C) OUT.	EYE C=CIRC E=ELLIP.	EYE DIA. N.MI.	REMARKS
1	13	1200	9.8	51.4	SMSI	2,5,VSBL 4		30								
2	13	1606	10.2	53.8	NAVY RADAR											
3	13	1711	10.0	54.0	NAVY	5 / -	55	55	180M	1007		25	22	C	32	
4	13	1800	10.0	54.4	SMSI	2,5,VSBL 4		35								
5	14	0003	10.2	56.5	NAVY			45	305M							OPEN N
6	14	0026	10.2	56.6	NAVY	15 / 2		45	700MB			10	9			NEG. EYE WALL - TIGHT CENTER
7	14	0030	10.2	56.2	SMSI	1,4,IR 8		35								
8	14	0700	10.5	58.8	SMSI	2,3,IR 8		35								
9	14	0800	10.3	59.3	BARBADOS RADAR											
10	14	1100	10.4	61.0	BARBADOS RADAR											
11	14	1228	9.8	60.7	AF											
12	14	1230	10.3	61.3	SMSI	1,3,VSBL 4		40								
13	14	1330	10.3	61.1	TOBAGO RADAR											
14	14	1630	10.5	62.6	AF	10 / 10	70	55	700MB			8	7			
15	14	1830	10.3	63.7	SMSI	1,3,VSBL 4		35								
16	15	0700	10.4	68.1	SMSI	1,5,IR 8		35								

Key to Fix Characteristic

SATELLITE:
Classification confidence*, location and confidence**, visible or infrared, resolution (Km)

*1 = completely certain as to current intensity number used.
2 = temped to vary up or down by ½ T or S number.
3 = might vary up or down by 1 T or S number, or more.

**1 = well defined eye with certain picture registration.
2 = well defined eye with uncertain picture registration.
3 = well defined circulation center with certain picture registration.
4 = well defined circulation center with uncertain picture registration.
5 = poorly defined circulation center with certain picture registration.
6 = poorly defined circulation center with uncertain picture registration.

RECONNAISSANCE:
Navigational Accuracy/Meteorological Accuracy.

Table 6. (continued)

HURRICANE BECKY, 26 AUGUST - 2 SEPTEMBER 1974

CENTER FIXES

FIX	DATE	TIME GMT	POSITION LAT. °N	POSITION LON. °W	UNIT	CHARACTER.	MAX WIND(KT) FLT LVL	MAX WIND(KT) SFC	ACFT ALT	MIN. PRESS. (MB)	MIN. 700MB HT(M)	TEMP(°C) IN.	TEMP(°C) OUT.	EYE C=CIRC E=ELLIP.	EYE DIA. N.MI.	REMARKS
1	26	1600	27.6	69.4	SMS1	2,5,VSBL 4		25								
2	27	0030	28.0	68.2	SMS1	2,3, IR 8		25								
3	27	0600	28.7	69.3	SMS1	2,5, IR 8		25								
4	27	1200	28.8	69.8	SMS1	2,5,VSBL 4		25								
5	27	1800	29.8	70.1	SMS1	2,5,VSBL 4		30								
6	27	2230	30.3	69.6	AF			40	351M	1011						
7	28	0017	30.7	69.5	AF			40	375M	1010				C	15	EYE IRREGULAR AND VERY POOR
8	28	0030	31.3	69.3	SMS1	2,3, IR 8		40						C	15	
9	28	0600	31.9	69.1	SMS1	2,3, IR 8		40		1003						
10	28	1015	32.3	68.8	AF		60		354M							
11	28	1200	32.0	68.7	SMS1	1,3,VSBL 4										
12	28	1210	32.5	68.6	AF	RADAR		40	475M					C		EYE CLOSED, HEAVY LIGHTNING
13	28	1305	32.7	68.5	AF				3048M							
14	28	1445	32.9	68.3	AF	2 / 5		70	3060M	1000		12	8			
15	28	1500	33.2	68.1	SMS1	1,3,VSBL 8		50								
16	28	1800	33.7	67.6	SMS1	1,3,VSBL 4		50								
17	28	2045	34.0	67.4	NAVY RADAR				180M							
18	28	2145	34.3	67.5	NAVY	5 / 2		90	180M	992				C	15	
19	28	2341	34.2	67.1	NAVY	2 / 10		100	700MB		3017			E	15/12	CLOSED WALL
20	29	0030	34.3	67.4	SMS1	2,4, IR 8		60								
21	29	0600	35.2	65.7	SMS1	2,3, IR 8		72								
22	29	1129	36.0	65.2	AF	5 / 2	52	85	700MB	987		13	9		15	
23	29	1230	35.9	65.0	SMS1	1,1,VSBL 4		60								
24	29	1234	36.0	65.0	AF					987						
25	29	1408	36.2	64.6	AF	5 / 2	40	55	700MB	979		12	10		15	
26	29	1523	36.3	64.5	AF			85	700MB		2890					
27	29	1800	36.2	63.8	SMS1	2,1,VSBL 4		72								
28	30	0000	36.8	62.5	SMS1	2,2, IR 8		85								
29	30	0600	37.1	61.4	SMS1	1,4, IR 8		72								
30	30	1230	37.7	60.9	SMS1	1,1,VSBL 4		85								
31	30	1643	38.3	60.6	NAVY	3 / 1		100	700MB					C	15	
32	30	1729	38.7	60.7	NAVY	5 / 5		120		977			23	C	15	
33	30	1830	38.3	60.2	SMS1	2,1,VSBL 4		85								
34	31	0100	39.4	59.4	SMS1	2,3, IR 8		85								
35	31	0630	39.4	57.8	SMS1	2,3, IR 8		85								
36	31	1200	39.5	56.3	SMS1	1,2,VSBL 4		110								
37	31	1800	40.8	54.8	SMS1	1,1,VSBL 4		97								
38	01	0100	42.1	52.5	SMS1	2,4, IR 8		85								
39	01	0630	41.9	50.1	SMS1	2,6, IR 8		85								

Table 6. (continued)

FIX NO.	DATE	TIME GMT	POSITION LAT. °N	POSITION LON. °W	UNIT	CHARACTER.	MAX WIND(KT) FLT LVL	MAX WIND(KT) SFC	ACFT ALT	MIN. PRESS. (MB)	MIN. 700MB HT(M)	TEMP(°C) IN.	TEMP(°C) OUT.	EYE C=CIRC E=ELLIP.	EYE DIA. N.MI.	REMARKS
40	01	1200	42.1	47.3	SMS1	2,5,VSBL 4	85									
41	01	1800	43.1	44.2	SMS1	2,5,VSBL 4	72									
42	02	0030	43.1	40.6	SMS1	2,6 IR 8	60									
43	02	0600	42.7	35.7	SMS1	2,6 IR 8	40									
44	02	1200	43.0	36.0	SMS1	1,3,VSBL 4	35									
45	02	1800	43.1	33.6	SMS1	1,3,VSBL 4	35									

Table 6. (continued)

HURRICANE CARMEN, 29 AUGUST - 10 SEPTEMBER 1974

CENTER FIXES

FIX NO.	DATE	TIME GMT	POSITION LAT. °N	POSITION LON. °W	UNIT	CHARACTER.	MAX WIND (KT) FLT LVL	MAX WIND (KT) SFC	ACFT ALT	MIN. PRESS. (MB)	MIN. 700MB HT(M)	TEMP (°C) IN.	TEMP (°C) OUT.	EYE C=CIRC E=ELLIP.	DIA. N.MI.	REMARKS
1	25	1830	13.1	27.8	SMS1	1,6,VSBL 2		25								
2	26	0100	13.1	28.5	SMS1	1,6, IR 8		25								
3	26	0700	13.4	29.9	SMS1	1,6, IR 8		25								
4	26	1200	14.0	31.0	SMS1	1,3,VSBL 4		25								
5	26	1830	15.2	34.0	SMS1	2,5,VSBL 4		25								
6	27	0030	14.8	35.2	SMS1	1,5, IR 8		25								
7	27	0600	15.1	37.0	SMS1	2,5, IR 8		25								
8	27	1200	16.6	40.1	SMS1	2,3,VSBL 4		25								
9	27	1800	16.6	42.9	SMS1	2,3,VSBL 4		25								
10	28	0030	16.8	45.4	SMS1	2,5, IR 8		25								
11	28	0600	17.1	47.3	SMS1	2,5, IR 8		25								
12	28	1200	17.0	49.8	SMS1	2,5,VSBL 4		25								
13	28	1800	17.2	53.0	SMS1	2,5,VSBL 4		25								
14	29	0030	17.1	54.8	SMS1	2,6, IR 8		30								
15	29	0600	17.0	56.1	SMS1	2,5, IR 8		30								
16	29	1100	16.7	58.1	SMS1	1,5,VSBL 4		30								
17	29	1452	15.9	58.2	NAVY	5 / 10										
18	29	1800	17.0	60.3	SMS1	2,5,VSBL 4		30								
19	30	0100	16.7	64.0	SMS1	2,4, IR 8		35								
20	30	0600	17.0	65.9	SMS1	1,3, IR 8		40								
21	30	1200	17.4	67.9	SMS1	2,3,VSBL 4		40								
22	30	1255	17.1	68.2	DMSP											
23	30	1644	17.2	69.3	DMSP											
24	30	2116	16.6	72.1	NAVY	10 / 10	35	45	180M	1001		26	23	C	27	
25	31	0100	16.9	72.8	SMS1	2,3, IR 8		40								
26	31	0127	16.4	73.0	DMSP											
27	31	0516	17.1	73.5	DMSP											
28	31	0630	16.8	74.5	SMS1	2,5, IR 8		40								
29	31	1145	17.0	75.6	AF				700MB		3008			C	15	
30	31	1230	17.2	76.2	SMS1	2,3,VSBL 4		50								
31	31	1350	17.0	76.4	AF	5 / 3	75	65	700MB	988	2975	14	10	C	20	
32	31	1418	17.0	76.5	DMSP											
33	31	1530	17.1	77.0	AF		70		700MB	990	2999					
34	31	1626	16.9	77.3	DMSP											
35	31	1830	17.3	78.0	SMS1	1,1,VSBL 4		72								
36	31	2241	17.5	79.2	NAVY RADAR											
37	31	2339	17.5	79.6	NAVY	2 / 4	58	50	700MB	986	2961	17	13	C	18	
38	01	0100	17.6	80.1	SMS1	2,3, IR 8		72								

Table 6. (continued)

CARMEN CONTINUED

FIX NO.	DATE	TIME GMT	POSITION LAT. °N	POSITION LON. °W	UNIT	CHARACTER.	MAX WIND (KT) FLT LVL	MAX WIND (KT) SFC	ACFT ALT	MIN. PRESS. (MB)	MIN. 700MB HT(M)	TEMP (°C) IN.	TEMP (°C) OUT.	EYE C=CIRC E=ELLIP.	EYE DIA. N.MI.	REMARKS
39	01	0125	17.3	79.9	NAVY	5 / 5	70		700MB	987	2969	16	9	E	14/12	
40	01	0255	17.0	80.4	DMSP											
41	01	0540	17.7	81.7	AF				700MB	976	2896					WELL DEFINED EYE WALL
42	01	0625	17.3	81.5	AF	2 / 5	98		700MB	972	2853	14	7	C	10	
43	01	0630	17.0	81.5	SMS1	2,2, IR 4		72								
44	01	0808	17.5	82.0	AF				700MB	965	2786					
45	01	0922	17.5	82.4	AF	5 / 1	95		700MB	953	2701			C	7	
46	01	1114	17.9	82.8	AF		85	80	700MB	960	2746					
47	01	1219	18.0	83.0	AF				700MB		2746					
48	01	1230	17.8	83.4	SMS1	1,1,VSBL 4		85								
49	01	1347	17.8	84.0	ATS-3	VSBL 8		97								
50	01	1401	17.6	83.8	DMSP											
51	01	1749	18.0	84.7	DMSP											
52	01	1830	17.8	85.0	ATS-3	1,1,VSBL 8		110								
53	01	1950	17.8	85.1	NAVY	2 / 4	105	115	700MB			14	10	C	8	DOUBLE EYE
54	01	2043	17.8	85.2	NAVY	2 / 3	115	120	700MB	938	2545	15	10	C	7	DOUBLE EYE
55	01	2349	17.9	85.8	NAVY	10 / 2	121	110	700MB	933	2515	14	10	C	5	DOUBLE EYE
56	02	0030	17.8	86.4	SMS1	2,2, IR 8		110								
57	02	0237	17.7	86.1	DMSP											
58	02	0557	17.9	86.8	AF				700MB	929	2469					
59	02	0630	17.6	87.2	SMS1	2,2, IR 8		110								
60	02	0756	18.2	87.1	AF RADAR											
61	02	0930	18.5	87.6	AF RADAR											
62	02	1100	18.7	87.9	AF RADAR											
63	02	1230	18.7	88.6	SMS1	1,1,VSBL 4		110								
64	02	1345	18.7	88.7	DMSP											
65	02	1805	18.7	89.1	ATS-3	2,3,VSBL 8		110								
66	02	1808	18.8	88.8	NAVY RADAR											
67	02	1857	18.7	89.0	NAVY RADAR											
68	02	1930	19.0	89.2	DMSP											
69	02	2055	18.7	89.0	NAVY RADAR											
70	02	2304	19.2	89.2	NAVY											
71	03	0030	19.1	90.0	SMS1	2,5, IR 8		97								
72	03	0213	19.0	89.6	DMSP											
73	03	0601	19.8	90.2	DMSP											
74	03	0630	19.7	89.9	SMS1	2,4, IR 8		85								
75	03	1123	19.8	89.9	AF				3200M							
76	03	1230	20.0	89.9	SMS1	1,3,VSBL 4		72								
77	03	1331	19.9	90.3	AF				700MB							
78	03	1439	19.9	90.3	AF	3 / 3			3158M							POORLY DEFINED EYE

Table 6. (continued)

CARMEN CONTINUED

FIX NO.	DATE	TIME GMT	POSITION LAT. °N	POSITION LON. °W	UNIT	CHARACTER.	MAX WIND (KT) FLT LVL	MAX WIND (KT) SFC	ACFT ALT	MIN. PRESS. (MB)	MIN. 700MB HT(M)	TEMP (°C) IN.	TEMP (°C) OUT.	EYE C=CIRC E=ELLIP.	EYE DIA. N.MI.	REMARKS
79	03	1712	20.3	90.5	DMSP											
80	03	1757	19.9	90.5	ATS-3	1,3 VSBL 8		72								
81	03	1900	20.2	90.8	NAVY		40		174M	1000						
82	03	2205	20.3	90.8	NAVY		58	50	170M	1000	3078	26	26			
83	03	2347	20.2	90.8	NAVY	7 / 2	58	50	152M	999						
84	04	0030	20.1	91.1	SMS1	2,4, IR 8		60								
85	04	0553	19.9	91.9	DMSP											
86	04	0630	20.8	91.0	SMS1	2,3, IR 8		60								
87	04	0815	20.0	91.2	AF	1 / 5	45		418M	999		25	22			
88	04	1100	20.1	91.2	AF		45		3161M	993	3002	11	10			
89	04	1230	20.4	92.0	SMS1	1,3,VSBL 4		60								
90	04	1414	21.7	90.6	ATS-3	1,3,VSBL 8		72								
91	04	1447	20.4	91.1	DMSP											
92	04	1804	21.1	90.8	NAVY				305M							RADAR PRESENTATION POOR
93	04	1826	21.0	91.7	ATS-3	2,3,VSBL 8		60								
94	04	1902	20.5	91.2	NAVY	1 / 10		48	305M	995				C	20	NEG WALL CLOUD
95	04	2053	20.5	91.0	NAVY	4 / 8		45		995				C	16	NEG WALL CLOUD
96	04	2303	20.6	91.0	NAVY	3 / 5				996				C	15	
97	05	0030	21.1	91.5	SMS1	2,3, IR 8		60								
98	05	0327	20.6	91.0	DMSP											
99	05	0620	20.9	90.9	AF		40		700MB		3002					
100	05	0630	21.2	91.0	SMS1	2,3, IR 8		60								
101	05	0706	20.9	90.9	AF		35		700MB		3002					
102	05	0755	20.9	90.9	AF	10 / 2	45		700MB	988	2984			E	15/10	
103	05	0926	21.0	90.9	AF		42		700MB		2969					
104	05	1110	21.2	90.8	AF		32		3058M	985	2957			C	15	
105	05	1230	21.2	91.1	SMS1	2,4,VSBL 4		60								
106	05	1430	21.5	90.8	DSMP											
107	05	1816	21.3	91.0	DMSP											
108	05	1849	21.2	91.1	ATS-3	1,1,VSBL 8		72								
109	05	1852	21.5	90.8	NAVY	3 / 2	60		700MB	988	2981	14	11			
110	05	2041	21.5	90.7	NAVY	3 / 1		105	153M	983		25	24	C	14	WELL DEFINED
111	05	2327	21.9	90.6	NAVY	3 / 1	55		700MB	984	2957	16	11	C	8	
112	06	0030	22.0	90.5	SMS1	2,4, IR 8		72								
113	06	0031	22.0	90.6	NAVY	3 / 1	50		700MB	983	2950	16	12	C	12	
114	06	0305	22.6	90.6	DMSP											
115	06	0630	22.6	90.7	SMS1	2,4, IR 8		72								
116	06	0700	22.4	90.5	AF				700MB	971	2838					
117	06	0813	22.6	90.5	AF	10 / 3	65		700MB	970	2835			C	10	

Table 6. (continued)

CARMEN CONTINUED

FIX NO.	DATE	TIME GMT	POSITION LAT. °N	POSITION LON. °W	UNIT	CHARACTER.	MAX WIND(KT) FLT LVL	MAX WIND(KT) SFC	ACFT ALT	MIN. PRESS. (MB)	MIN. 700MB HT(M)	TEMP(°C) IN.	TEMP(°C) OUT.	EYE C=CIRC E=ELLIP.	DIA. N.MI.	REMARKS
118	06	0938	22.7	90.5	AF				700MB	970	2829					
119	06	1230	23.2	91.1	SMS1	1,4,VSBL 4		85								
120	06	1245	23.0	90.5	AF		85	130	700MB	969	2826					
121	06	1451	23.1	90.5	NAVY RADAR											
122	06	1501	23.3	90.4	NAVY RADAR											
123	06	1605	23.4	90.5	NAVY	5 / 2	75	85	700MB	972	2926	23	15			
124	06	1730	23.7	90.4	NAVY	5 / 2	98	105		973		27	25			EYE OPEN S-W-N
125	06	1753	23.7	90.6	DMSP											
126	06	1820	23.7	90.6	ATS-3	1,5,VSBL 8		97								
127	06	2010	24.1	90.3	NAVY	5 / 2	80	100	700MB		2868					
128	06	2103	24.3	90.3	NAVY RADAR											
129	07	0026	24.7	90.3	AF				700MB							
130	07	0030	24.4	90.4	SMS1	2,4, IR 8		97								
131	07	0113	24.8	90.3	AF	3 / 3	100		700MB	967	2788	18	12	C	15	WALL CLOUD W THROUGH N THROUGH SE
132	07	0244	24.9	90.2	AF		117		700MB	962	2762					
133	07	0247	25.0	90.6	DMSP											
134	07	0500	25.9	90.9	SMS1	2,4, IR 8		110								
135	07	0502	25.5	90.4	AF				700MB					C	18	
136	07	0633	25.9	90.3	DMSP											
137	07	0845	26.2	90.5	NAVY RADAR											
138	07	0930	26.4	90.3	NAVY	5 / 4										
139	07	1006	26.5	90.4	NAVY	3 / 2	101		700MB	950	2634	20	17	C	17	WELL DEFINED EYE LR QUAD
140	07	1154	26.8	90.5	NAVY	3 / 2	115	110	2652M	950	2631	19	15			
141	07	1319	27.2	91.0	ATS-3	1,4,VSBL 8		110								
142	07	1509	27.1	90.6	NAVY	2 / 6		98	700MB	955	2677	17	14			
143	07	1600	27.3	90.5	AF	1 / 1	75	75	700MB	943	2612	17	11			WELL DEFINED
144	07	1600	27.2	90.7	LCH RADAR										20	POOR FIX
145	07	1633	27.3	90.6	LCH RADAR										20	FAIR FIX
146	07	1700	27.4	90.7	LCH RADAR										15	GOOD FIX
147	07	1705	27.6	90.4	LCH RADAR											FAIR FIX 20° SPECIAL OVERLAY
148	07	1726	27.6	90.6	AF			130	700MB	944	2606			C	7	
149	07	1730	27.5	90.7	LCH RADAR										15	EYE ELLIPTICAL NE-SW
150	07	1730	27.6	90.4	GLS RADAR											20° SPIRAL OVERLAY, FAIR
151	07	1738	28.4	90.3	BTR RADAR											15° SPIRAL OVERLAY, FAIR
152	07	1800	27.7	90.7	LCH RADAR										15	GOOD
153	07	1808	27.6	90.5	GLS RADAR											20° SPIRAL OVERLAY, FAIR
154	07	1812	27.6	90.6	SIL RADAR										16	POOR
155	07	1819	27.8	90.8	ATS-3	1,3,VSBL 8		110								

Table 6. (continued)

CARMEN CONTINUED

FIX NO.	DATE	TIME GMT	POSITION LAT. °N	POSITION LON. °W	UNIT	CHARACTER.	MAX WIND (KT) FLT LVL	MAX WIND (KT) SFC	ACFT ALT	MIN. PRESS. (MB)	MIN. 700MB HT(M)	TEMP (°C) IN.	TEMP (°C) OUT.	EYE C=CIRC E=ELLIP.	DIA. N.MI.	REMARKS
156	07	1832	27.7	90.7	LCH RADAR											GOOD
157	07	1832	27.7	90.5	GLS RADAR										25	FAIR
158	07	1900	27.7	90.8	LCH RADAR											GOOD
159	07	1907	27.9	90.7	AF	1 / 1	70	140	700MB	940	2582	18	14			
160	07	1910	27.2	90.7	SIL RADAR										10	POOR
161	07	1930	27.7	90.7	LCH RADAR										14	GOOD
162	07	1933	28.0	90.7	SIL RADAR											POOR
163	07	2001	27.9	90.7	LCH RADAR										15	GOOD
164	07	2008	28.0	90.7	SIL RADAR											POOR
165	07	2010	27.9	90.7	BTR RADAR											POOR
166	07	2030	28.0	90.8	LCH RADAR										9	GOOD
167	07	2033	28.0	90.7	BTR RADAR										10	
168	07	2034	28.1	90.5	GLS RADAR										15	GOOD
169	07	2100	28.1	90.8	LCH RADAR										9	GOOD
170	07	2100	28.2	90.7	AF	1 / 1	65		700MB	937	2545	19	14			
171	07	2110	28.2	90.7	GLS RADAR											
172	07	2200	28.3	90.7	AF						2545					
173	07	2203	28.1	90.9	LCH RADAR										10	FAIR
174	07	2210	28.3	90.7	GLS RADAR											FAIR
175	07	2232	28.3	90.8	LCH RADAR										10	GOOD
176	07	2235	28.4	90.8	SIL RADAR											FAIR
177	07	2235	28.4	90.7	GLS RADAR										10	GOOD
178	07	2300	28.2	90.9	LCH RADAR										12	POOR
179	07	2307	28.5	90.9	SIL RADAR											GOOD
180	07	2310	28.4	90.6	GLS RADAR											GOOD
181	07	2316	28.5	90.8	NAVY	3 / 1	100				2622	20	18			
182	07	2334	28.3	91.0	LCH RADAR										16	15° OVERLAY, POOR
183	07	2334	28.7	90.8	SIL RADAR											
184	07	2335	28.5	90.9	GLS RADAR										10	
185	08	0003	28.3	91.0	LCH RADAR										20	FAIR
186	08	0005	28.5	90.8	BTR RADAR											15° OVERLAY, POOR
187	08	0005	28.5	90.9	AF RESEARCH		83									500MB FLIGHT
188	08	0007	28.6	90.9	SIL RADAR											GOOD
189	08	0010	28.7	91.0	GLS RADAR											GOOD
190	08	0030	28.6	90.8	LCH RADAR											15° OVERLAY, FAIR
191	08	0030	28.6	91.0	NAVY	3 / 1	130		700MB		2653			C	8	
192	08	0031	28.6	91.0	SIL RADAR											GOOD
193	08	0035	28.7	91.0	GLS RADAR										10	GOOD
194	08	0035	28.6	90.9	BTR RADAR											GOOD

Table 6. (continued)

CARMEN CONTINUED

FIX NO.	DATE	TIME GMT	POSITION LAT. °N	POSITION LON. °W	UNIT	CHARACTER.	MAX WIND (KT) FLT LVL	MAX WIND (KT) SFC	ACFT ALT	MIN. PRESS. (MB)	MIN. 700MB HT (M)	TEMP (°C) IN.	TEMP (°C) OUT.	EYE C=CIRC E=ELLIP.	DIA. N.MI.	REMARKS
195	08	0055	28.7	91.0	NAVY RADAR											
196	08	0102	28.6	90.8	LCH RADAR										20	GOOD
197	08	0105	28.7	91.0	GLS RADAR											GOOD
198	08	0107	28.7	90.9	SIL RADAR											GOOD
199	08	0115	28.7	91.0	AF		88									WIND SPEED FROM RIGHT FRONT 500MB
200	08	0127	28.6	91.0	LCH RADAR										13	GOOD
201	08	0134	28.7	90.9	BTR RADAR											FAIR - POORLY DEFINED
202	08	0134	28.7	91.0	GLS RADAR										10	GOOD
203	08	0135	28.7	91.0	SIL RADAR											FAIR
204	08	0143	28.7	91.0	AF		99		700MB		2624					
205	08	0202	28.8	91.0	LCH RADAR										11	FAIR
206	08	0205	28.8	91.0	GLS RADAR											GOOD
207	08	0207	28.8	91.1	BTR RADAR											GOOD
208	08	0211	28.7	91.0	SIL RADAR											FAIR
209	08	0231	28.6	91.1	LCH RADAR										20	GOOD
210	08	0232	28.8	91.1	SIL RADAR											FAIR
211	08	0233	28.8	91.0	GLS RADAR										10	FAIR
212	08	0234	28.8	91.2	BTR RADAR											GOOD
213	08	0242	28.8	90.8	NAVY RADAR											HOLE IN SEA RECON
214	08	0254	28.8	91.0	AF					946	2653					
215	08	0305	28.9	91.1	SIL RADAR											GOOD
216	08	0306	28.7	91.2	LCH RADAR										20	GOOD
217	08	0310	28.9	91.2	BTR RADAR											FAIR
218	08	0310	28.9	91.1	GLS RADAR											GOOD
219	08	0330	28.9	91.2	LCH RADAR										14	GOOD
220	08	0330	29.0	91.1	SIL RADAR											GOOD
221	08	0335	28.9	91.1	GLS RADAR										10	GOOD
222	08	0358	28.9	91.2	AF		88		700MB		2676					
223	08	0400	28.8	91.2	LCH RADAR										18	GOOD
224	08	0400	28.9	91.2	BTR RADAR											POOR
225	08	0407	29.0	91.2	SIL RADAR											GOOD
226	08	0410	29.0	91.1	GLS RADAR											GOOD
227	08	0433	28.9	91.2	BTR RADAR											POOR
228	08	0434	28.9	91.2	LCH RADAR										18	GOOD
229	08	0434	29.0	91.1	GLS RADAR										10	FAIR
230	08	0435	28.9	91.3	SIL RADAR											FAIR
231	08	0454	29.0	91.4	AF		86		700MB		2679					
232	08	0503	29.0	91.3	LCH RADAR										14	GOOD

Table 6. (continued)

CARMEN CONTINUED

FIX NO.	DATE	TIME GMT	POSITION LAT. °N	POSITION LON. °W	UNIT	CHARACTER.	MAX WIND(KT) FLT LVL	MAX WIND(KT) SFC	ACFT ALT	MIN. PRESS. (MB)	MIN. 700MB HT(M)	TEMP(°C) IN.	TEMP(°C) OUT.	EYE C=CIRC E=ELLIP.	EYE DIA. N.MI.	REMARKS
233	08	0507	29.2	91.3	SIL RADAR											GOOD
234	08	0510	29.1	91.5	BTR RADAR											15° OVERLAY, FAIR
235	08	0510	29.1	91.1	GLS RADAR											GOOD
236	08	0532	29.2	91.4	BTR RADAR											POSSIBLE CENTER FAIR
237	08	0533	29.3	91.3	SIL RADAR										19	GOOD
238	08	0534	29.0	91.3	LCH RADAR										12	GOOD
239	08	0535	29.4	91.3	GLS RADAR										15	GOOD
240	08	0602	29.3	91.4	BTR RADAR											15° OVERLAY, FAIR
241	08	0602	29.2	91.3	LCH RADAR										14	GOOD
242	08	0603	29.4	91.4	SIL RADAR											GOOD
243	08	0607	29.4	91.4	GLS RADAR											FAIR
244	08	0630	29,5	91.4	GLS RADAR										13	FAIR
245	08	0633	29.4	91.4	SIL RADAR										16	GOOD
246	08	0633	29.3	91.5	LCH RADAR										12	GOOD
247	08	0635	29.3	91.4	BTR RADAR											15° OVERLAY, FAIR
248	08	0700	29.4	91.5	BTR RADAR											15° OVERLAY, FAIR
249	08	0703	29.4	91.5	LCH RADAR										10	GOOD
250	08	0703	29.5	91.5	SIL RADAR											GOOD
251	08	0705	29.5	91.5	GLS RADAR										13	GOOD
252	08	0708	29.4	91.6	AF			80	700MB							NE QUAD
253	08	0730	29.7	91.5	GLS RADAR										13	GOOD
254	08	0734	29.5	91.6	SIL RADAR										15	GOOD
255	08	0734	29.4	91.6	LCH RADAR										10	GOOD
256	08	0735	29.5	91.6	BTR RADAR											15° OVERLAY, FAIR
257	08	0752	29.5	91.6	AF	2 / 2		70	2611M		2676					SE QUAD
258	08	0800	29.5	91.6	BTR RADAR											15° OVERLAY, FAIR
259	08	0803	29.4	91.7	LCH RADAR										10	GOOD
260	08	0805	29.6	91.6	SIL RADAR											GOOD
261	08	0808	29.7	91.5	GLS RADAR										15	FAIR
262	08	0830	29.7	91.9	GLS RADAR										15	FAIR
263	08	0830	29.6	91.6	LCH RADAR										12	GOOD
264	08	0833	29.7	91.6	SIL RADAR										15	GOOD
265	08	0835	29.6	91.7	BTR RADAR											15° OVERLAY, POOR
266	08	0900	29.7	91.8	BTR RADAR											10° OVERLAY, POOR
267	08	0900	29.6	91.9	AF			65	700MB	952	2685					SW QUAD
268	08	0903	29.9	91.6	SIL RADAR											GOOD
269	08	0904	29.9	91.8	LCH RADAR										8	GOOD
270	08	0906	30.0	91.7	GLS RADAR										10	FAIR

Table 6. (continued)

CARMEN CONTINUED

FIX	DATE	TIME GMT	POSITION LAT. °N	POSITION LON. °W	UNIT	CHARACTER.	MAX WIND (KT) FLT LVL	MAX WIND (KT) SFC	ACFT ALT	MIN. PRESS. (MB)	MIN. 700MB HT (M)	TEMP (°C) IN.	TEMP (°C) OUT.	EYE C=CIRC E=ELLIP.	EYE DIA. N.MI.	REMARKS
271	08	0930	29.8	91.9	BTR RADAR											POOR
272	08	0930	29.9	91.7	GLS RADAR											10° OVERLAY, FAIR
273	08	0931	29.9	91.7	LCH RADAR										12	GOOD
274	08	0932	30.0	91.7	SIL RADAR											POSSIBLE CENTER
275	08	0956	29.7	92.0	AF		85		700MB		2710					NE QUAD
276	08	1000	29.9	92.0	BTR RADAR											10° OVERLAY, POOR
277	08	1003	29.9	91.8	LCH RADAR										12	GOOD
278	08	1003	30.1	91.9	SIL RADAR											POSSIBLE EYE
279	08	1007	30.1	91.8	GLS RADAR										20	FAIR
280	08	1030	30.0	91.9	BTR RADAR											10° OVERLAY, POOR
281	08	1030	30.2	91.9	GLS RADAR										25	FAIR
282	08	1031	30.1	91.5	SIL RADAR											POSSIBLE CENTER
283	08	1033	30.1	91.8	LCH RADAR										10	GOOD
284	08	1100	30.0	92.0	BTR RADAR											10° OVERLAY, FAIR
285	08	1100	29.8	92.0	AF				700MB	956						
286	08	1101	30.2	92.0	LCH RADAR										10	GOOD
287	08	1102	30.1	91.9	SIL RADAR											POSSIBLE CENTER
288	08	1110	30.2	92.1	GLS RADAR											10° OVERLAY, FAIR
289	08	1134	30.2	92.0	LCH RADAR										10	GOOD
290	08	1135	30.3	92.1	SIL RADAR											POSSIBLE CENTER
291	08	1158	29.9	92.1	AF		70		700MB		2896					NE QUAD
292	08	1202	30.2	92.1	LCH RADAR										8	FAIR
293	08	1234	30.2	92.1	LCH RADAR										8	FAIR
294	08	1300	30.0	92.3	AF				700MB		2963					
295	08	1303	30.4	92.3	LCH RADAR										8	FAIR
296	08	1333	30.5	92.2	LCH RADAR										8	FAIR
297	08	1400	30.1	92.4	AF		50		700MB							SE QUAD
298	08	1404	30.5	92.2	LCH RADAR										8	POOR
299	08	1434	30.6	92.3	LCH RADAR										8	POOR
300	08	1503	30.7	92.3	LCH RADAR											POOR
301	08	1739	30.5	92.7	LCH RADAR										20	FAIR
302	08	1803	30.6	92.8	LCH RADAR										23	GOOD
303	08	1904	30.7	92.9	LCH RADAR										10	GOOD
304	08	1930	30.7	93.0	LCH RADAR										20	GOOD

Table 6. (continued)

TROPICAL STORM DOLLY 2 - 5 SEPTEMBER 1975

CENTER FIXES

FIX NO.	DATE	TIME GMT	POSITION LAT. °N	POSITION LON. °W	UNIT	CHARACTER.	MAX WIND(KT) FLT LVL	MAX WIND(KT) SFC	ACFT ALT	MIN. PRESS. (MB)	MIN. 700MB HT(M)	TEMP(°C) IN.	TEMP(°C) OUT.	EYE C=CIRC E=ELLIP.	DIA. N.MI.	REMARKS
1	30	1830	17.3	70.4	SMS1	1,5,VSBL 4		40								
2	01	1800	26.7	63.5	SMS1	2,5,VSBL 4		25								
3	03	0000	28.0	69.5	SMS1	2,5, IR 8		25								
4	03	0600	27.3	71.1	SMS1	2,6, IR 8		25								
5	03	1230	29.5	70.9	SMS1	2,5,VSBL 4		25								
6	03	1724	29.9	72.0	NAVY	5 / 5		40	180M							POORLY DEFINED EYE
7	03	1800	30.6	71.8	SMS1	1,5, IR 4		30								
8	03	1911	30.7	72.3	NAVY	5 / 5		45								
9	04	0030	32.9	71.6	SMS1	2,5, IR 8		30	180M							
10	04	0600	33.6	72.5	SMS1	2,5, IR 8		30								
11	04	1200	35.5	72.2	SMS1	2,5,VSBL 4		30								
12	04	1539	36.8	71.5	AF		60	40	427M		3112	11	10			
13	04	1830	38.5	70.5	SMS1	2,3,VSBL 2		40								
14	05	0000	41.0	67.5	SMS1	2,5, IR 8		40								
15	05	0026	41.0	67.2	NAVY RADAR											
16	05	0600	43.6	64.7	SMS1	2,5, IR 8		40								

Table 6. (continued)

TROPICAL STORM ELAINE 4 - 13 SEPTEMBER 1975

CENTER FIX

FIX NO.	DATE	TIME GMT	POSITION LAT. °N	POSITION LON. °W	UNIT	CHARACTER.	MAX WIND(KT) FLT LVL	MAX WIND(KT) SFC	ACFT ALT	MIN. PRESS. (MB)	MIN. 700MB HT(M)	TEMP(°C) IN.	TEMP(°C) OUT.	EYE C=CIRC E=ELLIP.	EYE DIA. N.MI.	REMARKS
1	04	2007	14.8	57.3	NAVY			20	150M	1012						
2	05	1830	15.5	56.6	SMS1	2,5,VSBL 4		25								DISORGANIZED
3	05	1840	16.2	56.2	NAVY			30	150M	1010						POORLY DEFINED
4	06	1200	18.7	58.6	SMS1	2,5,VSBL 4		30								
5	06	1603	18.8	59.5	SMS1	1,3,VSBL 8		35								
6	06	1800	19.1	59.4	SMS1	1,3,VSBL 4		35								
7	07	0030	19.3	60.0	SMS1	2,3, IR 8		25								
8	07	0630	19.7	61.0	SMS1	2,6, IR 8		25								
9	07	1200	21.5	64.0	SMS1	2,5,VSBL 4		25								
10	07	1800	23.5	65.5	SMS1	1,3,VSBL 4		25								
11	08	0030	25.0	66.5	SMS1	2,6, IR 8		25								
12	08	1514	25.9	69.0	AF	10 / 10	50	30	427M	1012		24	23			POORLY DEFINED
13	08	1830	27.0	69.5	SMS1	2,5,VSBL 4		30								
14	08	1941	27.5	69.3	NAVY RADAR											
15	08	2033	27.5	69.8	NAVY	2 / 5		65		1008		27	25			NEGATIVE WALL CLOUD
16	08	2140	27.7	70.0	NAVY			40		1008		27	26			
17	09	0030	28.0	69.7	SMS1	2,5, IR 8										
18	09	0630	29.4	70.3	SMS1	2,6, IR 8		25								
19	09	1230	31.5	71.4	SMS1	2,5,VSBL 4		25								
20	09	1654	31.8	72.2	NAVY	1 / 5	45	65	162M	1010		28	24			
21	09	1830	33.1	72.0	SMS1	1,5,VSBL 4		30								
22	09	1833	32.5	72.3	NAVY	2 / 15		45		1012		27	25			NO FEEDER BANDS
23	09	2030	33.3	71.9	AF			65		1008						SMALL WIND EYE
24	09	2255	33.7	71.5	AF RADAR											
25	10	0000	33.8	71.4	AF	5 / 1	35			1005	3100M	12	10			WALL CLOUD WELL DEFINED
26	10	0030	34.1	71.5	SMS1	2,4, IR 8		35								
27	10	0600	35.0	68.9	SMS1	2,3, IR 8		40								
28	10	0822	35.1	69.3	NAVY RADAR											
29	10	0937	34.4	70.4	NAVY	5 / 3	20					15	11	C	12	
30	10	1022	34.4	70.3	NAVY	5 / 2		45		1001				C	12	
31	10	1230	34.6	69.2	SMS1	2,4,VSBL 4		40								
32	10	1239	34.5	69.9	NAVY	5 / 2	55	55	153M	1001		26	26	C	12	OPEN SW, 45K ALL QUADS. 50-55K E OF CENTER
33	10	1252	35.0	69.5	NAVY											
34	10	1800	35.1	68.5	SMS1	2,3,VSBL 4		50								
35	10	2110	35.1	67.9	AF		45			1005						NO WALL CLOUD
36	10	2205	35.5	67.5	AF		40			1006	3121					
37	11	0004	35.6	66.8	AF	5 / 5		25	700MB		3115					
38	11	0030	35.5	66.7	SMS1	2,4, IR 8		50								

Table 6. (continued)

ELAINE CONTINUED

FIX NO.	DATE	TIME GMT	POSITION LAT. °N	POSITION LON. °W	UNIT	CHARACTER.	MAX WIND(KT) FLT LVL	MAX WIND(KT) SFC	ACFT ALT	MIN. PRESS. (MB)	MIN. 700MB HT(M)	TEMP(°C) IN.	TEMP(°C) OUT.	EYE C=CIRC E=ELLIP.	EYE DIA. N.MI.	REMARKS
39	11	0630	35.0	64.8	SMS1	2,4, IR 8		50								
40	11	1200	35.1	63.8	SMS1	1,3,VSBL 4		40								
41	11	1800	35.5	63.5	SMS1	2,3,VSBL 4		50								
42	11	1830	35.7	63.4	NAVY				180M	1006						
43	11	2000	35.7	63.2	NAVY	1 / 1		70		1004		26	22	C	8	
44	12	0030	35.8	61.9	SMS1	2,4, IR 8		50								
45	12	0630	36.2	61.8	SMS1	2,4, IR 8		40								
46	12	1200	37.1	61.3	SMS1	1,3,VSBL 4		40								
47	12	1737	38.8	60.1	AF			50	700MB		3170					EYE WELL DEFINED
48	12	1830	39.0	60.1	SMS1	2,3,VSBL 4		50								
49	12	1846	38.9	59.8	AF	3 / 5			700MB		3158			C	5	WIND EYE, NO WALL CLOUD
50	13	0030	39.6	58.9	SMS1	2,4, IR 8		35								
51	13	0630	40.0	55.8	SMS1	2,4, IR 8		30								
52	13	1245	40.6	52.4	SMS1	1,6, IR 8		40								
53	13	1830	41.6	50.0	SMS1	1,4,VSBL 4		40								

Table 6. (continued)

HURRICANE FIFI 14 - 22 SEPTEMBER 1974

CENTER FIX

FIX NO.	DATE	TIME GMT	POSITION LAT. °N	POSITION LON. °W	UNIT	CHARACTER.	MAX WIND(KT) FLT LVL	MAX WIND(KT) SFC	ACFT ALT	MIN. PRESS. (MB)	MIN. 700MB HT(M)	TEMP(°C) IN.	TEMP(°C) OUT.	EYE C=CIRC E=ELLIP.	EYE DIA. N.MI.	REMARKS
1	15	2304	16.8	73.8	NAVY	5 / 2	20	30	457M	1003		25	23			
2	16	0100	17.3	74.1	SMS1	1,5, IR 8		25								
3	16	0630	17.6	75.1	SMS1	1,5, IR 8		25								
4	16	0815	17.2	76.2	JAMAICA RADAR											VERY POORLY DEFINED
5	16	1015	17.5	76.2	" "											FAIR
6	16	1115	17.6	76.4	" "											FAIR
7	16	1230	17.3	77.0	SMS1	1,5,VSBL 4		30								
8	16	1315	17.7	76.9	JAMAICA RADAR											FAIR
9	16	1635	17.7	77.3	" "											FAIR
10	16	1735	17.8	77.7	" "											POOR
11	16	1830	17.4	78.5	SMS1	1,5,VSBL 4		35								
12	16	1840	17.0	17.8	NAVY	5 / 10		35		1005		26	21			LARGE CALM WIND CENTER
13	16	2041	16.9	78.1	NAVY	3 / 3		40				25	21			WALL CLOUD FORMING
14	17	0010	17.3	78.8	AF				457M	1000				C	15	
15	17	0030	16.9	79.1	SMS1	1,4, IR 8		35								
16	17	0258	17.1	79.2	AF				457M	998						
17	17	0424	17.1	79.4	AF	5 / 1		46	457M	998		24	24	C	15	WALL WELL DEFINED
18	17	0543	16.8	79.4	NAVY	5 / 2	60	60	259M	993		25	25			
19	17	0630	16.8	79.7	SMS1	1,3, IR 8		40								
20	17	0723	16.9	79.5	NAVY				457M							
21	17	0932	16.6	79.8	NAVY			60								SLP 987 OUTSIDE EYE 6 NM
22	17	1115	16.4	80.3	JAMAICA RADAR											
23	17	1147	16.8	80.2	NAVY			70								MIN SLP 986.7 17 NM SW OF CENTER
24	17	1219	16.7	80.3	NAVY	5 / 3		70	3048M		2987	17	13	C	12	CLOSED WELL DEFINED EYE.
25	17	1230	16.6	80.4	SMS1	1,3,VSBL 4		50								
26	17	1830	16.5	81.2	SMS1	2,3,VSBL 4		60								
27	17	2148	16.3	81.7	NAVY											
28	17	2315	16.0	81.6	NAVY	5 / 5		55	700MB		2947			C	15	CLOSED WALL WELL DEFINED
29	18	0030	16.4	81.9	SMS1	2,4, IR 8		60								
30	18	0053	16.3	81.0	NAVY											
31	18	0200	16.4	81.6	NAVY											
32	18	0608	16.4	82.5	AF		55		700MB	977	2896					
33	18	0630	16.6	82.5	SMS1	1,3, IR 8		72								
34	18	0745	16.5	82.5	AF	15 / 2	70		700MB			16	11			
35	18	0910	16.8	82.8	AF		54		700MB	974	2874			C	10	
36	18	1124	16.3	83.2	AF				3042M		2847					
37	18	1236	16.6	83.7	SMS1	1,3,VSBL 4		72								
38	18	1824	16.5	84.8	NAVY	3 / 3					2859					EYE POORLY DEFINED ON RADAR

Table 6. (continued)

FIFI CONTINUED

FIX NO.	DATE	TIME GMT	POSITION LAT. °N	POSITION LON. °W	UNIT	CHARACTER.	MAX WIND(KT) FLT LVL	MAX WIND(KT) SFC	ACFT ALT	MIN. PRESS. (MB)	MIN. 700MB HT(M)	TEMP(°C) IN.	TEMP(°C) OUT.	EYE C=CIRC E=ELLIP.	EYE DIA. N.MI.	REMARKS
39	18	1830	16.4	85.0	SMS1	1,1,VSBL 4		85								
40	18	1957	16.4	84.9	NAVY	3 / 2	85	85		972		17	12			
41	18	2141	16.3	85.2	NAVY	5 / 3	95	120		972	2847					
42	18	2341	16.2	85.6	NAVY	5 / 3	85				2847					
43	19	0030	16.3	86.0	SMS1	1,1, IR 8		85								
44	19	0045	16.3	85.6	NAVY	5 / 5		95			2862					
45	19	0215	16.1	86.0	BELIZE RADAR											EYE NOT COMPLETELY DEFINED
46	19	0400	16.3	86.5	BELIZE RADAR											EYE WELL DEFINED
47	19	0525	16.2	87.2	SMS1	1,3, IR 8		85								
48	19	0535	16.1	86.5	BELIZE RADAR											EYE OPEN TO NORTH
49	19	0600	16.2	87.2	SMS1	1,3, IR 8		85								
50	19	0648	16.1	86.7	AF		75			971	2844					
51	19	0810	15.9	86.8	BELIZE RADAR											
52	19	0818	16.1	86.9	AF						2838					
53	19	0902	16.1	87.0	AF					971	2844					
54	19	0930	16.0	86.9	BELIZE RADAR											
55	19	1017	16.0	87.1	AF						2841					
56	19	1109	16.1	87.3	AF						2853					
57	19	1200	16.2	87.3	BELIZE RADAR											
58	19	1230	16.2	87.7	SMS1	1,5,VSBL 4		72								
59	19	1300	16.2	87.5	BELIZE RADAR											
60	19	1400	16.1	87.7	BELIZE RADAR											
61	19	1500	16.1	87.9	BELIZE RADAR											
62	19	1700	16.2	87.9	BELIZE RADAR											
63	19	1800	16.2	88.2	BELIZE RADAR											
64	19	1900	16.4	88.2	BELIZE RADAR											
65	19	1910	16.4	88.2	NAVY	4 / 2	70			982	2935					CLEARLY DEFINED WITH CLOSED WALL
66	19	2000	16.5	88.3	BELIZE RADAR											
67	19	2007	16.5	88.5	NAVY		80									
68	19	2100	16.5	88.5	BELIZE RADAR											
69	19	2110	16.7	88.7	NAVY											
70	19	2130	16.7	88.8	NAVY											
71	19	2300	16.7	89.0	BELIZE RADAR											
72	20	0000	16.7	89.2	BELIZE RADAR											ILL DEFINED ILL DEFINED HARD TO LOCATE

Table 6. (continued)

HURRICANE GERTRUDE 28 SEPTEMBER - 3 OCTOBER 1974

CENTER FIX

FIX NO.	DATE	TIME GMT	POSITION LAT. °N	POSITION LON. °W	UNIT	CHARACTER.	MAX WIND (KT) FLT LVL	MAX WIND (KT) SFC	ACFT ALT	MIN. PRESS. (MB)	MIN. 700MB HT(M)	TEMP (°C) IN.	TEMP (°C) OUT.	EYE C=CIRC E=ELLIP.	EYE DIA. N.MI.	REMARKS
1	26	1828	9.5	40.0	ATS-3	1,3,VSBL 8		25								
2	27	1230	9.3	46.8	SMS1	1,6, IR 4,8		30								
3	27	1825	10.7	46.4	ATS-3	1,5,VSBL 8		30								
4	28	1230	10.4	50.2	SMS1	1,4,VSBL 4		30								
5	28	1427	10.3	50.3	DMSP											
6	28	1606	10.6	51.7	NAVY RADAR											
7	28	1648	10.7	51.6	NAVY	5 / 1	75	80		1004		25	22			
8	28	1826	10.9	52.0	NAVY	5 / 1	95	100		999		26	27			
9	28	1832	10.8	51.4	SMS1	2,3,VSBL 4		40								
10	28	1931	10.9	52.3	NAVY	5 / 5		35				26	27			
11	29	0100	10.9	52.7	SMS1	1,5, IR 8		35								
12	29	0308	11.3	56.3	DMPS											
13	29	0514	11.3	55.1	NAVY RADAR											
14	29	0600	11.5	54.6	NAVY	5 / 5	60					16	10			
15	29	0630	11.7	53.3	SMS1	2,6, IR 8		40								
16	29	1210	11.4	55.2	DMPS											
17	29	1230	11.5	55.1	SMS1	2,3,VSBL 4		50								
18	29	1320	11.2	55.1	AF											
19	29	1432	11.4	55.2	AF	1 / 3	55	100		1000		13	9			
20	29	1600	11.4	55.2	AF											
21	29	1714	11.4	55.4	AF	1 / 1	41	100		1001		14	9			
22	29	1754	11.9	55.2	ATS-3	2,3,VSBL 8		50								
23	29	1800	11.4	55.4	AF			100								
24	29	2125	11.6	55.7	NAVY	5 / 5	65	65		1004		27	25			POORLY DEFINED
25	29	2244	12.3	55.2	DMPS											
26	30	0008	11.7	55.9	NAVY	5 / -	40					14	10			
27	30	0030	12.1	55.8	SMS1	1,5, IR 8		40								
28	30	0220	11.4	56.3	NAVY	5 / 5	40			1004		27	23			POORLY DEFINED
29	30	0259	11.4	56.3	NAVY	5 / 5	60			1005		14	7			POORLY DEFINED
30	30	0630	12.2	54.8	SMS1	1,5, IR 8		50								
31	30	1200	11.0	56.9	SMS1	1,4,VSBL 4		50								
32	30	1224	11.0	56.7	NAVY	3 / 2		35		1007		25	24			NO WALL CLOUD. POORLY DEFINED
33	30	1617	11.2	56.4	NAVY	5 / 1		45		1008		29	23			
34	30	1730	11.5	56.4	NAVY	5 / 2		35		1008		27	24			
35	30	1826	11.8	56.8	ATS-3	1,5,VSBL 8		50								
36	01	0015	11.9	58.2	AF					1007						
37	01	0030	12.5	56.8	SMS1	2,5, IR 8		40								
38	01	0325	11.8	57.6	AF	1 / 10		35		1006						

(continued)

FIX NO.	ATI	TIME GMT	POSITION LAT. °N	POSITION LON. °W	UNIT	CHARACTER.	MAX WIND(KT) FLT LVL	MAX WIND(KT) SFC	ACFT ALT	MIN. PRESS. (MB)	MIN. 700MB HT(M)	TEMP(°C) IN.	TEMP(°C) OUT.	EYE C=CIRC E=ELLIP.	DIA. N.MI.	REMARKS
39		0413	12.1													
40		0630	12.6			2,5, IR 8		40								
41		1229	12.1			5 / 1	20	20		1009		27	26			
42		1230	12.6			1,5,VSBL 4		35								
43		1315	12.5													
44		1415	12.3			5 / 2	45	45		1009		27	26			
45		1513	12.6													
46		1750	12.2			5 / 5	40	40		1007		27	24			
47		1821	12.2			1,3,VSBL 8		35								
48		0001	12.5			2,5, IR 8		30								
49		0029	12.6			2 / 15		15		1008		27	25			ONLY A FEW RADAR ECHOES NO ORGAN.
50		0354	12.5													
51		1256	13.0													
52		1335	12.3				42			1010						
53		1600	12.8			1 / 15	15	20		1012		24	24			
54		1640	13.4					10		1009						

Table 7. Reconnaissance Summary for 1974 Hurricane Season

	AIR FORCE	NAVY	NOAA/RFF	TOTALS
FIXES	PENETRATIONS 82	PENETRATIONS 64	PENETRATIONS 0	PENETRATIONS 146
	RADAR 5	RADAR 27	RADAR 0	RADAR 32
OBSERVATIONS	755	1139	0	1894
DROPSONDES	43	11	0	54
MISSIONS	45	57	0	102
FLYING TIME (HOURS)	STORM: 289:03	STORM: 286:09	STORM: 0	STORM: 575:12
	INVEST: 190:09	INVEST: 201:12	INVEST:0	INVEST:391:21
	TOTAL : 479:12	TOTAL : 487:21	TOTAL :0	TOTAL: 966:33

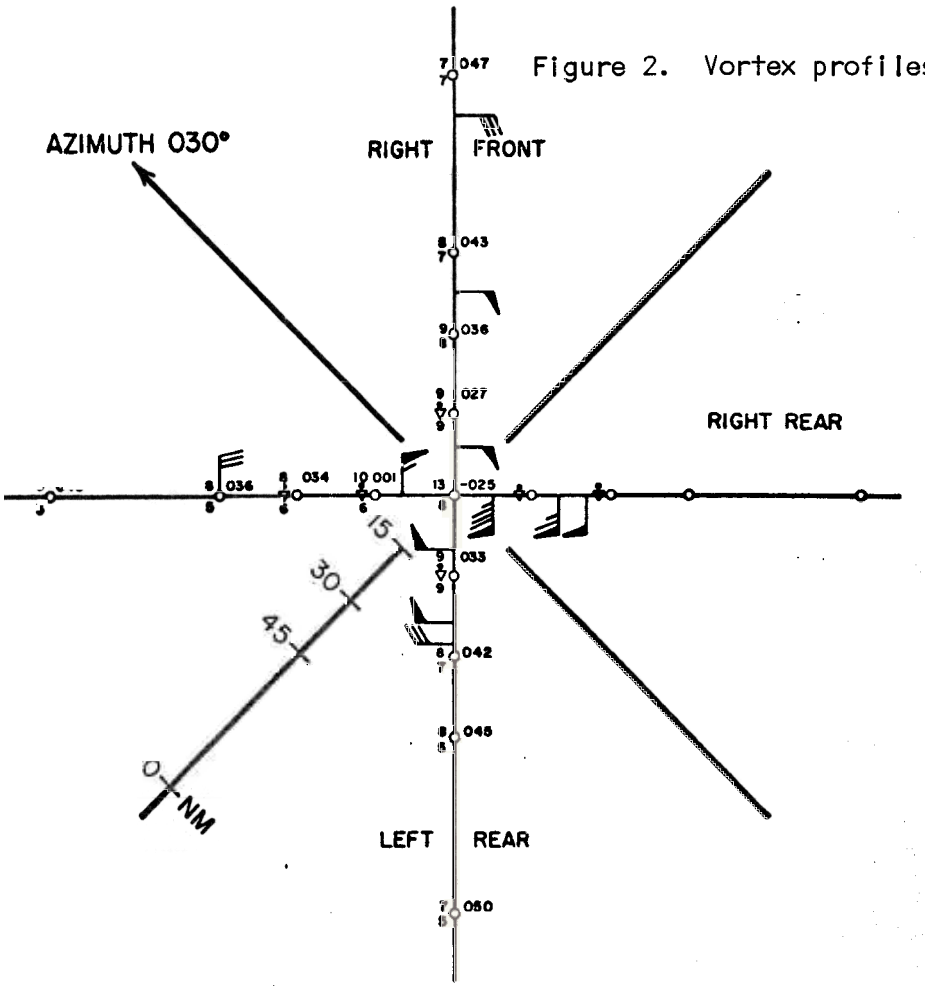
Table 8. Summary of Atlantic Tropical Cyclone Reconnaissance, 1965-1974

USAF--USN-RFF

10 YEAR AVERAGE: 1965 -- 1974

YEAR	NUMBER OF STORMS	RECON POD'S ISSUED	TOTAL AIRCRAFT MISSIONS FLOWN	TOTAL FLYING HOURS	TOTAL WEATHER OBSERVATIONS
1974	7	243	102	967	1894
1973	8	239	127	1065	2121
1972	7	245	121	1073	2096
1971	12	287	207	1880	3489
1970	7	253	129	1189	3076
1969	13	266	224	2040	2850
1968	7	233	94	802	1230
1967	8	229	137	1266	2043
1966	11	250	200	1964	2431
1965	6	233	166	1088	2908
TOTAL	86	2498	1507	13354	24138
AVERAGE	8.6	250	151	1335	2414

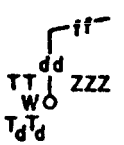
Figure 2. Vortex profiles, 1974 tropical cyclones

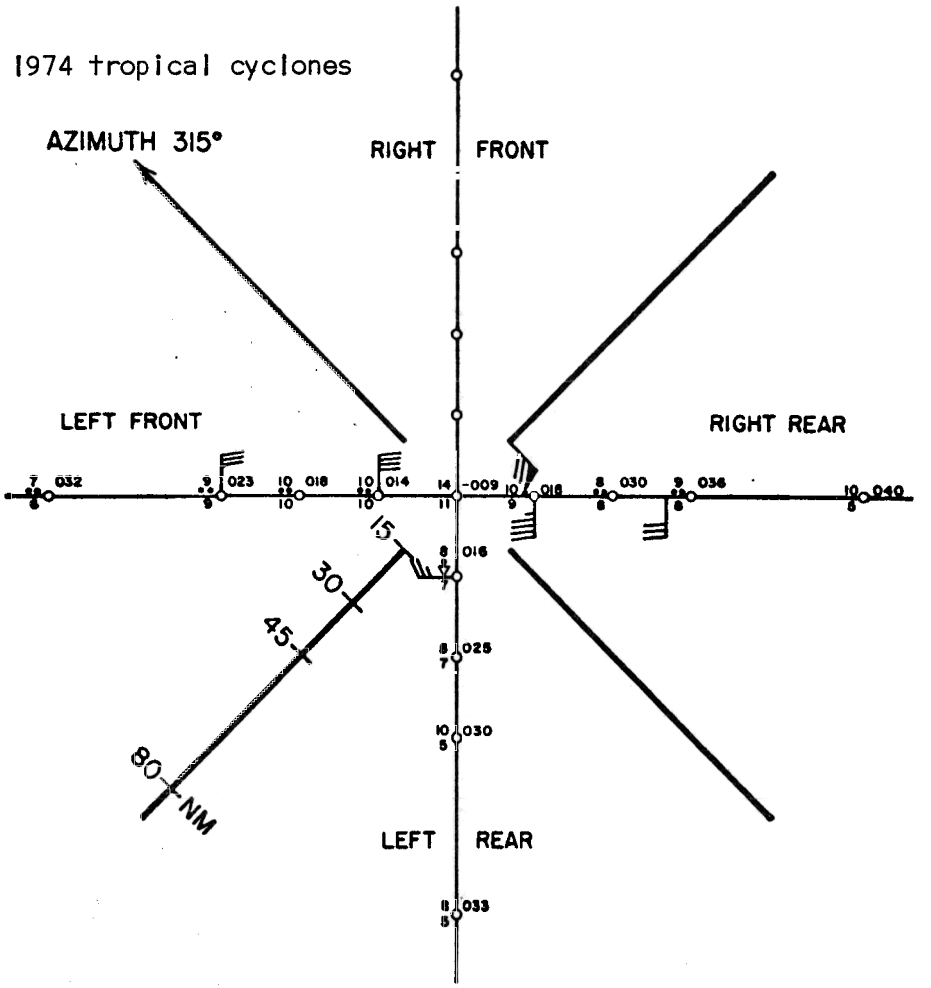


AF GULL 02 BECKY

AUGUST 1974 290806–291906 GMT

Figure 2-A





AF GULL 01 CARMEN

AUGUST 1974 310753–311839 GMT

Figure 2-B

ZZZ	"D" VALUE (TENS OF FEET)
TT	TEMPERATURE
T_dT_d	DEW POINT
W	PRESENT WEATHER
dd	WIND DIRECTION
ff	WIND SPEED

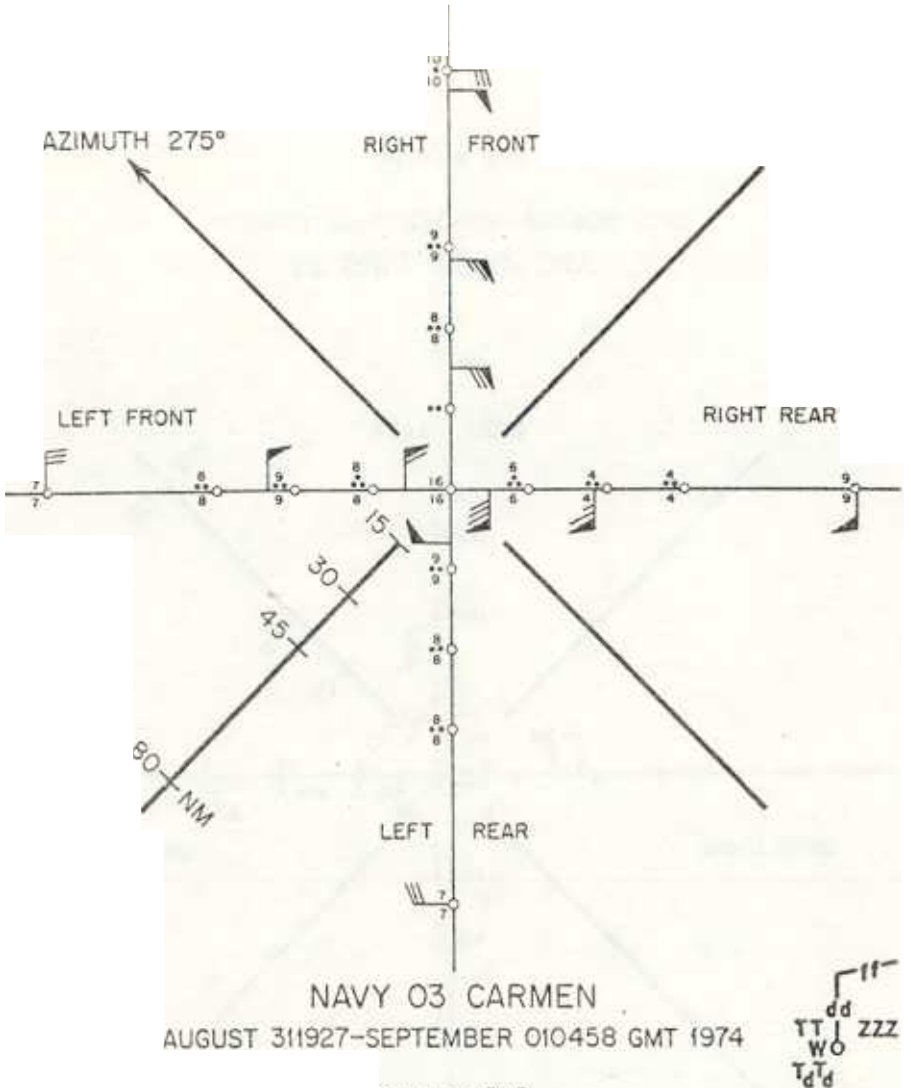


Figure 2-C

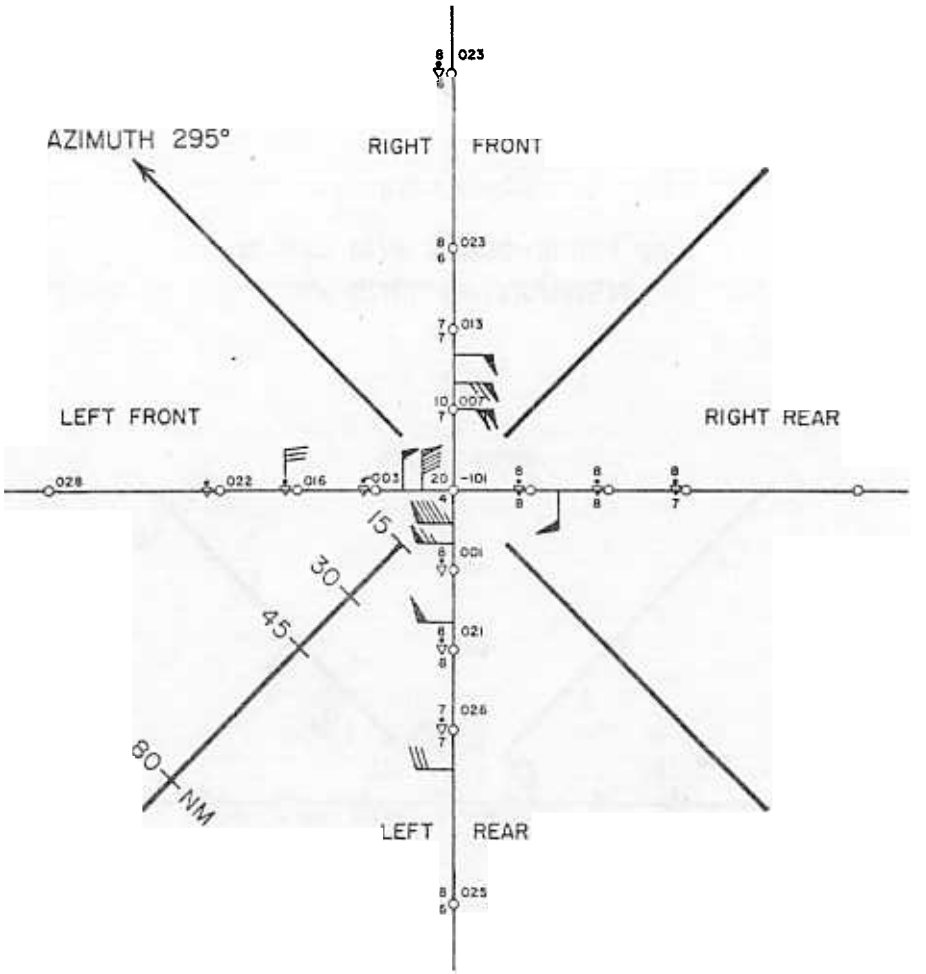
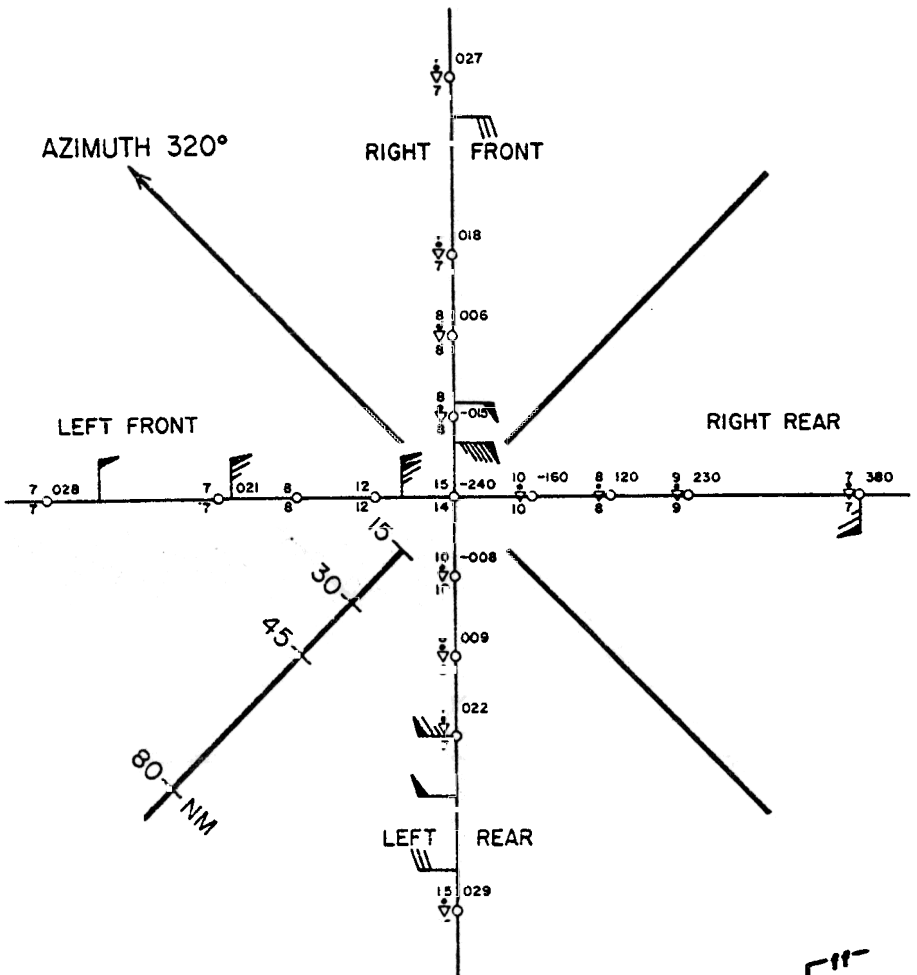


Figure 2-D

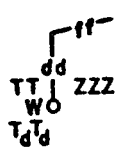
ZZZ	"D" VALUE (TENS OF FEET)
TT	TEMPERATURE
T_dT_d	DEW POINT
W	PRESENT WEATHER
dd	WIND DIRECTION
ff	WIND SPEED



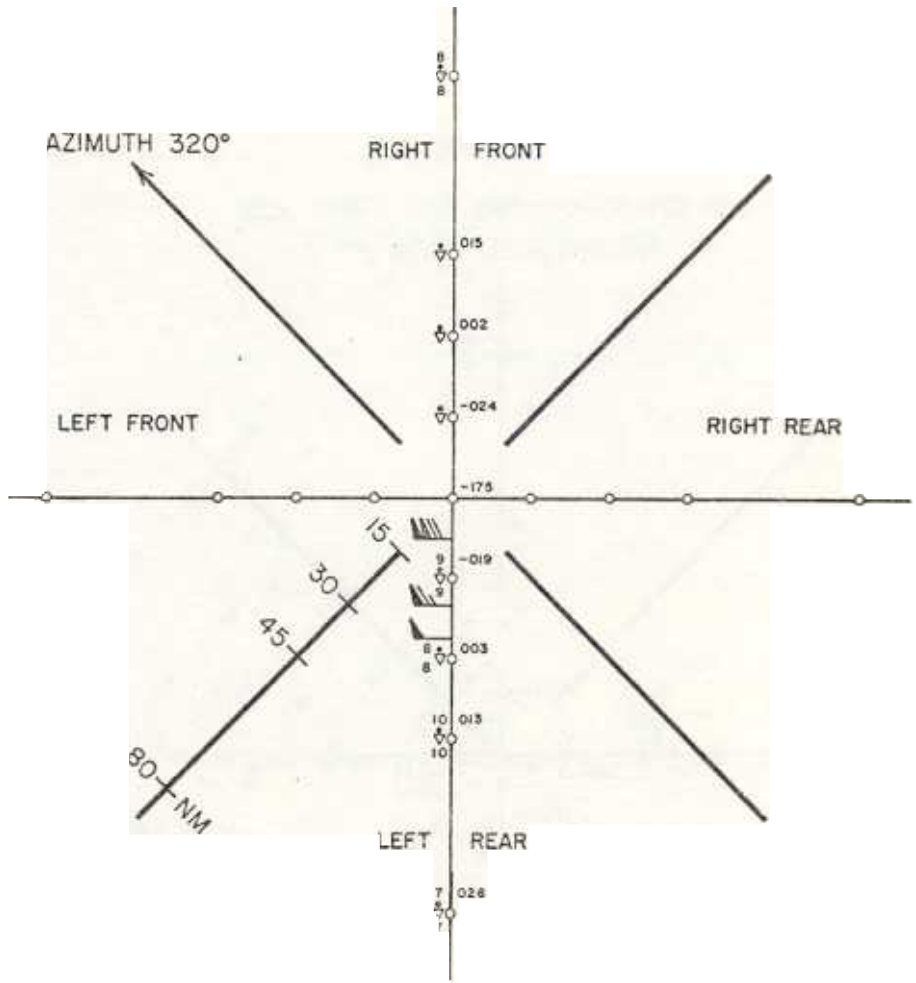
NAVY 04 CARMEN

SEPTEMBER 1974 011617–020253 GMT

Figure 2-E



ZZZ	"D" VALUE (TENS OF FEET)
TT	TEMPERATURE
T_dT_d	DEW POINT
W	PRESENT WEATHER
dd	WIND DIRECTION
f_1f_1	WIND SPEED



NAVY 04 CARMEN (continued)

SEPTEMBER 1974 011617–020253 GMT

Figure 2-F

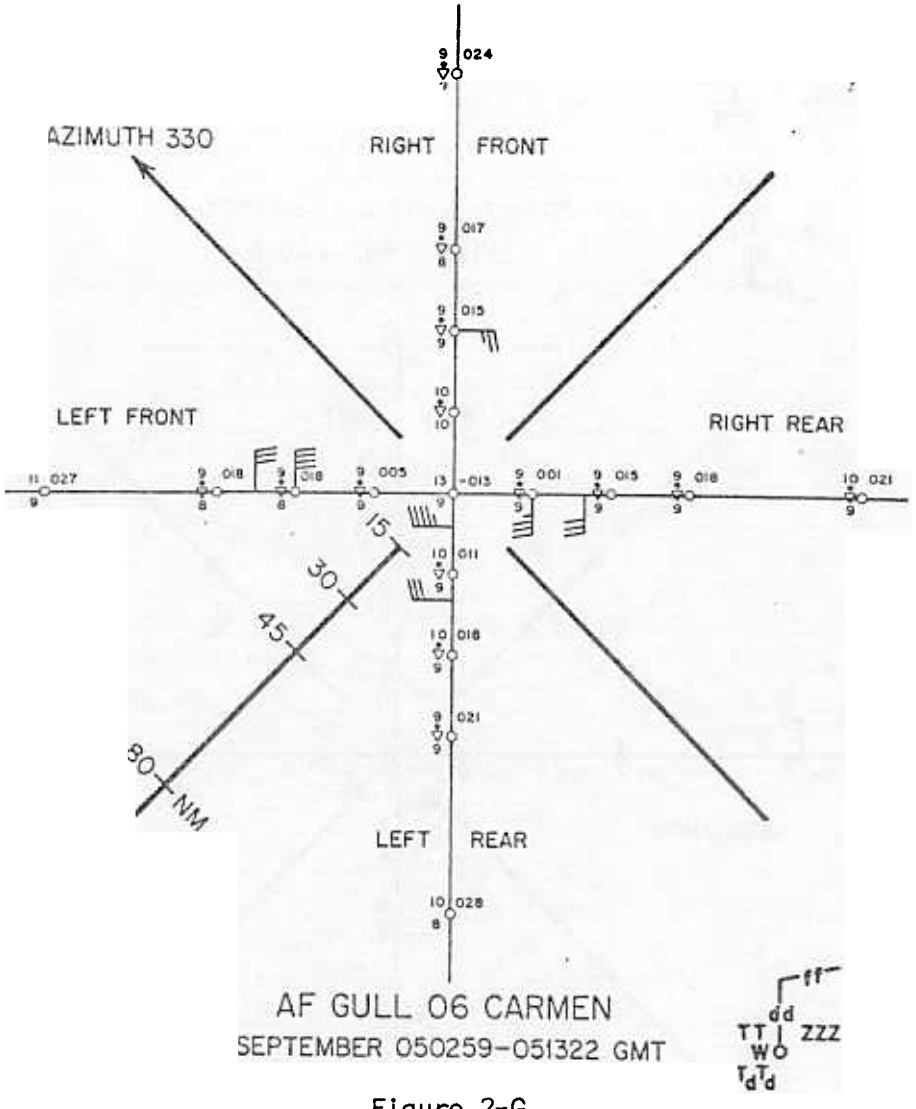


Figure 2-G

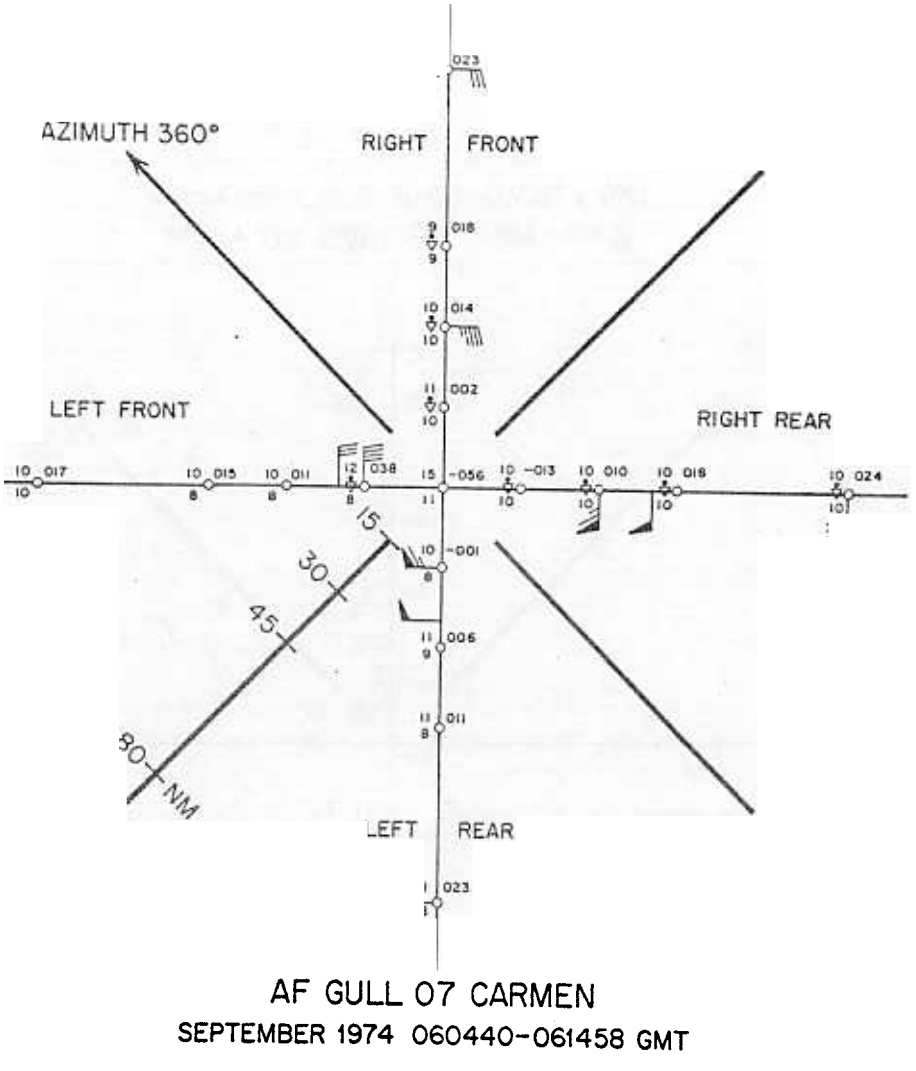
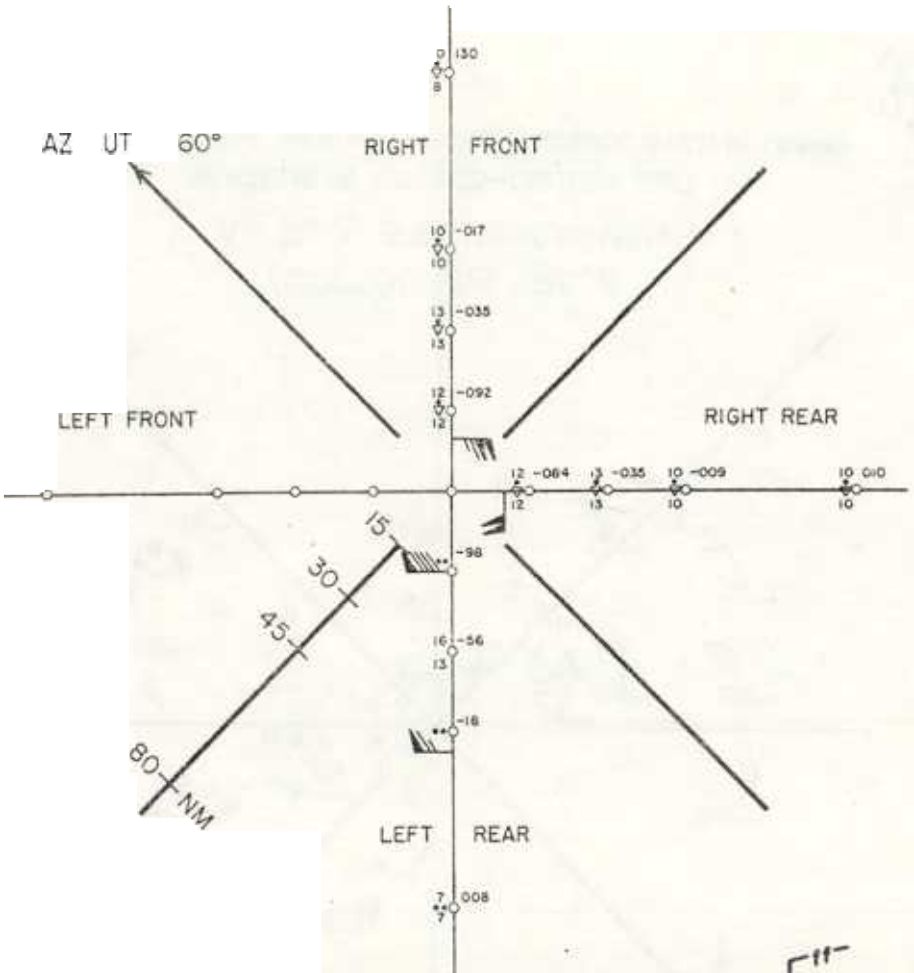


Figure 2-H

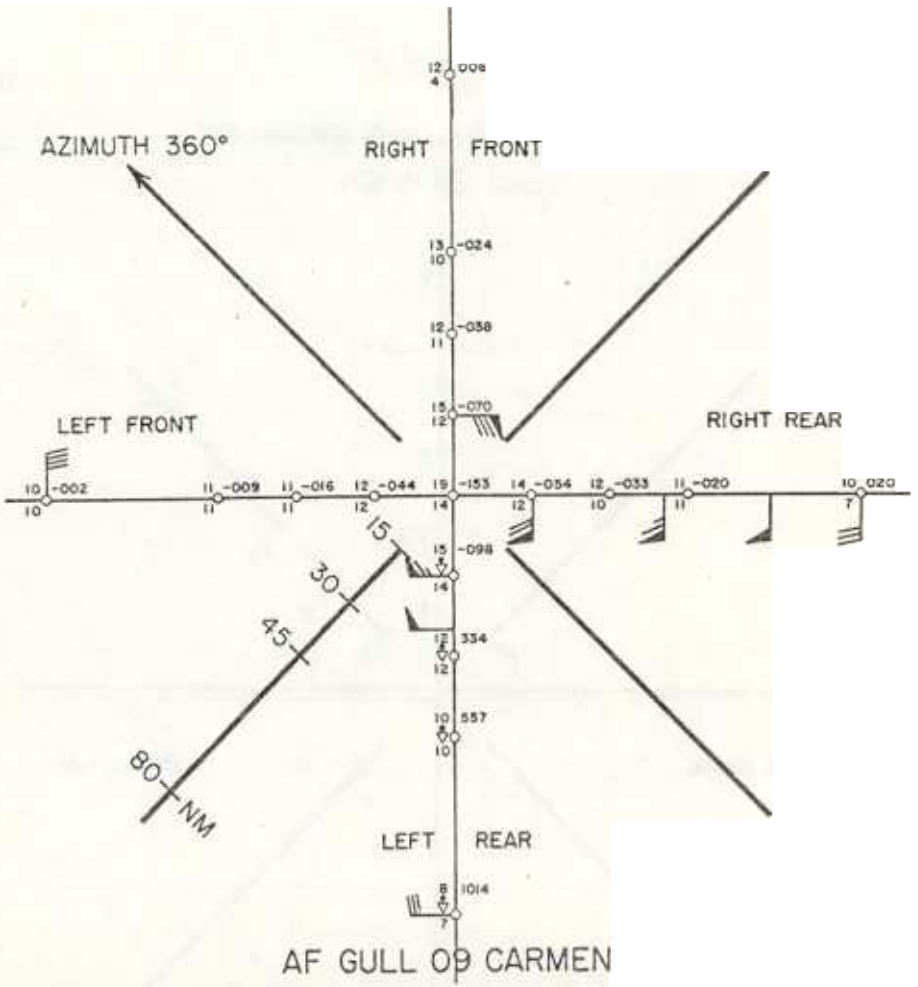
ZZZ	"D" VALUE (TENS OF FEET)
TT	TEMPERATURE
T_dT_d	DEW POINT
W	PRESENT WEATHER
dd	WIND DIRECTION
ff	WIND SPEED



NAVY 10 CARMEN

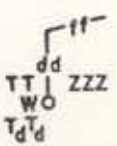
PT 1974 070645-071724 GMT

re 2-1

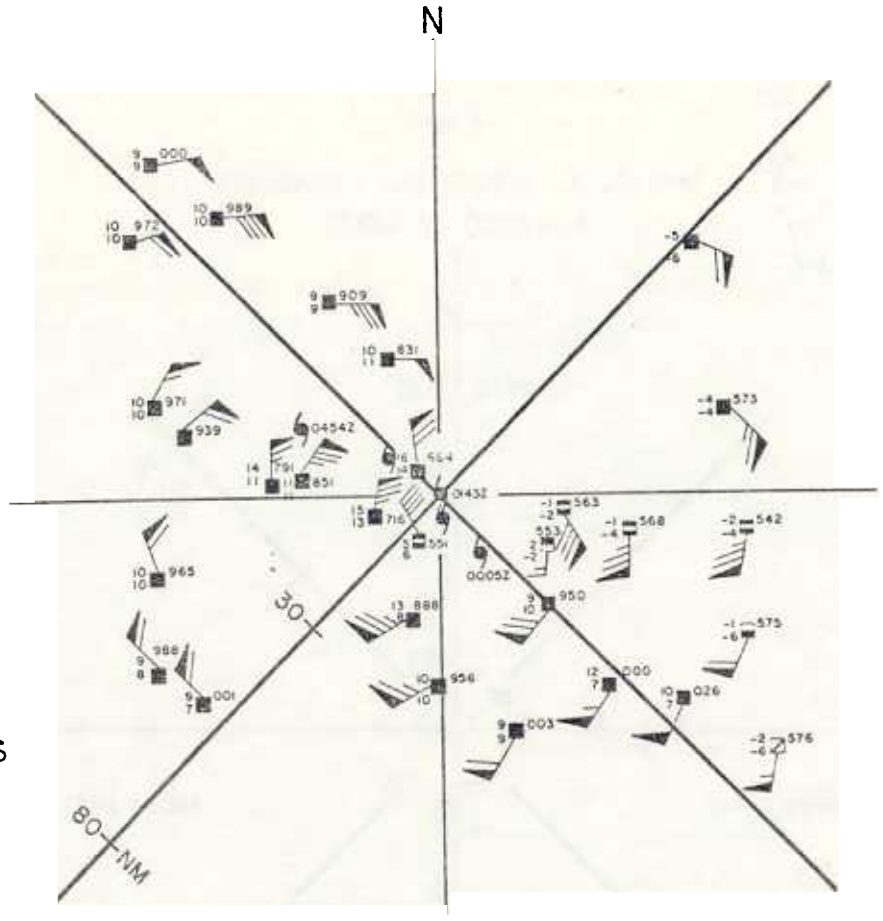


AF GULL 09 CARMEN

SEPTEMBER 1974 071441-07235 MT

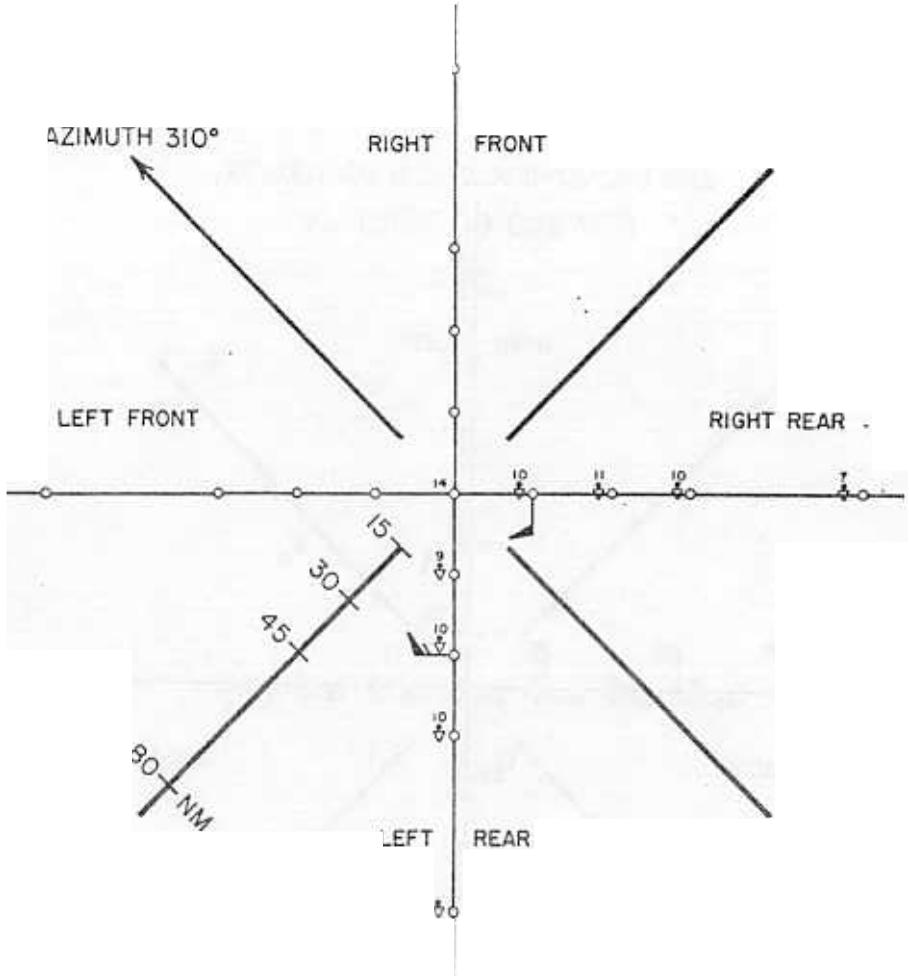


ZZZ	"D" VALUE (TENS OF FEET)
TT	TEMPERATURE
T_dT_d	DEW POINT
W	PRESENT WEATHE
d	WIND DIRE
f	WIND SPEE



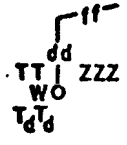
700/500 MB TRACK
AF GULL SPECIAL CARMEN
SEPTEMBER 072200-080624 GMT
AIRBORNE WEATHER RECONNAISSANCE SYSTEM (AWRS)

Figure 2-K

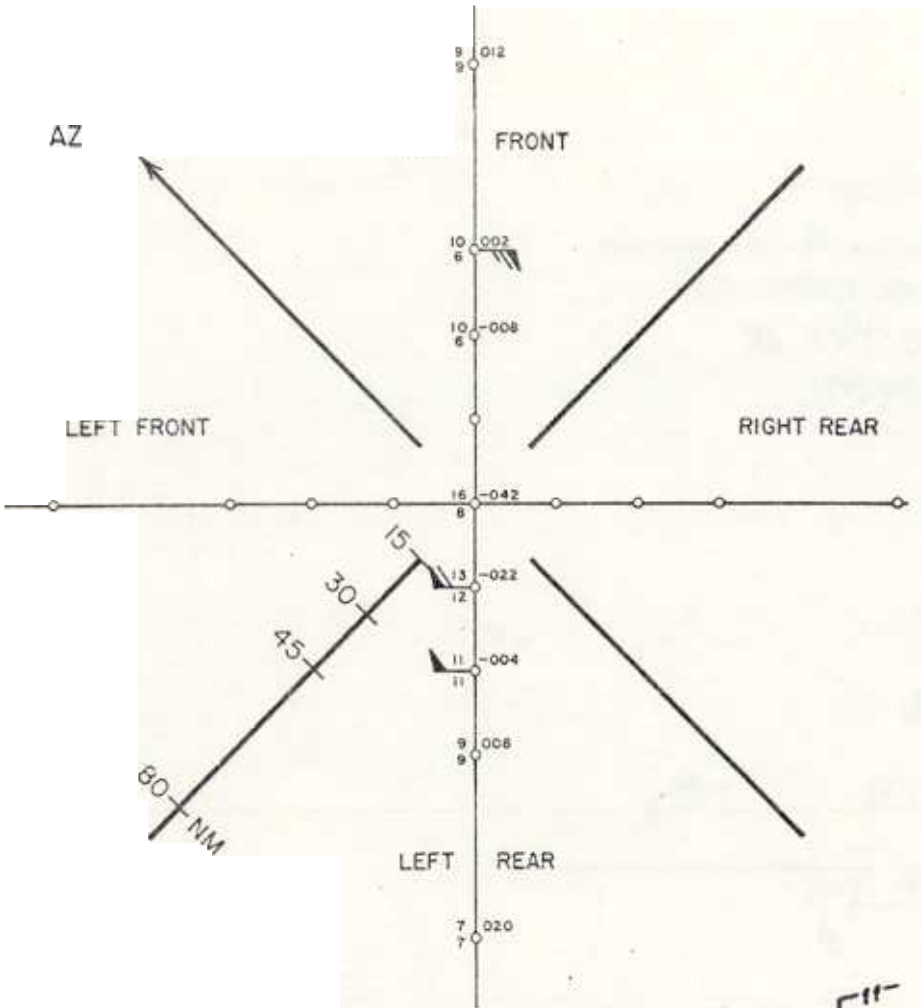


NAVY 03 FIFI
SEPTEMBER 1974 171804-180651 GMT

Figure 2-L

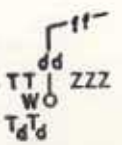


ZZZ	"D" VALUE (TENS OF FEET)
TT	TEMPERATURE
T_dT_d	DEW POINT
W	PRESENT WEATHER
dd	WIND DIRECTION
ff	WIND SPEED

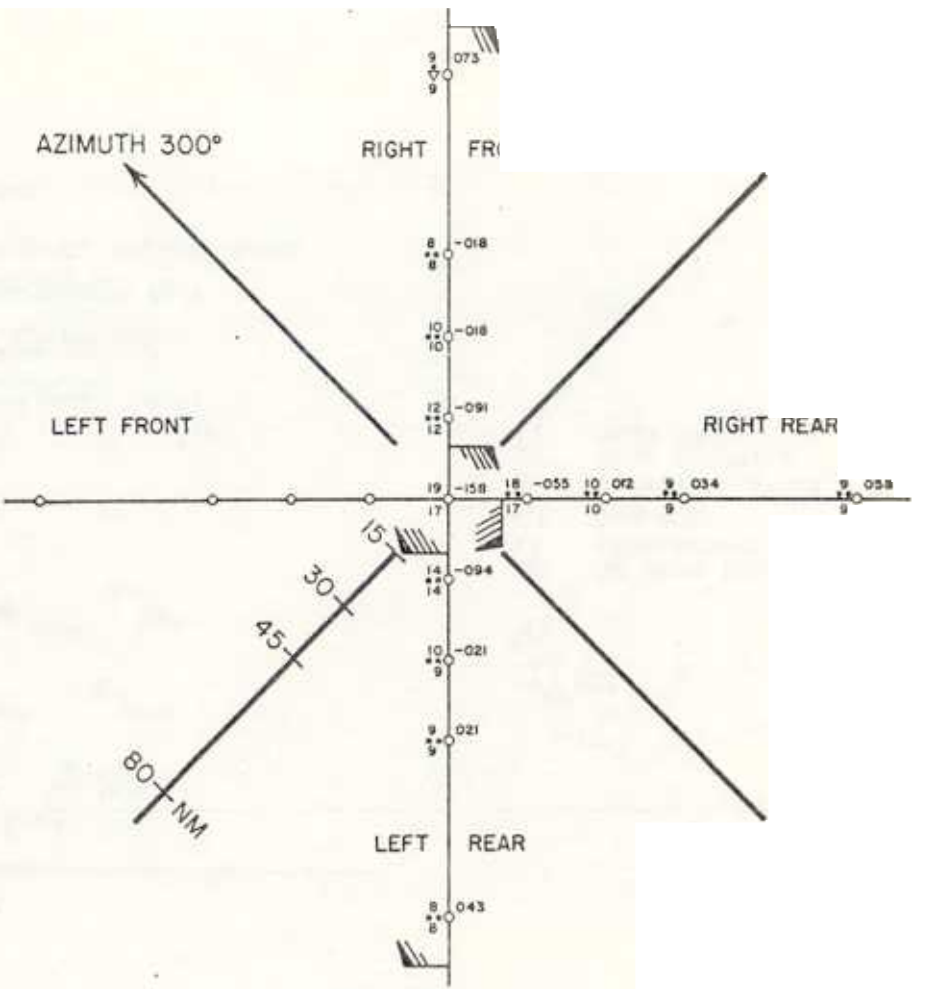


AF GULL 02 FIFI

EPTEM 4 180242-181513 GMT



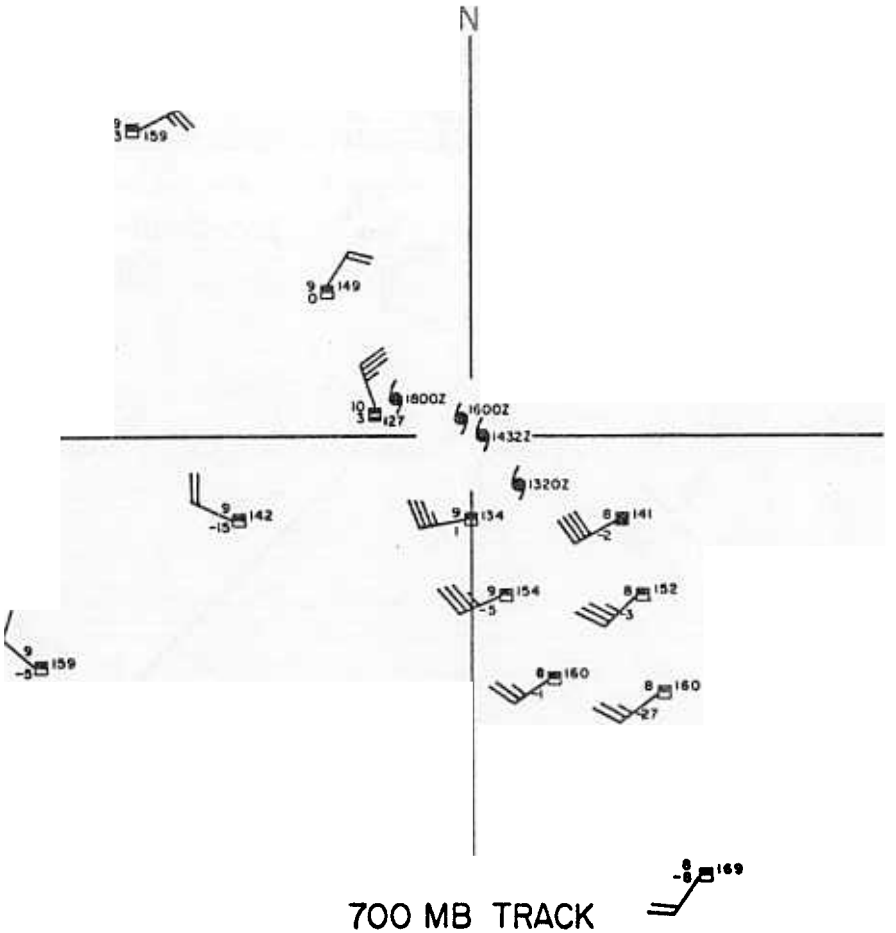
2-M



NAVY 04 FIFI

SEPTEMBER 1974 181530-190330

ZZZ	"D" VALUE (TENS OF FEET)
TT	TEMPERATURE
T_dT_d	DEW POINT
W	PRESENT WE
dd	WIND DIRE(
f	WIND SPEE



ZZZ	"D" VALUE (TENS OF FEET)
TT	TEMPERATURE
T_dT_d	DEW POINT
W	PRESENT WEATHER
dd	WIND DIRECTION
ff	WIND SPEED

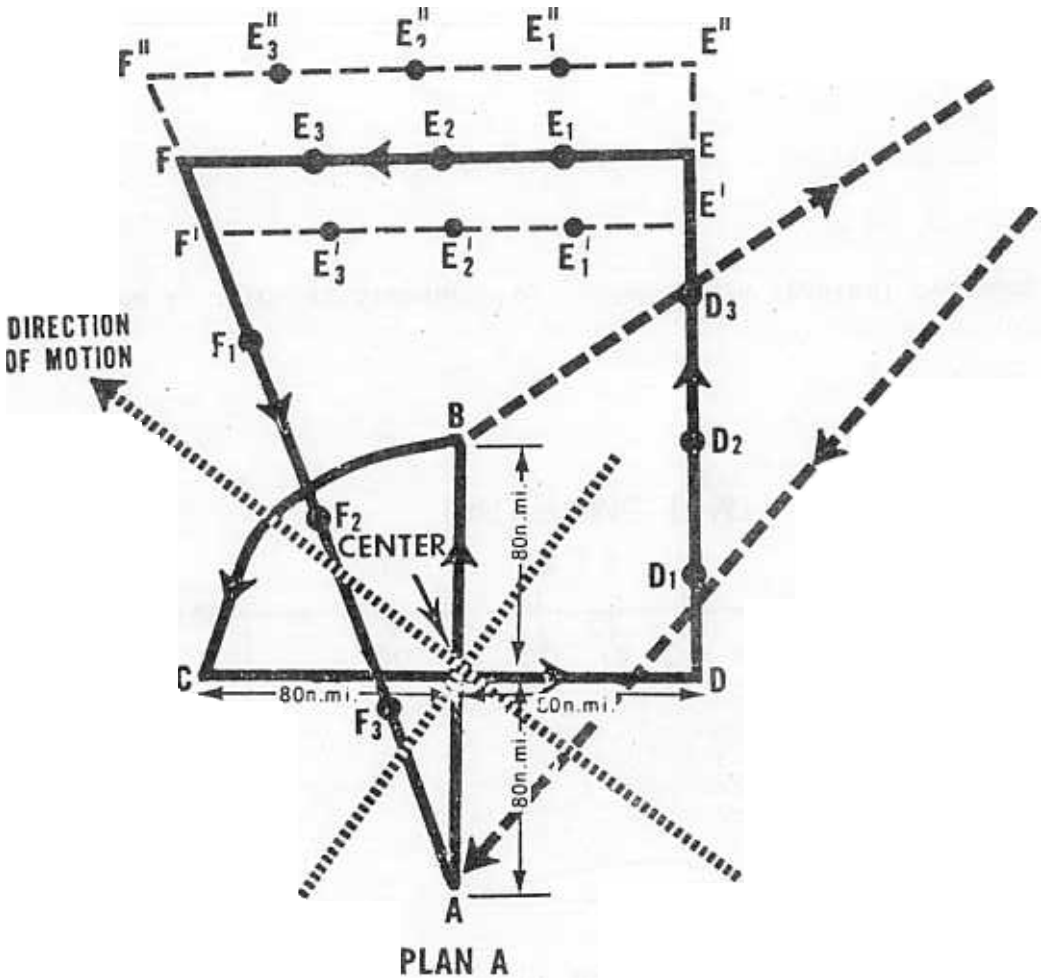
700 MB TRACK

AF GULL 01 GERTRUDE

SEPTEMBER 291055-292025 GMT

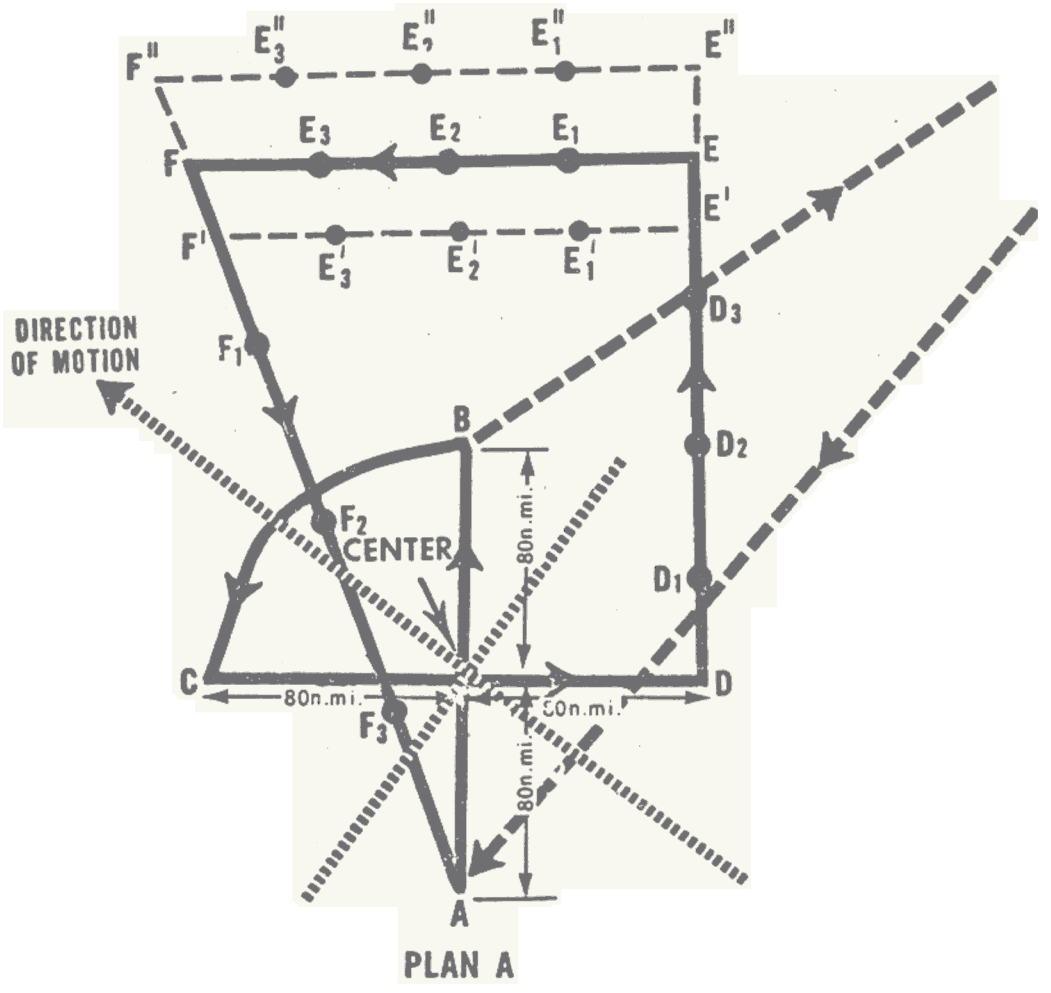
AIRBORNE WEATHER RECONNAISSANCE SYSTEM (AWRS)

Figure 2-0



FLIGHT ALTITUDES
A B C D -- 10,000 FEET
D E F A -- 1,500 FEET

Figure 3. Flight pattern flown in obtaining vortex profiles.



FLIGHT ALTITUDES
A B C D -- 10,000 FEET
D E F A -- 1,500 FEET

Figure 3 Flight pattern flown n obtaining vortex profiles.

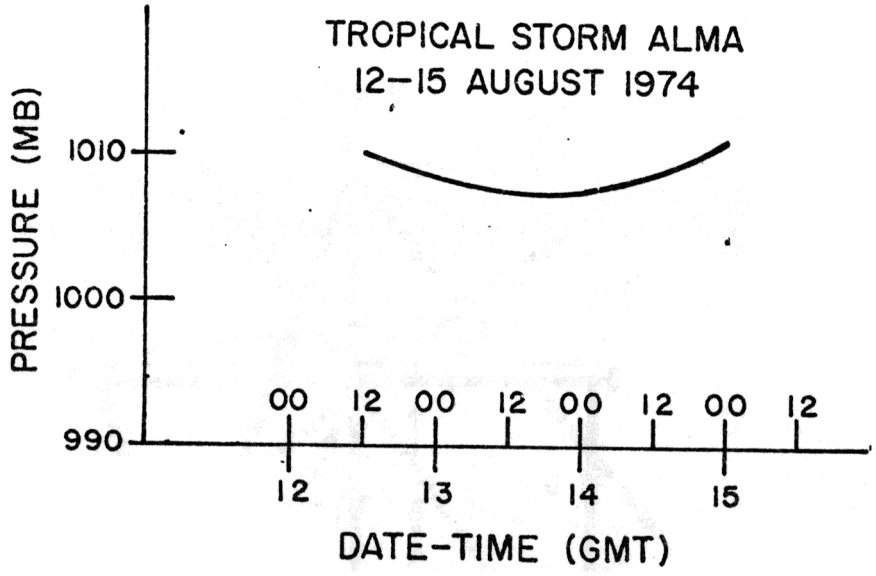


Figure 4. Lowest pressure vs time, 1974 tropica cyclones.

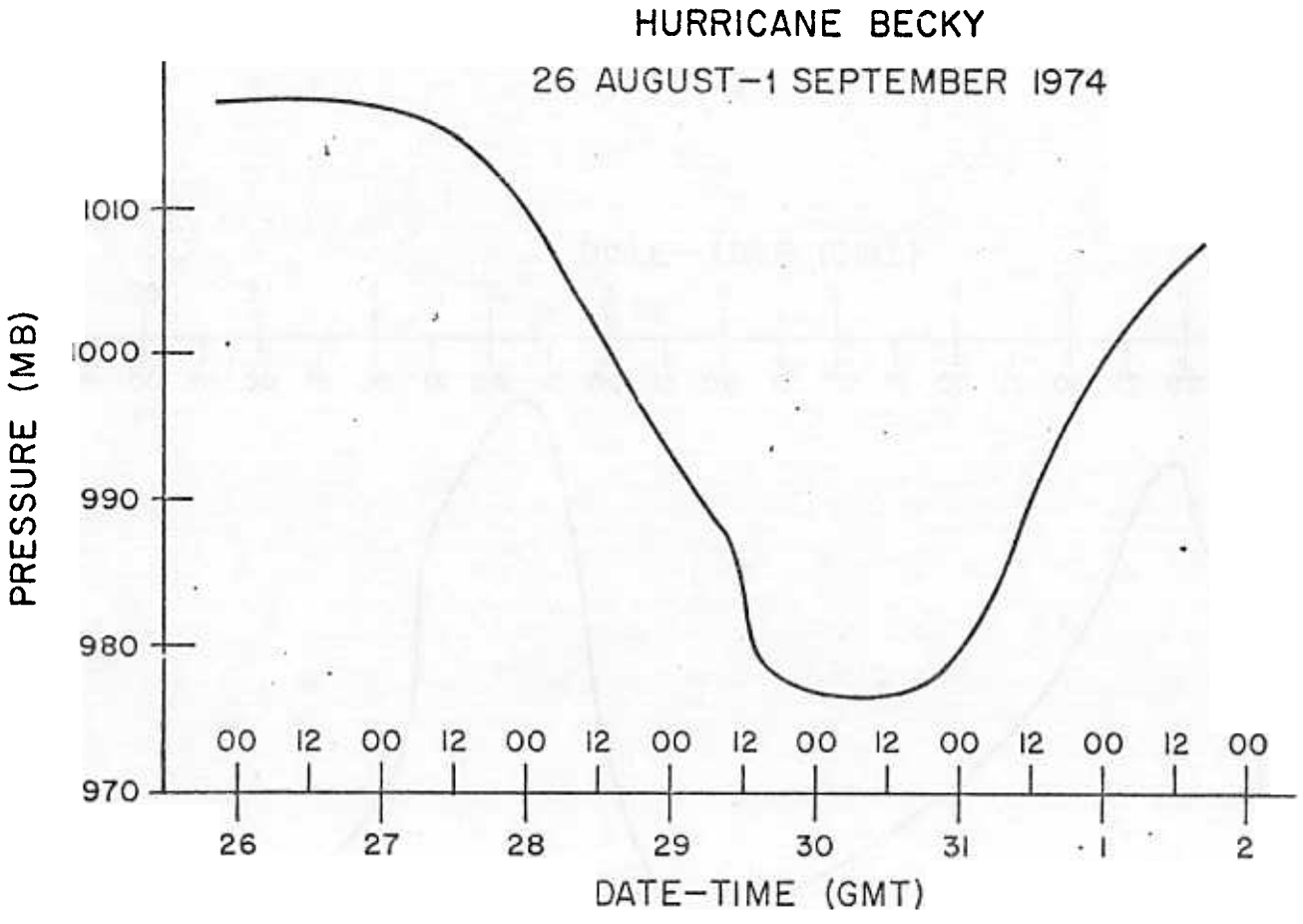


Figure 4. (continued)

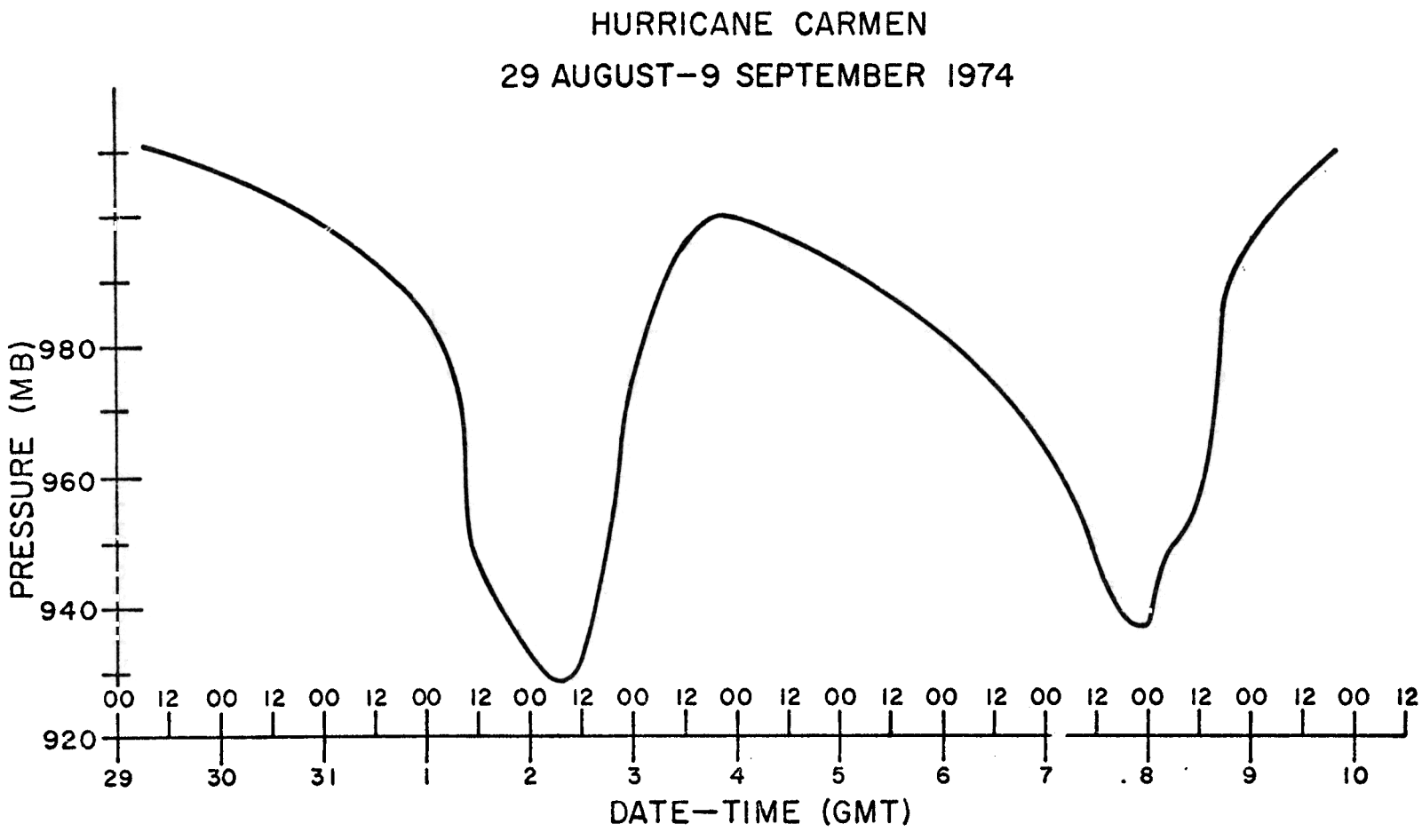


Figure 4. (continued)

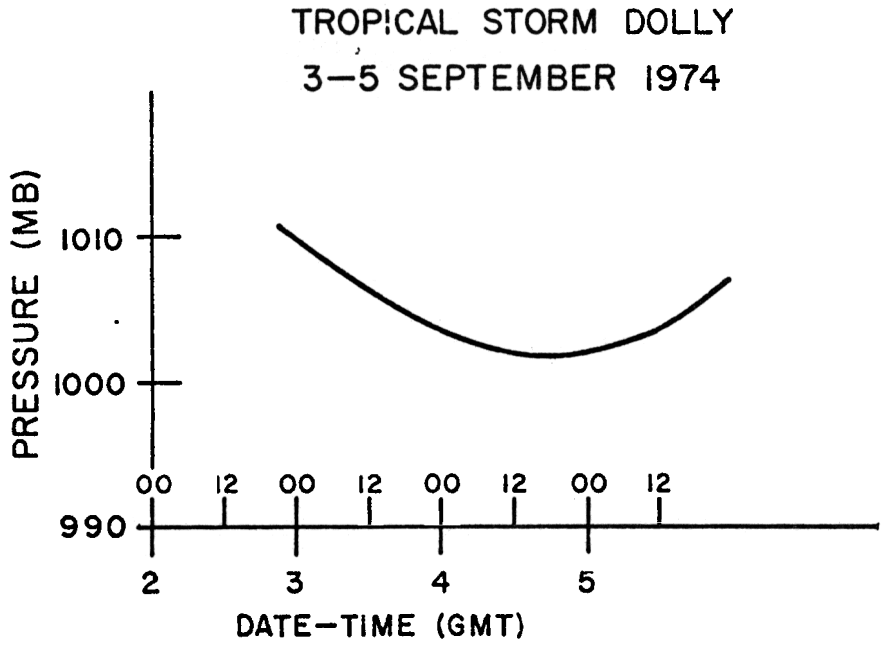


Figure 4. (continued)

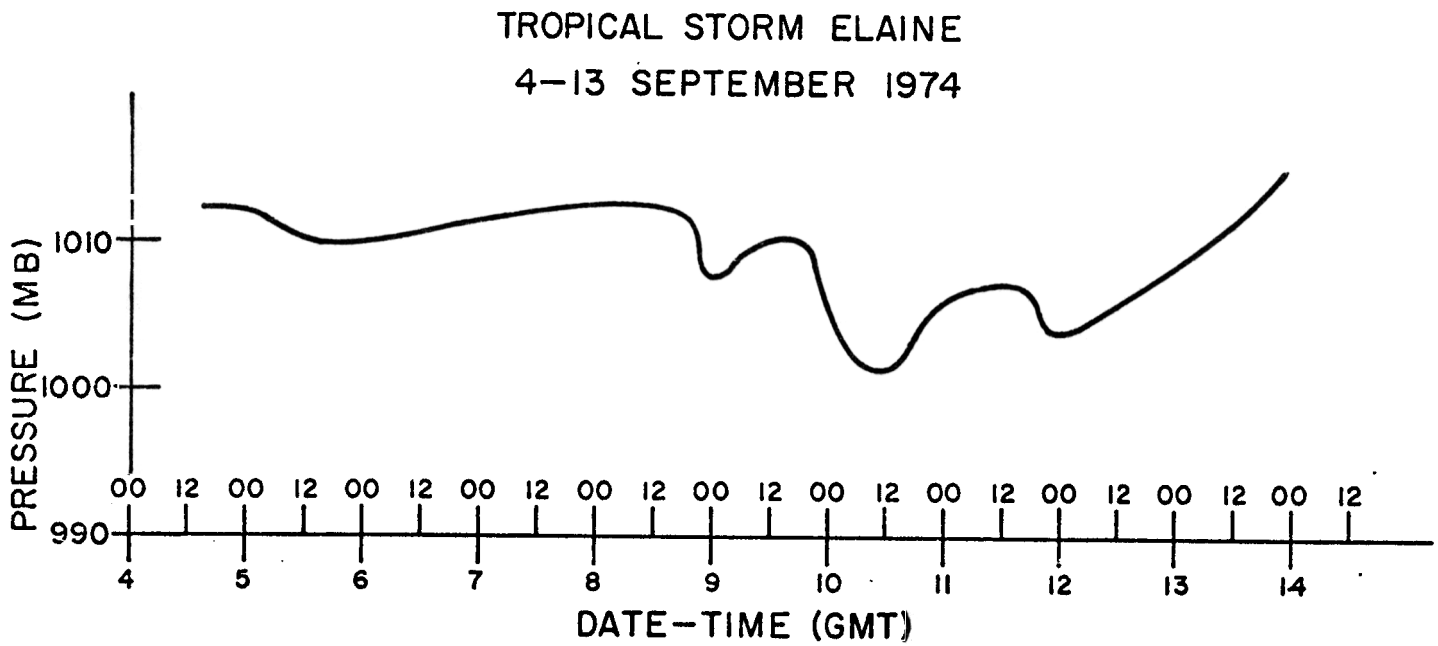


Figure 4. (continued)

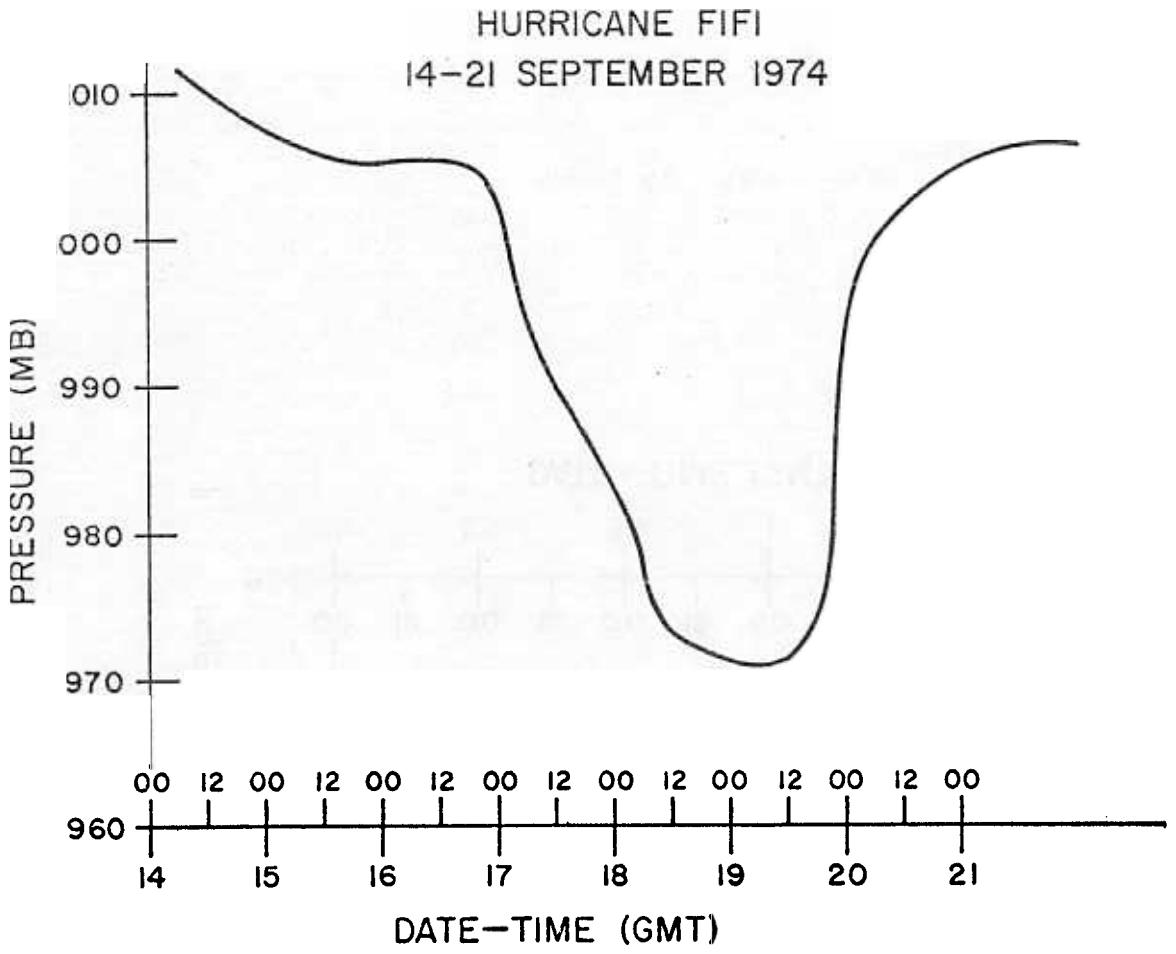


Figure 4. (continued)

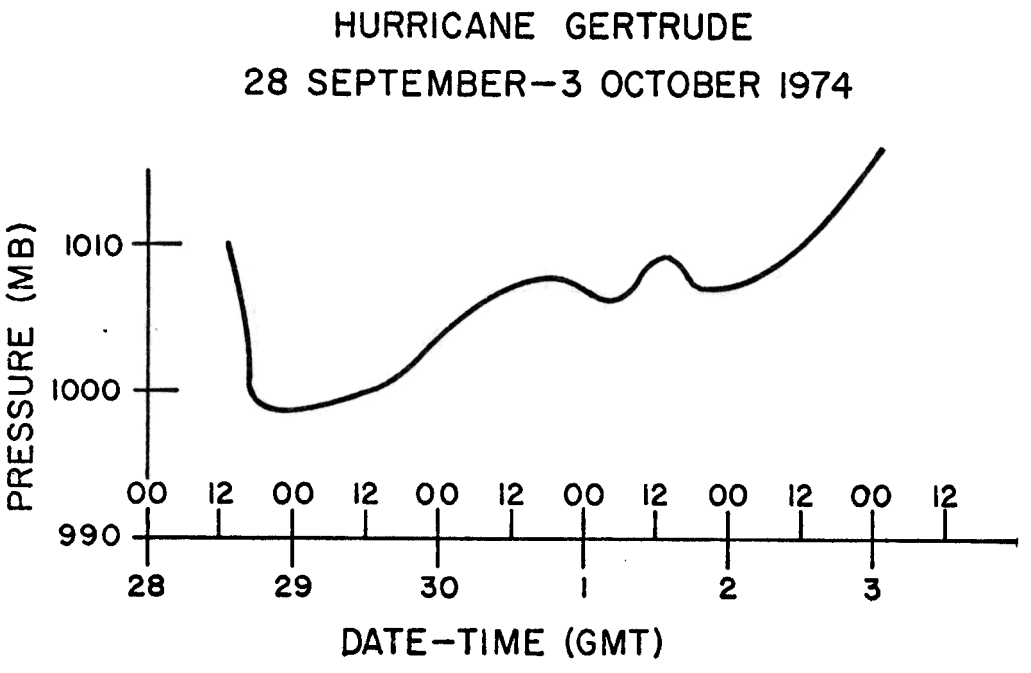


Figure 4. (continued)

ALMA

BECKY

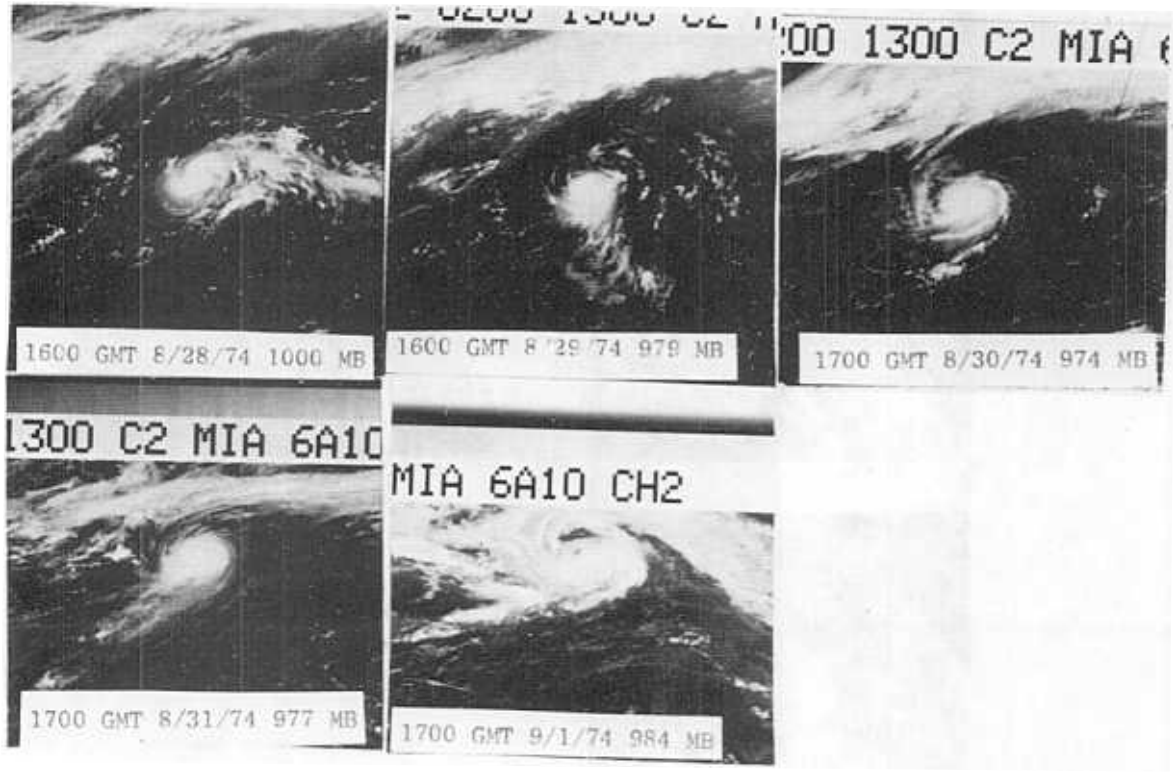
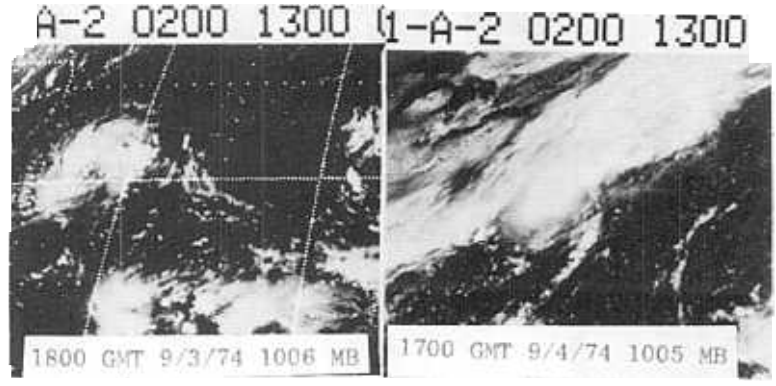


Figure 5. Daily satel te photographs of 1974 tropical storms and hurricanes.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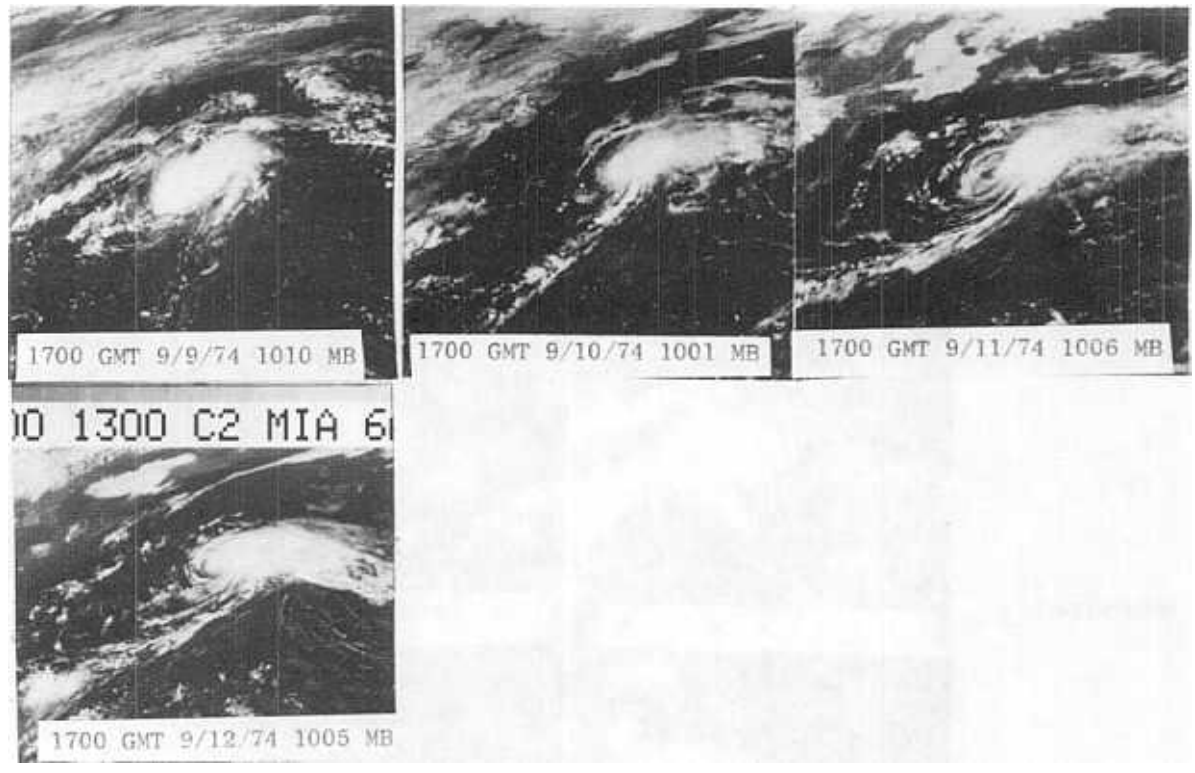
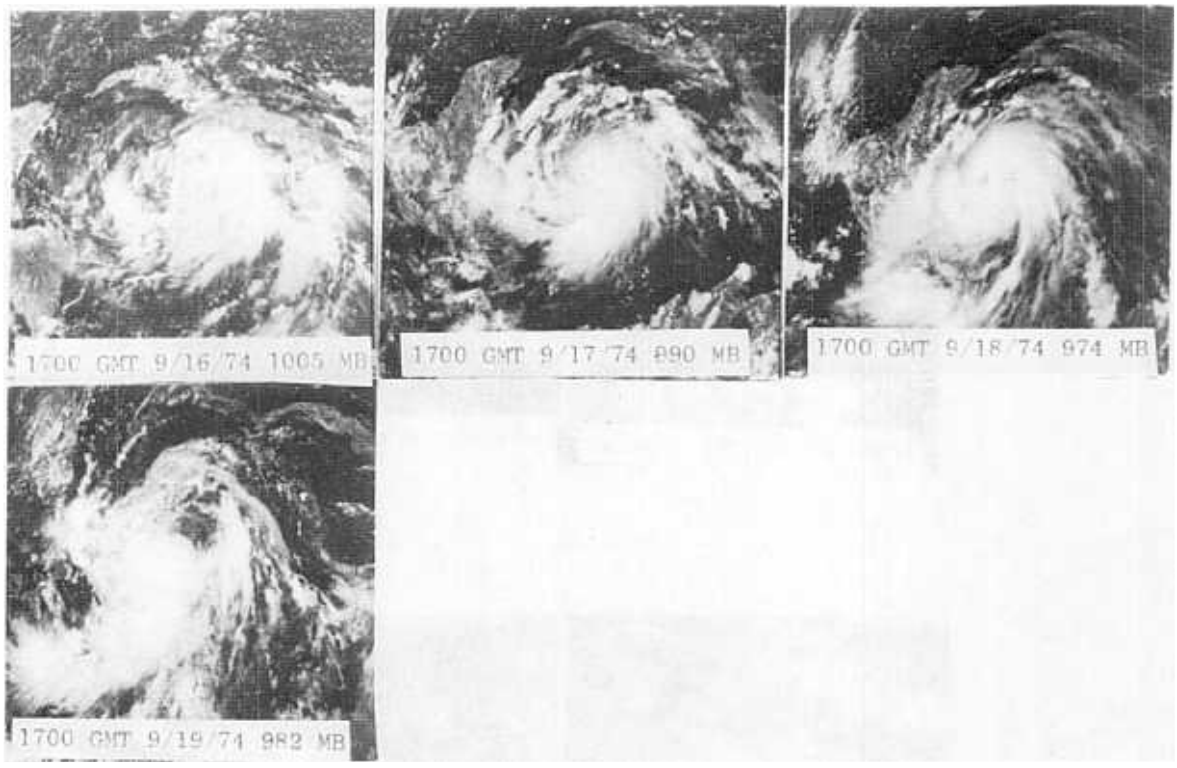
ELAINE

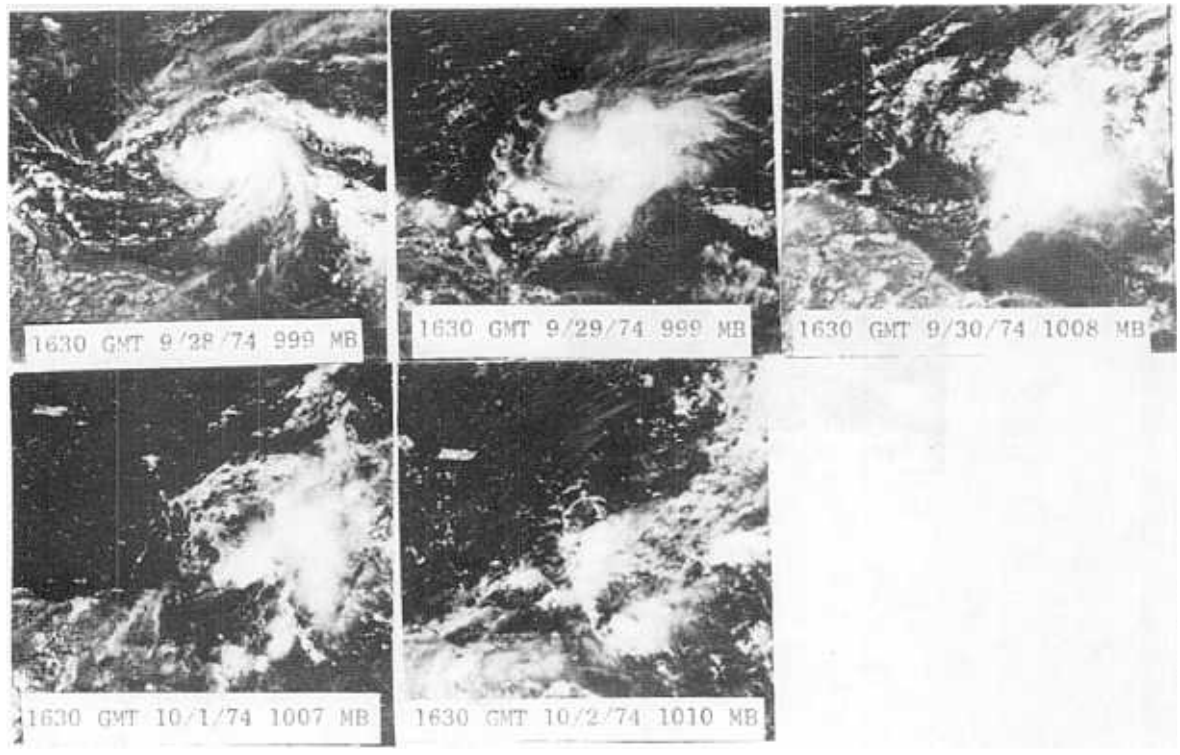

1700 GMT 9/9/74 1010 MB
1700 GMT 9/10/74 1001 MB
1700 GMT 9/11/74 1006 MB
00 1300 C2 MIA 6
1700 GMT 9/12/74 1005 MB

(c

FIFI



GERTRUDE



igur 5 (continued)