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NOAA Technical Memorandum NWS WR-175

ANNUAL DATA AND VERIFICATION TABULATION EASTERN NORTH PACIFIC TROPICAL STORMS AND HURRICANES 1981

Salt Lake City, Utah
June 1982

U.S. DEPARTMENT OF COMMERCE / National Oceanic and Atmospheric Administration / National Weather Service

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Eastern Pacific Hurricane Center
San Francisco, California
June 1982

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ANNUAL DATA AND VERIFICATION TABULATION
EASTERN NORTH PACIFIC TROPICAL STORMS AND HURRICANES 1981

Emil B. Gunther and Staff
Eastern Pacific Hurricane Center
San Francisco, California

I. INTRODUCTION

This is the third report of an annual series covering eastern north Pacific tropical cyclone activity. Data was provided by the National Weather Service, the National Earth Satellite Service Field Station - San Francisco, California, and the Chief, Aerial Reconnaissance Coordination, all Hurricanes (CARACH), Miami, Florida.

II. OBJECTIVE FORECAST TECHNIQUES

Tropical cyclone prediction models used by Eastern Pacific Hurricane Center (EPHC) forecasters include:

1. EPHC77 (Leftwich and Neumann, 1977). A statistical-synoptic model.
2. EPHC81 (Leftwich, 1981). A statistical-dynamical model.
3. EPCLIPER (Neumann, 1972). A simulated analog model based on persistence and climatology.
4. EPANALOG (Jarrell, Mauck, and Renard, 1975). An analog model.
5. SANBAR (Sanders and Burpee, 1968). A filtered barotropic model. (SANBAR, undergoing modification, was not available during 1981).
6. NMC MFM (Hovermale, 1975). A ten-level baroclinic model. (Used for cyclones threatening U.S. territory. Not used during 1981 season.)

In addition to the above models, forecasters also make use of NMC analyses and prognoses.

III. VERIFICATION

Verification statistics for the 1981 season are shown in Table 1. The forecast displacement error is the vector difference between the forecaster displacement and the actual displacement computed from best-track positions. The initial position error is not subtracted from the forecast error and depressions are not verified.

IV. DATA SUMMARIES

A summary of the 1981 eastern North Pacific tropical cyclone statistics is given in Table 2. Best track, operational positions, and position errors are given in Table 3.

Although no reconnaissance flights were made into eastern North Pacific cyclones during the 1981 season, U.S. Air Force aircraft were placed on standby status during Hurricane Beatriz when it appeared the cyclone might threaten U.S. territory.

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TABLE 1

VERIFICATION OF 1981 TROPICAL STORM AND HURRICANE FORECASTS
(FIGURES IN PARENTHESES ARE NUMBER OF CASES)

METHOD	FORECAST DISPLACEMENT ERRORS (N. MI.) 24HR	48HR	72HR
OFFICIAL	100(196)	178(131)	267(82)
EPANALOG	99(184)	185(135)	261(87)
EPHC77	101(178)	195(133)	270(85)
EPHC81	104(78)	186(59)	242(36)
EPCLIPER	104(186)	194(137)	266(88)

TABLE 2

SUMMARY OF EASTERN NORTH PACIFIC TROPICAL CYCLONES, 1981

NO.	NAME	CLASS	DATES	MAX (kt)	DAMAGE ($ MILLION)	DEATHS
1.	ADRIAN	TS	30 MAY-4 JUN	40		
2.	BEATRIZ	HU	28 JUN-4 JUL	75		
3.	CALVIN	TS	4-9 JUL	45		
4.	DORA	HU	10-16 JUL	80		
5.	EUGENE	TS	16-21 JUL	45		
6.	SIX	TD	4-5 AUG	30		
7.	FERNANDA	HU	6-13 AUG	90		
8.	GREG	HU	13-22 AUG	65		
9.	NINE	TD	19-20 AUG	39		
10.	HILARY	HU	21-28 AUG	75		
11.	IRWIN	TS	27-31 AUG	45		
12.	JOVA	HU	14-21 SEP	75		
13.	KNUT	TS	19-21 SEP	75		
14.	LIDIA	TS	6-8 OCT	45	60*	73*
15.	MAX	TS	7-10 OCT	45		
16.	NORMA	HU	8-12 OCT	110	24*	6*
17.	OTIS	HU	24-30 OCT	75		

*All damage and deaths occurred in Mexico.

TROPSTV
STORM NUMBER=1

ADRIAN

DATE/TIME (GMT)	BEST TRACK LAT.	BEST TRACK LONG.	OPERATIONAL POSITION LAT.	OPERATIONAL POSITION LONG.	POSITION 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.)
53000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
53006	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
53012	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
53018	11.4	105.2	11.2	105.5	21.3	12.8	103.2	25.	0.0	0.0	0.	0.0	0.0	0.
53100	12.1	105.4	12.1	105.4	0.0	14.1	104.9	94.	0.0	0.0	0.	0.0	0.0	0.
53106	12.4	105.0	12.3	105.0	6.0	14.6	104.7	120.	0.0	0.0	0.	0.0	0.0	0.
53112	12.6	104.6	12.0	104.2	42.9	13.5	103.2	24.	0.0	0.0	0.	0.0	0.0	0.
53118	12.8	104.1	12.5	103.5	39.1	14.7	102.2	102.	16.4	102.5	188.	0.0	0.0	0.
6 100	12.9	103.5	12.8	104.0	29.5	15.3	103.6	193.	17.1	103.5	267.	0.0	0.0	0.
6 106	13.0	102.8	12.8	103.8	59.1	14.3	103.6	163.	15.9	103.7	266.	17.5	103.8	0.
6 112	13.1	102.1	13.1	103.2	63.7	14.4	103.1	136.	15.5	103.9	310.	16.5	105.0	0.
6 118	13.2	101.5	13.1	101.6	8.3	14.2	100.1	42.	15.1	99.8	82.	16.5	100.1	0.
6 200	13.3	101.2	13.3	101.0	11.6	15.0	99.2	67.	0.0	0.0	0.	0.0	0.0	0.
6 206	13.5	100.8	13.3	101.0	16.7	14.7	99.4	8.	16.3	99.0	0.	0.0	0.0	0.
6 212	13.7	100.4	13.4	101.0	39.2	14.7	99.4	47.	0.0	0.0	0.	0.0	0.0	0.
6 218	13.9	100.1	13.8	100.7	35.4	14.2	99.4	72.	0.0	0.0	0.	0.0	0.0	0.
6 300	14.2	99.7	14.2	100.0	0.0	16.0	99.0	0.	0.0	0.0	0.	0.0	0.0	0.
6 306	14.5	99.3	14.6	99.3	0.0	15.9	97.2	0.	0.0	0.0	0.	0.0	0.0	0.
6 312	14.7	98.8	14.8	98.6	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
6 318	15.0	98.4	14.9	98.4	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
MEAN VECTOR ERRORS (N.MI)								84.			223.			0.
NUMBER OF CASES								13			5			0

STOP
R

TABLE 3

```
DIR JF
R
TROPSTV
FILE DOES NOT EXIST:  TROPSTV.SV
R
DIR JF
R
TROPSTV
STORM NUMBER=2
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BEATRIZ

DATE/TIME (GMT)	BEST TRACK LAT.	BEST TRACK LONG.	OPERATIONAL POSITION LAT.	OPERATIONAL POSITION LONG.	POSITION 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.)
62800	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
62806	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
62812	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
62818	11.4	103.4	11.4	103.4	0.0	11.8	105.6	117.	0.0	0.0	0.	0.0	0.0	0.
62900	11.6	104.4	11.8	103.7	42.0	13.6	104.8	212.	15.1	107.2	238.	15.8	110.0	258.
62906	11.7	105.4	12.0	105.0	29.2	13.1	108.1	58.	14.5	111.4	72.	15.8	114.7	126.
62912	12.0	106.5	11.8	106.0	31.3	11.9	110.2	121.	12.3	114.3	246.	12.3	114.3	376.
62918	12.4	107.5	12.4	107.5	0.0	13.2	112.0	159.	14.1	116.3	217.	14.4	120.7	392.
63000	13.1	108.4	12.7	108.3	24.7	13.0	112.2	142.	13.7	116.3	248.	15.0	120.3	358.
63006	13.8	109.1	13.1	109.1	42.0	14.4	112.9	81.	15.7	116.5	164.	17.0	120.0	254.
63012	14.5	109.8	13.9	110.0	37.7	15.6	113.6	50.	16.7	115.4	108.	17.7	119.0	208.
63018	15.2	110.4	15.0	110.0	25.4	18.0	111.9	130.	19.5	115.0	74.	20.5	118.0	108.
7 100	15.3	111.3	15.2	111.3	6.0	17.2	114.2	6.	18.0	117.5	125.	18.3	120.7	260.
7 106	15.5	112.2	15.5	112.1	5.6	16.8	115.8	87.	18.0	119.0	172.	19.0	122.7	294.
7 112	16.1	112.9	16.2	113.0	8.2	17.7	116.4	79.	18.8	119.2	147.	19.0	122.0	300.
7 118	16.6	113.6	16.8	113.8	16.3	18.0	115.0	112.	19.2	116.5	222.	20.0	118.4	372.
7 200	17.3	114.2	17.3	114.2	0.0	19.0	116.9	60.	20.6	119.8	121.	21.2	123.0	0.
7 206	17.9	114.8	17.9	114.8	0.0	20.1	116.7	51.	21.4	119.0	154.	22.4	121.3	0.
7 212	18.6	115.4	18.5	115.3	8.2	20.2	117.7	64.	21.6	120.0	172.	22.0	122.0	0.
7 218	19.2	116.2	19.4	116.3	13.2	21.7	119.3	13.	23.5	123.0	145.	25.5	126.3	0.
7 300	19.8	116.9	20.0	116.9	12.0	22.6	122.0	105.	24.7	122.0	0.	26.0	125.0	0.
7 306	20.4	117.6	20.5	117.5	8.2	22.6	119.8	70.	24.8	122.1	0.	26.7	125.0	0.
7 312	21.2	118.4	21.1	118.3	8.1	23.4	121.2	45.	26.0	124.0	0.	28.0	127.0	0.
7 318	21.9	119.2	21.9	119.2	0.0	25.6	122.7	65.	29.0	124.0	0.	0.0	0.0	0.
7 400	22.6	120.0	22.6	120.1	0.0	25.1	123.0	0.	27.3	125.3	0.	0.0	0.0	0.
7 406	23.5	120.7	23.5	120.6	0.0	25.8	122.8	0.	27.5	125.0	0.	0.0	0.0	0.
7 412	24.5	121.2	24.0	121.7	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
7 418	25.5	121.5	25.5	121.5	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
MEAN VECTOR ERRORS (N.MI)								87.			164.			276.
NUMBER OF CASES								21			16			12

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STOP
R
```

TABLE 4

TROPSTV
STORM NUMBER=3

CALVIN

DATE/TIME (GMT)	BEST TRACK LAT.	BEST TRACK LONG.	OPERATIONAL POSITION LAT.	OPERATIONAL POSITION LONG.	POSITION 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.)
7 400	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
7 406	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
7 412	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
7 418	13.4	102.4	12.8	102.5	36.4	14.7	106.0	35.	16.5	110.0	202.	19.0	114.0	339.
7 500	13.5	103.2	13.5	103.2	0.0	14.7	106.4	19.	16.0	110.2	205.	16.9	114.6	404.
7 506	13.6	104.1	13.6	104.1	0.0	15.2	107.3	81.	16.7	110.9	200.	17.9	114.6	405.
7 512	13.9	104.8	13.9	105.0	11.3	15.3	108.7	146.	17.0	112.4	284.	19.0	116.0	421.
7 518	14.3	105.7	14.2	105.7	6.0	15.8	109.0	175.	17.2	112.5	301.	19.0	116.0	410.
7 600	15.0	106.0	15.0	106.5	28.1	16.7	109.7	154.	18.1	112.9	283.	19.5	116.2	362.
7 606	15.9	106.3	15.7	106.0	20.7	18.2	107.2	59.	19.6	109.6	116.	20.0	111.0	0.
7 612	16.8	106.5	16.3	106.4	30.5	18.5	107.3	58.	20.0	108.7	73.	21.0	111.0	0.
7 618	17.6	106.9	17.7	106.7	12.6	21.0	108.2	60.	22.5	110.3	73.	23.0	112.0	0.
7 700	18.3	107.2	18.7	108.0	50.5	21.2	111.8	184.	23.0	115.0	278.	24.7	118.5	0.
7 706	18.9	107.5	18.7	108.1	35.8	20.3	110.6	138.	21.0	114.0	0.	0.0	0.0	0.
7 712	19.4	107.7	19.2	108.0	20.6	21.2	108.7	11.	22.6	109.8	0.	0.0	0.0	0.
7 718	19.8	108.0	20.0	108.1	13.2	22.2	109.0	34.	23.6	110.6	0.	24.5	112.0	0.
7 800	20.3	108.4	20.5	108.6	16.3	22.9	109.7	77.	25.3	110.6	0.	26.0	111.0	0.
7 806	20.8	108.7	21.1	108.3	0.0	23.2	108.9	0.	25.0	110.0	0.	26.6	110.8	0.
7 812	21.3	109.1	21.2	108.9	0.0	22.5	109.9	0.	24.0	112.0	0.	0.0	0.0	0.
7 818	21.6	109.5	21.7	109.3	0.0	23.4	111.0	0.	0.0	0.0	0.	0.0	0.0	0.
7 900	21.6	110.3	21.7	110.2	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
7 906	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
7 912	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
7 918	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.

MEAN VECTOR ERRORS (N.MI) 88. 202. 390.
NUMBER OF CASES 14 10 6
STOP
R

TABLE 5

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TROPSTV
FILE DOES NOT EXIST:  TROPSTV.SV
R
DIR JF
R
TROPSTV
STORM NUMBER=4
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H. DORA 24

DATE/TIME (GMT)	BEST TRACK LAT.	BEST TRACK LONG.	OPERATIONAL POSITION LAT.	OPERATIONAL POSITION LONG.	POSITION 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.)
71000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
71006	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
71012	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
71018	13.3	106.9	13.1	106.9	12.0	14.5	110.8	100.	16.2	114.1	136.	17.8	117.3	109.
71100	13.5	107.5	13.0	107.5	30.0	15.6	109.8	96.	17.9	113.0	168.	19.7	116.4	187.
71106	13.7	108.0	13.0	108.2	43.5	13.7	111.3	51.	14.8	115.0	67.	16.0	119.0	64.
71112	13.9	108.5	13.3	108.7	37.8	14.6	111.6	13.	16.2	114.8	21.	18.0	117.3	160.
71118	14.0	109.0	13.7	109.3	24.8	15.2	112.0	13.	16.9	115.0	70.	18.5	117.8	209.
71200	14.2	109.8	14.0	109.8	12.0	15.4	112.4	44.	16.7	115.4	109.	18.2	118.7	225.
71206	14.4	110.6	14.2	110.6	12.0	15.5	113.8	17.	16.5	117.2	73.	17.8	121.0	143.
71212	14.7	111.4	14.5	111.4	12.0	15.5	114.7	38.	16.7	118.1	105.	17.4	121.6	187.
71218	15.0	112.1	15.0	112.1	0.0	16.5	115.4	41.	17.7	118.8	143.	18.8	122.0	216.
71300	15.1	113.1	15.1	113.1	0.0	16.3	116.6	47.	17.2	120.0	152.	18.4	123.3	222.
71306	15.6	114.1	15.5	114.1	6.0	16.9	118.0	23.	18.0	122.0	86.	19.0	126.0	153.
71312	16.0	115.0	16.0	115.1	5.6	17.6	118.9	68.	18.7	122.5	126.	19.8	126.0	186.
71318	16.4	116.2	16.4	116.1	5.7	17.9	120.1	73.	18.9	123.7	119.	19.7	127.3	148.
71400	16.8	117.2	16.7	117.3	8.3	17.9	121.3	75.	19.0	125.0	120.	19.8	128.3	0.
71406	16.9	118.4	16.9	118.4	0.0	18.0	122.4	63.	18.9	126.2	144.	19.8	129.5	0.
71412	17.2	119.8	17.0	119.9	13.3	17.5	125.0	57.	17.5	129.2	132.	17.4	133.3	0.
71418	17.4	120.9	17.5	121.3	23.4	18.5	126.4	42.	19.4	130.8	62.	17.8	133.6	0.
71500	17.7	122.6	17.7	122.6	0.0	18.8	127.3	32.	20.0	131.7	0.	20.0	134.7	0.
71506	17.9	123.7	17.9	123.5	11.3	18.8	127.4	87.	19.7	130.8	0.	21.6	135.9	0.
71512	18.4	124.8	18.4	124.7	5.6	19.8	129.6	18.	20.4	132.6	0.	20.4	134.3	0.
71518	18.8	125.8	18.9	125.8	6.0	20.4	130.2	87.	21.1	133.4	0.	21.1	136.5	0.
71600	18.9	126.9	19.3	127.1	0.0	20.6	131.2	0.	21.7	135.2	0.	22.0	137.0	0.
71606	19.1	127.9	19.7	128.6	0.0	21.1	133.1	0.	22.0	137.0	0.	0.0	0.0	0.
71612	19.3	128.8	19.7	129.3	0.0	20.3	133.4	0.	20.5	135.0	0.	0.0	0.0	0.
71618	19.4	129.8	19.0	129.8	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
MEAN VECTOR ERRORS (N.MI)								52.			108.			170.
NUMBER OF CASES								21			17			13

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STOP
R
```

TABLE 6

TROPSTV
STORM NUMBER=5

EUGENE

DATE/TIME (GMT)	BEST TRACK LAT.	BEST TRACK LONG.	OPERATIONAL POSITION LAT.	OPERATIONAL POSITION LONG.	POSITION 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.)
71600	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
71606	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
71612	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
71618	17.5	106.6	17.4	106.5	8.3	18.1	110.6	46.	18.3	112.9	111.	18.5	114.8	40.
71700	17.7	107.4	17.5	107.5	13.3	18.1	110.8	31.	19.0	114.0	125.	20.0	117.0	42.
71706	17.9	108.1	17.8	107.9	12.8	18.3	110.6	57.	19.0	113.3	60.	19.8	116.2	98.
71712	18.1	108.8	18.1	108.8	0.0	19.0	111.6	105.	20.0	114.1	109.	21.1	116.8	165.
71718	18.1	109.6	18.1	109.8	11.2	19.0	113.2	149.	20.0	116.6	101.	20.9	119.5	79.
71800	17.8	110.3	17.9	110.3	6.0	18.2	113.8	94.	18.9	117.0	54.	19.5	120.5	100.
71806	17.6	110.8	17.4	110.9	13.3	16.8	113.1	72.	16.7	115.7	210.	17.4	118.8	309.
71812	17.5	111.3	17.3	111.2	13.3	17.1	113.7	77.	17.4	115.7	266.	18.6	118.2	378.
71818	17.5	111.8	17.4	111.2	34.3	17.8	112.9	148.	18.3	114.6	364.	19.0	117.1	484.
71900	18.1	112.7	17.8	112.2	33.5	18.0	114.3	153.	18.5	116.5	331.	19.0	119.5	0.
71906	18.7	113.8	18.0	113.2	53.9	19.0	117.0	59.	20.1	120.8	125.	20.7	124.5	0.
71912	19.1	114.8	18.2	114.4	58.5	19.1	118.2	91.	19.9	121.9	156.	20.6	125.3	0.
71918	19.6	115.7	19.1	115.1	44.9	20.9	118.9	110.	22.6	122.4	165.	23.8	125.6	0.
72000	19.7	116.8	19.6	116.4	23.2	21.7	120.6	111.	23.0	124.0	0.	24.0	127.5	0.
72006	19.9	118.2	19.5	117.9	29.3	20.3	123.2	34.	0.0	0.0	0.	0.0	0.0	0.
72012	20.2	119.7	20.0	119.5	16.4	21.0	124.7	25.	0.0	0.0	0.	0.0	0.0	0.
72018	20.6	121.0	20.2	120.7	29.3	21.2	125.5	34.	0.0	0.0	0.	0.0	0.0	0.
72100	20.7	122.5	20.4	122.0	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
72106	21.0	123.8	20.8	122.9	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
72112	21.3	125.2	21.2	124.3	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
72118	21.4	126.0	21.7	125.2	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
MEAN VECTOR ERRORS (N.MI)								82.			168.			188.
NUMBER OF CASES								17			13			9

STOP
R

TABLE 7

TROPSTV
STORM NUMBER=6

H. FERNANDA

DATE/TIME (GMT)	BEST TRACK LAT.	BEST TRACK LONG.	OPERATIONAL POSITION LAT.	OPERATIONAL POSITION LONG.	POSITION 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.)
8 600	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
8 606	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
8 612	12.0	104.6	12.0	104.6	0.0	13.0	108.3	238.	14.5	112.1	274.	15.4	115.9	429.
8 618	12.1	106.2	12.1	106.2	0.0	13.0	111.0	161.	14.3	115.6	210.	14.9	119.9	280.
8 700	12.1	107.9	12.5	108.5	42.2	13.5	113.8	76.	14.4	117.5	194.	15.2	121.1	286.
8 706	12.2	109.6	12.2	110.5	51.9	12.9	117.2	70.	13.9	121.8	49.	15.2	125.8	138.
8 712	12.3	111.2	12.3	112.3	63.5	12.8	119.1	148.	13.5	124.4	115.	14.7	129.0	138.
8 718	12.6	112.9	12.5	113.7	46.4	13.5	119.5	62.	14.7	123.6	80.	15.4	127.6	220.
8 800	12.8	114.6	12.5	114.6	18.0	13.4	120.2	97.	14.2	125.3	104.	14.8	129.7	271.
8 806	13.3	116.2	12.9	116.0	26.6	13.6	120.2	124.	14.8	124.0	239.	15.3	128.1	418.
8 812	13.9	117.7	13.2	116.6	75.3	14.5	122.1	78.	15.3	125.9	206.	16.2	130.1	389.
8 818	14.5	119.2	14.5	119.2	0.0	16.3	123.8	71.	17.5	127.4	178.	18.1	131.0	350.
8 900	14.8	120.6	14.9	120.8	12.8	16.4	125.5	46.	17.6	129.6	150.	18.0	134.0	295.
8 906	14.9	122.0	14.7	122.0	12.0	15.6	126.7	83.	16.3	131.0	264.	17.0	134.7	432.
8 912	15.1	123.4	15.1	123.3	5.6	15.5	128.3	99.	16.0	132.1	334.	17.1	135.6	421.
8 918	15.5	124.8	15.5	124.7	5.6	17.0	129.8	63.	17.9	133.8	263.	19.0	137.5	269.
81000	15.8	126.2	15.8	126.0	11.1	17.0	131.2	115.	18.2	135.5	247.	19.5	139.5	305.
81006	16.5	127.7	16.6	127.7	6.0	18.0	132.7	128.	19.2	136.7	268.	20.3	140.4	0.
81012	17.1	129.1	17.0	129.0	8.2	18.7	134.2	141.	19.6	138.2	240.	20.2	141.7	0.
81018	17.8	130.6	17.8	130.5	5.6	19.5	135.6	144.	20.5	139.6	186.	21.3	143.2	0.
81100	18.8	131.9	18.8	131.9	0.0	21.1	136.3	69.	23.0	140.0	122.	24.0	143.0	0.
81106	19.8	133.2	20.0	133.5	20.4	24.2	138.0	42.	26.1	140.9	0.	27.3	143.6	0.
81112	20.8	134.4	21.0	134.7	20.4	24.1	138.8	37.	25.8	141.2	0.	27.2	143.4	0.
81118	21.8	135.7	21.9	135.7	6.0	25.1	139.0	107.	27.2	140.5	0.	28.8	141.0	0.
81200	22.7	137.0	22.1	136.9	36.4	23.0	141.0	164.	23.7	144.0	0.	0.0	0.0	0.
81206	23.3	137.5	23.5	138.0	0.0	26.6	142.2	0.	28.5	147.0	0.	0.0	0.0	0.
81212	23.7	137.9	23.6	138.4	0.0	25.0	139.2	0.	0.0	0.0	0.	0.0	0.0	0.
81218	24.1	138.2	23.4	138.4	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
81300	24.3	138.7	24.5	138.5	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
81306	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
81312	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
81318	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.

MEAN VECTOR ERRORS (N.MI) 103. 196. 309.
NUMBER OF CASES 23 19 15
STOP
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TABLE 8

TROPSTV
STORM NUMBER=7

T.S.GREG 24

DATE/TIME (GMT)	BEST TRACK LAT.	BEST TRACK LONG.	OPERATIONAL POSITION LAT.	OPERATIONAL POSITION LONG.	POSITION 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.)
81300	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
81306	16.2	111.4	16.0	111.5	13.3	16.8	115.1	110.	17.6	118.9	158.	18.2	122.7	170.
81312	16.4	111.7	16.6	112.0	20.6	18.3	115.1	104.	20.0	118.1	115.	21.7	120.9	93.
81318	16.5	112.1	16.5	112.6	28.1	17.7	115.0	46.	19.4	117.5	31.	21.1	119.9	170.
81400	16.6	112.6	16.8	112.5	13.3	17.8	115.2	13.	19.0	118.1	74.	20.3	121.1	163.
81406	16.8	113.2	16.6	113.2	12.0	17.2	115.7	66.	18.0	117.8	182.	18.8	120.0	302.
81412	17.3	113.7	17.2	113.7	6.0	18.3	116.3	29.	19.7	119.1	145.	20.8	121.9	262.
81418	17.7	114.2	17.7	114.2	0.0	19.8	116.4	97.	21.6	118.5	253.	23.1	120.2	466.
81500	18.0	115.3	18.0	115.1	11.2	19.9	117.8	74.	21.5	120.5	209.	22.6	123.1	397.
81506	18.4	116.2	18.2	116.2	12.0	19.2	120.2	42.	19.9	124.3	51.	20.5	128.0	173.
81512	18.8	117.0	18.7	116.6	23.3	20.0	119.6	114.	21.2	122.5	234.	22.2	125.2	405.
81518	19.3	118.0	19.2	118.0	6.0	20.8	121.3	89.	22.6	124.7	242.	23.9	127.5	431.
81600	19.8	119.5	19.8	119.1	22.4	21.5	122.5	111.	22.9	126.0	287.	23.6	129.0	436.
81606	20.0	120.8	19.9	120.3	28.7	21.3	124.4	72.	22.3	127.9	262.	23.2	130.6	404.
81612	20.2	122.0	20.3	121.6	23.3	21.4	125.9	85.	22.5	129.5	255.	23.0	132.4	375.
81618	20.2	123.0	20.3	122.8	12.7	21.4	127.3	104.	0.0	0.0	0.	0.0	0.0	0.
81700	20.3	124.3	20.3	124.0	16.9	21.2	128.0	140.	22.7	130.8	331.	0.0	0.0	0.
81706	20.3	125.3	20.3	125.1	11.3	20.7	129.0	148.	21.5	132.7	251.	0.0	0.0	0.
81712	20.1	126.5	20.1	126.5	0.0	20.3	131.3	102.	21.2	135.4	200.	22.0	138.4	230.
81718	19.6	127.7	19.7	127.7	6.0	19.2	132.8	36.	19.0	137.2	66.	19.0	141.5	108.
81800	19.1	129.1	19.1	129.1	0.0	18.3	134.0	13.	18.2	138.3	21.	19.0	141.0	0.
81806	18.8	130.3	18.5	130.2	18.9	17.7	134.2	67.	18.3	137.5	75.	20.0	140.0	0.
81812	18.7	131.5	18.6	131.3	12.9	18.4	136.1	29.	18.4	140.0	58.	19.2	144.0	0.
81818	18.5	132.7	18.6	132.7	6.0	18.8	137.3	54.	19.3	141.7	126.	20.8	145.0	0.
81900	18.3	133.7	18.2	134.2	29.2	17.8	139.8	103.	17.5	144.7	0.	18.2	149.6	0.
81906	18.1	135.0	18.1	135.3	17.1	17.8	140.2	86.	18.4	143.7	0.	20.3	147.1	0.
81912	18.0	136.2	18.0	136.4	11.4	17.9	141.1	121.	17.9	145.6	0.	17.9	150.0	0.
81918	17.9	137.4	17.9	137.3	5.7	17.6	141.7	124.	17.7	145.7	0.	17.9	149.8	0.
82000	18.0	138.0	18.0	138.0	0.0	18.4	141.7	0.	19.2	145.1	0.	20.2	148.5	0.
82006	18.0	138.7	17.8	138.7	0.0	18.3	142.3	0.	19.0	145.3	0.	20.0	148.4	0.
82012	18.2	139.3	18.2	139.0	0.0	18.9	142.0	0.	19.9	144.8	0.	21.0	147.5	0.
82018	18.5	139.8	18.4	139.7	0.0	19.3	142.2	0.	20.1	145.0	0.	22.3	148.3	0.
MEAN VECTOR ERRORS (N.MI)								81.			165.			287.
NUMBER OF CASES								27			22			16

STOP
R

TABLE 9

TROPSTV
STORM NUMBER=8

HILARY24

DATE/TIME (GMT)	BEST TRACK LAT.	BEST TRACK LONG.	OPERATIONAL POSITION LAT.	OPERATIONAL POSITION LONG.	POSITION 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.)
82200	18.2	108.0	18.2	108.4	22.5	19.5	113.6	213.	20.6	118.1	443.	21.1	120.0	368.
82206	18.7	108.6	18.2	109.9	79.0	19.4	115.6	303.	20.2	120.0	510.	20.5	123.8	523.
82212	19.3	109.1	19.0	111.0	107.3	20.4	115.0	261.	21.6	118.3	392.	23.1	120.6	306.
82218	19.7	109.8	19.5	111.3	84.0	21.1	114.1	227.	22.9	116.2	286.	23.7	118.2	162.
82300	19.8	110.0	18.5	110.0	78.0	19.1	112.6	135.	19.7	114.5	67.	20.8	116.0	132.
82306	19.8	110.1	18.8	110.3	61.0	19.7	112.2	70.	20.7	114.3	21.	21.5	116.4	202.
82312	19.8	110.2	19.4	110.5	29.2	20.4	112.2	61.	21.5	114.2	94.	22.4	116.4	261.
82318	19.8	110.3	19.8	110.3	0.0	20.9	111.2	99.	21.8	113.0	232.	22.7	115.5	387.
82400	19.7	110.5	19.7	110.3	11.1	20.4	111.7	101.	21.7	121.7	191.	23.0	114.0	521.
82406	19.7	111.0	19.4	111.0	18.0	19.4	113.3	90.	19.6	116.6	232.	19.8	119.8	310.
82412	19.7	111.6	19.5	111.7	13.2	20.0	114.7	74.	20.9	117.4	221.	21.7	119.8	313.
82418	19.8	112.4	19.7	112.4	6.0	20.6	114.8	134.	22.0	117.0	301.	23.3	118.4	446.
82500	20.0	113.5	20.3	113.5	18.0	21.1	116.8	85.	22.0	120.0	184.	22.8	123.2	245.
82506	20.3	114.7	20.4	114.5	12.6	21.6	118.3	96.	22.8	121.6	184.	24.0	124.1	294.
82512	20.7	115.8	20.8	115.7	8.2	22.0	120.0	62.	22.8	123.1	134.	23.6	125.7	253.
82518	21.0	117.1	21.2	117.1	12.0	22.7	121.9	61.	23.4	125.1	143.	24.5	128.4	267.
82600	21.4	118.7	21.3	118.3	23.0	22.5	122.4	65.	23.6	125.3	201.	24.7	127.7	0.
82606	21.7	120.2	21.8	120.0	12.6	23.3	125.2	81.	25.0	130.0	296.	25.0	130.0	0.
82612	21.8	121.5	22.2	121.1	32.6	23.7	126.0	102.	25.0	130.0	264.	26.4	132.7	0.
82618	21.7	122.7	21.8	122.4	17.8	21.8	127.0	62.	22.4	131.5	151.	0.0	0.0	0.
82700	21.6	123.3	21.8	123.3	12.0	21.9	127.4	83.	22.4	130.7	0.	0.0	0.0	0.
82706	21.4	124.1	22.0	124.8	53.1	22.4	129.4	145.	22.8	133.8	0.	0.0	0.0	0.
82712	21.2	125.1	22.1	125.4	56.5	22.6	129.6	119.	23.0	133.7	0.	0.0	0.0	0.
82718	21.0	126.3	21.2	126.1	16.4	20.5	129.8	16.	0.0	0.0	0.	0.0	0.0	0.
82800	20.7	127.3	20.6	126.9	0.0	20.0	130.5	0.	0.0	0.0	0.	0.0	0.0	0.
82806	20.5	128.2	20.5	127.8	0.0	20.5	131.5	0.	0.0	0.0	0.	0.0	0.0	0.
82812	20.4	129.1	20.7	129.0	0.0	21.2	132.7	0.	0.0	0.0	0.	0.0	0.0	0.
82818	20.2	130.0	20.3	130.0	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
MEAN VECTOR ERRORS (N.MI)								114.			227.			312.
NUMBER OF CASES								24			20			16

STOP
R

TABLE 10

TROPSTV
STORM NUMBER=9

IRWIN24

DATE/TIME (GMT)	BEST TRACK LAT.	BEST TRACK LONG.	OPERATIONAL POSITION LAT.	OPERATIONAL POSITION LONG.	POSITION 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.)
82700	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
82706	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
82712	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
82718	16.5	103.5	16.0	103.0	41.5	16.8	104.0	113.	0.0	0.0	0.	0.0	0.0	0.
82800	17.2	103.9	17.0	106.0	117.3	17.7	109.4	217.	18.8	112.6	325.	20.3	115.7	300.
82806	17.7	104.4	16.5	106.0	114.6	17.5	110.8	301.	18.6	114.8	455.	19.4	118.2	400.
82812	18.4	104.9	17.0	105.5	90.4	18.5	108.8	199.	20.2	111.8	228.	21.5	114.6	0.
82818	19.1	105.5	18.3	105.2	50.8	20.7	107.5	112.	22.6	110.0	94.	23.8	112.2	0.
82900	19.8	106.1	19.5	106.1	18.0	22.2	108.6	36.	24.1	111.6	33.	25.7	114.7	0.
82906	20.5	106.7	21.0	107.0	34.1	25.0	109.5	95.	28.6	111.8	283.	0.0	0.0	0.
82912	21.3	107.2	21.5	107.3	13.2	25.0	109.7	83.	27.3	110.5	0.	28.3	110.8	0.
82918	22.0	107.7	22.5	108.0	34.2	25.6	109.7	132.	0.0	0.0	0.	0.0	0.0	0.
83000	22.5	108.5	22.8	108.7	21.0	25.6	110.0	150.	0.0	0.0	0.	0.0	0.0	0.
83006	23.1	109.2	23.6	108.7	40.5	26.0	109.9	207.	0.0	0.0	0.	0.0	0.0	0.
83012	23.5	110.1	23.7	110.2	0.0	25.2	112.8	0.	0.0	0.0	0.	0.0	0.0	0.
83018	23.9	111.0	23.8	111.1	0.0	25.1	114.1	0.	0.0	0.0	0.	0.0	0.0	0.
83100	24.0	112.0	24.1	112.2	0.0	25.0	115.0	0.	0.0	0.0	0.	0.0	0.0	0.
83106	24.2	113.0	24.0	113.0	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
83112	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
83118	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
MEAN VECTOR ERRORS (N.MI)								149.			236.			350.
NUMBER OF CASES								11			6			2

STOP
R

TABLE 11

TROPSTV
STORM NUMBER=0

JOVA 24

DATE/TIME (GMT)	BEST TRACK LAT.	BEST TRACK LONG.	OPERATIONAL POSITION LAT.	OPERATIONAL POSITION LONG.	POSITION 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.)
91400	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
91406	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
91412	14.5	123.4	14.7	122.8	36.6	17.0	129.0	133.	0.0	0.0	0.	0.0	0.0	0.
91418	14.6	124.6	14.5	124.3	18.2	15.3	129.0	27.	15.8	132.0	25.	16.0	135.0	168.
91500	14.7	125.8	14.7	125.6	11.4	15.6	130.7	42.	16.6	134.8	86.	17.1	137.7	140.
91506	14.7	127.0	14.9	126.9	13.3	15.8	131.4	35.	16.6	135.0	81.	17.1	138.4	180.
91512	14.8	128.2	15.0	128.0	16.5	15.9	132.1	37.	16.8	135.8	85.	18.3	139.7	149.
91518	14.9	129.3	14.9	129.2	5.7	15.3	133.6	102.	16.0	137.5	189.	17.3	140.7	0.
91600	15.2	130.2	15.1	130.2	6.0	15.4	134.4	101.	15.8	138.6	228.	16.1	142.6	0.
91606	15.5	130.9	15.3	131.1	16.5	16.3	134.8	83.	17.1	137.8	184.	18.1	140.9	0.
91612	15.9	131.7	15.7	131.5	16.5	16.9	134.6	70.	17.9	137.3	194.	19.0	140.0	0.
91618	16.3	132.5	16.2	132.1	23.6	17.6	134.6	95.	18.8	136.9	0.	19.6	139.6	0.
91700	16.7	133.3	16.7	133.3	0.0	18.4	136.1	91.	20.1	138.6	0.	22.2	141.3	0.
91706	17.4	134.0	17.3	133.8	12.8	19.5	136.5	119.	21.6	138.7	0.	24.2	141.6	0.
91712	18.0	135.0	18.0	135.0	0.0	20.7	138.4	34.	23.0	140.5	0.	25.5	141.9	0.
91718	18.8	136.0	18.7	135.8	0.0	20.9	138.6	0.	22.3	140.5	0.	23.5	142.9	0.
91800	19.4	137.3	19.4	137.3	0.0	21.3	140.3	0.	22.7	143.0	0.	24.3	146.0	0.
91806	20.1	138.6	20.1	138.5	0.0	22.2	143.0	0.	23.2	145.8	0.	24.0	149.0	0.
91812	19.7	140.0	20.7	139.0	0.0	23.0	142.8	0.	24.4	144.8	0.	26.0	146.0	0.
91818	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
MEAN VECTOR ERRORS (N.MI)								74.			134.			159.
NUMBER OF CASES								13			8			4

STOP
R

TABLE 12

TROPSTV
STORM NUMBER=1

KNUT 24

DATE/TIME (GMT)	BEST TRACK LAT.	BEST TRACK LONG.	OPERATIONAL POSITION LAT.	OPERATIONAL POSITION LONG.	POSITION 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.)
91900	15.5	104.5	14.5	104.5	60.0	16.3	109.6	64.	17.7	113.3	318.	19.4	116.7	0.
91906	15.8	106.0	15.3	105.6	37.4	18.5	109.8	29.	20.6	112.0	254.	22.5	113.5	0.
91912	16.1	107.4	16.2	107.5	8.2	18.8	112.7	199.	20.3	115.8	522.	21.0	118.8	0.
91918	16.7	108.8	16.6	108.9	8.2	18.8	114.5	251.	20.8	117.8	0.	23.0	120.0	0.
92000	17.6	109.5	17.3	109.2	24.7	19.3	112.8	231.	20.6	115.4	0.	21.8	117.0	0.
92006	18.6	109.9	18.2	109.4	36.7	21.9	109.2	81.	24.4	107.8	0.	0.0	0.0	0.
92012	19.7	110.2	19.1	109.2	66.0	22.4	109.2	133.	24.8	108.7	0.	0.0	0.0	0.
92018	20.8	110.6	20.8	110.6	0.0	24.7	110.2	0.	27.0	110.0	0.	0.0	0.0	0.
92100	21.6	109.4	21.6	109.5	0.0	25.0	109.0	0.	0.0	0.0	0.	0.0	0.0	0.
92106	22.5	108.1	22.8	108.1	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
92112	23.3	107.0	23.3	107.0	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
92118	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
MEAN VECTOR ERRORS (N.MI)								141.			365.			0.
NUMBER OF CASES								7			3			0

STOP
R

TABLE 13

TROPSTV
STORM NUMBER=2

T.S. LIDIA 24

DATE/TIME (GMT)	BEST TRACK LAT.	BEST TRACK LONG.	OPERATIONAL POSITION LAT.	OPERATIONAL POSITION LONG.	POSITION 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.)
10 600	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
10 606	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
10 612	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
10 618	19.5	110.0	19.0	110.0	30.0	20.7	112.2	208.	22.9	114.2	0.	25.8	115.8	0.
10 700	20.4	109.5	20.4	109.5	0.0	23.9	109.7	42.	0.0	0.0	0.	0.0	0.0	0.
10 706	21.5	109.5	21.2	109.1	28.2	25.2	107.1	104.	0.0	0.0	0.	0.0	0.0	0.
10 712	22.6	109.5	21.8	109.2	0.0	25.0	108.2	0.	0.0	0.0	0.	0.0	0.0	0.
10 718	23.7	109.5	23.2	109.6	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
10 800	25.0	109.5	24.6	109.6	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
10 806	26.0	109.0	25.8	108.9	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
10 812	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
10 818	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
MEAN VECTOR ERRORS (N.MI)								118.			0.			0.
NUMBER OF CASES								3			0			0

STOP
R

TABLE 14

TROPSTV
STORM NUMBER=3

MAX 24

DATE/TIME (GMT)	BEST TRACK LAT.	BEST TRACK LONG.	OPERATIONAL POSITION LAT.	OPERATIONAL POSITION LONG.	POSITION 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.)
10 700	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
10 706	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
10 712	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
10 718	15.1	115.4	14.8	115.6	21.3	15.6	116.6	89.	17.1	117.7	66.	19.0	118.8	36.
10 800	15.2	115.9	15.1	116.2	18.1	17.5	117.7	168.	19.2	119.1	93.	20.9	119.8	0.
10 806	15.6	116.1	15.3	116.5	29.0	17.1	116.5	38.	18.9	115.3	153.	20.3	114.0	0.
10 812	16.1	116.3	15.7	116.9	41.7	17.4	117.4	43.	19.3	117.1	88.	21.5	115.4	0.
10 818	16.5	116.5	15.0	118.0	124.5	15.0	120.7	262.	15.6	123.3	350.	16.7	125.8	0.
10 900	18.3	117.9	15.0	119.0	207.9	14.8	122.5	350.	14.9	126.0	0.	15.5	129.3	0.
10 906	18.5	118.0	17.7	116.3	107.5	20.0	116.0	134.	22.5	115.0	0.	25.5	115.0	0.
10 912	18.7	118.2	18.0	117.8	47.7	20.3	117.9	112.	22.2	118.3	0.	23.2	119.7	0.
10 918	18.9	118.3	18.2	117.6	57.8	19.2	117.7	37.	20.0	118.1	0.	20.2	119.3	0.
101000	18.4	117.7	18.4	117.7	0.0	19.5	117.9	0.	0.0	0.0	0.	0.0	0.0	0.
101006	18.8	118.0	18.8	118.0	0.0	20.1	118.8	0.	0.0	0.0	0.	0.0	0.0	0.
101012	18.5	118.4	18.5	118.4	0.0	17.2	118.7	0.	0.0	0.0	0.	0.0	0.0	0.
101018	18.8	118.2	18.8	118.2	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
MEAN VECTOR ERRORS (N.MI)								137.			150.			36.
NUMBER OF CASES								9			5			1

STOP
R

TABLE 15

TROPSTV
STORM NUMBER=4

NORMA 24

DATE/TIME (GMT)	BEST TRACK LAT.	BEST TRACK LONG.	OPERATIONAL POSITION LAT.	OPERATIONAL POSITION LONG.	POSITION 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.)
10 800	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
10 806	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
10 812	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
10 818	14.5	104.5	14.5	104.4	5.6	18.0	106.0	100.	20.4	107.2	168.	23.0	107.8	139.
10 900	14.8	105.2	14.9	105.2	6.0	15.7	109.0	127.	16.5	112.3	248.	17.2	120.7	830.
10 906	15.2	105.8	15.9	105.9	42.4	18.8	108.3	122.	21.0	109.4	153.	23.1	109.4	144.
10 912	15.7	106.1	15.8	106.3	12.5	18.6	107.8	72.	20.8	108.8	64.	23.7	109.1	133.
10 918	16.3	106.6	16.4	106.5	8.2	18.3	107.6	50.	20.5	108.6	31.	23.4	109.3	0.
101000	16.6	107.0	16.6	107.0	0.0	18.4	108.5	8.	20.2	109.8	197.	22.3	110.4	0.
101006	17.0	107.4	17.0	107.3	5.6	18.9	108.6	19.	21.0	109.4	200.	23.3	109.2	0.
101012	17.4	107.8	17.4	107.8	0.0	19.3	109.0	45.	21.4	109.6	204.	23.7	109.4	0.
101018	17.8	108.2	17.8	108.3	5.6	19.7	109.5	99.	21.9	109.8	0.	24.8	109.0	0.
101100	18.3	108.6	18.3	108.4	11.2	20.3	109.4	176.	23.5	109.5	0.	0.0	0.0	0.
101106	19.0	108.7	18.6	108.5	26.5	20.7	108.8	192.	22.6	108.9	0.	25.0	108.3	0.
101112	19.8	108.6	19.8	108.4	11.0	23.0	107.8	68.	0.0	0.0	0.	0.0	0.0	0.
101118	20.7	108.1	20.7	108.1	0.0	24.2	106.9	0.	0.0	0.0	0.	0.0	0.0	0.
101200	21.6	107.7	22.2	107.0	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
101206	22.5	107.0	23.3	106.8	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
101212	23.7	106.5	23.5	106.7	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
101218	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
MEAN VECTOR ERRORS (N.MI)								90.			158.			311.
NUMBER OF CASES								12			8			4

STOP
R

TABLE 16

TROPSTV
STORM NUMBER=5

H.OTIS 24

DATE/TIME (GMT)	BEST TRACK LAT.	BEST TRACK LONG.	OPERATIONAL POSITION LAT.	OPERATIONAL POSITION LONG.	POSITION 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.)
102400	10.7	98.8	10.5	99.0	16.8	11.6	101.3	77.	0.0	0.0	0.	0.0	0.0	0.
102406	11.0	100.3	11.4	100.4	24.7	13.4	104.5	119.	15.5	108.2	398.	16.5	110.4	501.
102412	11.2	101.4	11.6	101.2	26.6	13.7	104.7	123.	15.5	107.3	328.	17.4	109.3	413.
102418	11.4	102.0	11.4	102.4	23.3	12.0	106.2	223.	12.8	109.9	472.	13.7	112.8	563.
102500	11.9	102.4	11.7	102.6	16.7	12.2	104.9	200.	13.0	106.7	288.	13.2	108.9	310.
102506	12.4	102.6	12.3	102.8	13.0	14.1	104.7	186.	16.0	106.5	279.	17.8	108.3	262.
102512	12.8	102.7	12.8	102.8	5.7	15.1	103.4	113.	16.8	104.3	163.	18.4	105.8	140.
102518	13.4	102.5	12.9	102.5	30.0	14.9	102.7	71.	17.2	103.0	138.	0.0	0.0	0.
102600	13.7	102.2	13.8	101.9	18.4	16.6	100.0	186.	0.0	0.0	0.	0.0	0.0	0.
102606	14.0	101.9	14.1	101.5	23.9	15.9	100.1	158.	0.0	0.0	0.	0.0	0.0	0.
102612	14.0	101.9	13.9	101.9	6.0	15.7	101.7	96.	0.0	0.0	0.	0.0	0.0	0.
102618	14.0	101.9	14.0	101.9	0.0	15.5	102.0	78.	17.8	102.4	183.	0.0	0.0	0.
102700	14.0	101.9	14.1	101.9	6.0	15.2	102.1	105.	17.8	102.6	196.	0.0	0.0	0.
102706	14.2	102.2	14.1	102.1	8.3	14.9	102.3	131.	15.7	102.3	308.	16.6	102.2	0.
102712	14.5	102.8	14.5	102.8	0.0	16.2	104.3	40.	17.9	105.7	168.	20.0	106.7	0.
102718	14.8	103.5	14.9	103.2	17.9	16.8	104.9	72.	19.0	105.6	152.	0.0	0.0	0.
102800	15.1	104.1	15.0	103.9	12.7	16.6	105.6	144.	19.6	108.0	204.	21.6	106.8	0.
102806	15.8	104.8	15.4	104.5	29.5	17.3	106.5	144.	19.6	108.0	0.	22.0	108.5	0.
102812	16.7	105.4	16.2	105.0	37.6	18.8	106.8	127.	20.5	107.7	0.	22.6	108.0	0.
102818	17.8	105.6	17.8	105.6	0.0	21.3	106.8	46.	0.0	0.0	0.	0.0	0.0	0.
102900	18.8	105.8	19.0	105.8	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
102906	19.8	105.9	19.6	105.8	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
102912	20.7	105.9	20.7	105.8	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
102918	21.6	105.9	21.5	106.0	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
103000	22.5	105.8	22.3	105.8	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
103006	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
103012	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
103018	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.

MEAN VECTOR ERRORS (N.MI) 122. 252. 365.
NUMBER OF CASES 20 13 6
STOP
R

TABLE 17