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NOAA Technical Memorandum NWS WR-178

ANNUAL DATA AND VERIFICATION TABULATION EASTERN NORTH PACIFIC TROPICAL STORMS AND HURRICANES 1982

Salt Lake City, Utah
June 1983

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

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National Weather Service, Western Region Subseries

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93 An Operational Evaluation of 500-mb Type Regression Equations. Alexander E. MacDonald, June 1974. (COM-74-11407/AS)
94 Conditional Probability of Visibility Less than One-Half Mile in Radiation Fog at Fresno, California. John D. Thomas, August 1974. (COM-74-11555/AS)
96 Map Type Precipitation Probabilities for the Western Region. Glenn E. Rasch and Alexander E. MacDonald, February 1975. (COM-75-10428/AS)
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103 Application of the National Weather Service Flash-Flood Program in the Western Region. Gerald Williams, January 1976. (PB-253-053/AS)
104 Objective Aids for Forecasting Minimum Temperatures at Reno, Nevada, During the Summer Months. Christopher D. Hill, January 1976. (PB-252-866/AS)
105 Forecasting the Mono Wind. Charles P. Ruscha, Jr., February 1976. (PB-254-650)
106 Use of MOS Forecast Parameters in Temperature Forecasting. John C. Plankinton, Jr., March 1976. (PB-254-649)
107 Map Types as Aids in Using MOS PoPs in Western United States. Ira S. Brenner, August 1976. (PB-259-594)
108 Other Kinds of Wind Shear. Christopher D. Hill, August 1976. (PB-260-437/AS)
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112 The MAN/MOS Program. Alexander E. MacDonald, February 1977. (PB-265-941/AS)
113 Winter Season Minimum Temperature Formula for Bakersfield, California, Using Multiple Regression. Michael J. Oard, February 1977. (PB-273-694/AS)
114 Tropical Cyclone Kathleen. James R. Fors, February 1977. (PB-273-676/AS)
116 A Study of Wind Gusts on Lake Mead. Bradley Colman, April 1977. (PB-268-847)
117 The Relative Frequency of Cumulonimbus Clouds at the Nevada Test Site as a Function of K-Value. R. F. Quiring, April 1977. (PB-272-831)
118 Moisture Distribution Modification by Upward Vertical Motion. Ira S. Brenner, April 1977. (PB-268-740)
119 Relative Frequency of Occurrence of Warm Season Echo Activity as a Function of Stability Indices Computed from the Yucca Flat, Nevada, Rawinsonde. Darryl Randerson, June 1977. (PB-271-290/AS)

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Emil B. Gunther and Staff

Eastern Pacific Hurricane Center
San Francisco, California
June 1983

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UNITED STATES
DEPARTMENT OF COMMERCE
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National Oceanic and
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John V. Byrne, Administrator

National Weather
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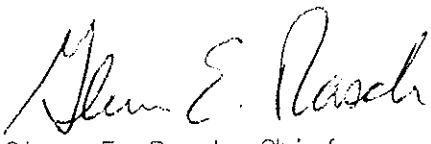
This publication has been reviewed and is approved for publication by Scientific Services Division, Western Region.



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ANNUAL DATA AND VERIFICATION TABULATION
EASTERN NORTH PACIFIC TROPICAL STORMS AND HURRICANES 1982

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Eastern Pacific Hurricane Center
San Francisco, California

I. INTRODUCTION

This is the fourth report of an annual series covering eastern North Pacific tropical cyclone activity. Data are provided by the National Weather Service, the National Earth Satellite Service Field Station - San Francisco, California, and the Chief, Aerial Reconnaissance Coordination, all Hurricanes (CARCAH), 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-dynamic 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 1982.)
6. NMC MFM (Hovermale, 1975). A multi-level baroclinic model used for tropical cyclones threatening U. S. territory. Not run during the 1982 season.

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

III. VERIFICATION

Verification statistics for the 1982 season are shown in Table 1. The forecast displacement error is the vector difference between the forecast 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 1982 eastern North Pacific tropical cyclone statistics is given in Table 2. Best track, operational positions, and position errors are given in Tables 3-28.

Although there were no U. S. Air Force reconnaissance flights into eastern North Pacific tropical cyclones during the 1982 season, NOAA research aircraft made 90 dropsonde observations into Hurricane Olivia over a two day period as the cyclone moved northward off the Baja California coast.

V. REFERENCES

Hovermale, J. B., 1975: First Season Storm Movement Characteristics of the Objective Hurricane Forecast Model. Minutes of the NOAA Hurricane Warning Conference, National Hurricane Center, Coral Gables, Florida.

Jarrell, J. D., C. M. Mauck, and R. J. Renard, 1975: The Navy's Analog Scheme for Forecasting Tropical Cyclone Motion Over the Northeastern Pacific Ocean. Technical Paper No. 6-75, Environmental Prediction Research Facility, Naval Postgraduate School, Monterey, California, 27 pp.

Leftwich, P. W., and C. J. Neumann, 1977: Statistical Guidance on the Prediction of Eastern North Pacific Tropical Cyclone Motion. NOAA Technical Memorandum NWS WR-125, National Oceanic and Atmospheric Administration, U. S. Department of Commerce, National Weather Service Western Region, 15 pp.

Neumann, C. J., 1972: An Alternate to the HURRAN Tropical Cyclone Forecast System. NOAA Technical Memorandum NWS SR-62, National Oceanic and Atmospheric Administration, U. S. Department of Commerce, National Weather Service Southern Region, 24 pp.

_____, J. R. Hope, and B. I. Miller, 1972: A statistical Method of Combining Synoptic and Empirical Cyclone Prediction Systems. NOAA Technical Memorandum NWS SR-63, National Oceanic and Atmospheric Administration, U. S. Department of Commerce, National Weather Service Southern Region, 32 pp.

Sanders, F., and R. W. Burpee, 1968: Experiments in Barotropic Hurricane Track Forecasting. Journal of Applied Meteorology, Vol. 7, No. 3, 313-323.

Leftwich, P. W., 1981: A statistical-Dynamical Model for Prediction of Tropical Cyclone Motion in the Eastern North Pacific Ocean. First draft of manuscript. NOAA National Weather Service, National Hurricane Center, Coral Gables, Florida.

TABLE 1

VERIFICATION OF 1982 TROPICAL STORM AND HURRICANE FORECASTS
(FIGURES IN PARENTHESES ARE NUMBER OF CASES)

METHOD	FORECAST DISPLACEMENT ERRORS (N. MI.)		
	24 HR	48 HR	72 HR
OFFICIAL	78(270)	169(199)	246(138)
EPANALOG	91(262)	186(200)	272(140)
EPHC77	88(255)	180(197)	267(138)
EPHC81	81(093)	169(066)	230(044)
EPCLIPER	82(263)	180(201)	256(140)

TABLE 2

SUMMARY OF EASTERN NORTH PACIFIC TROPICAL CYCLONES, 1982

NO.	NAME	CLASS	DATES	MAX(kt)	DAMAGE ($ MILLION)	DEATHS
1	ALETTA	TS	20-29 MAY	55		
4	BUD	TS	15-17 JUN	45		
6	CARLOTTA	TS	1-6 JUL	50		
8	DANIEL	HU	7-16 JUL	100		
9	EMILIA	TS	12-13 JUL	35		
12	FABIO	HU	17-25 JUL	70		
13	GILMA	HU	26-30 JUL	110		
14	HECTOR	HU	29 JUL - 3 AUG	65		
15	IVA	TS	1-8 AUG	35		
16	JOHN	HU	2-6 AUG	90		
17	KRISTY	HU	8-11 AUG	65		
18	LANE	TS	8-15 AUG	55		
19	MIRIAM	HU	30 AUG - 4 SEP	75		
20	NORMAN	HU	9-18 SEP	90		
22	PAUL	HU	18-22 SEP	30	UNK*	1000+*
			24-30 SEP	95	70**	8**
23	OLIVIA	HU	18-25 SEP	125	325***	
24	ROSA	TS	30 SEP - 6 OCT	45		
25	SERGIO	HU	14-23 OCT	110		
26	TARA	TS	19-26 OCT	45		

* San Salvador and Guatemala. ** Mexico. *** U.S.A.

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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.)
52100	12.0	106.0	0.0	0.0	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
52106	12.3	105.7	0.0	0.0	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
52112	12.5	105.5	0.0	0.0	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
52118	12.8	105.2	13.0	104.5	42.1	14.0	104.1	25.	0.0	0.0	0.	0.0	0.0	0.
52200	12.9	104.8	13.0	104.5	18.3	13.5	104.0	79.	0.0	0.0	0.	0.0	0.0	0.
52206	13.2	104.5	13.4	104.2	21.1	14.6	104.0	19.	0.0	0.0	0.	0.0	0.0	0.
52212	13.4	104.2	13.5	104.0	13.0	14.2	103.8	42.	15.1	103.4	81.	15.8	103.4	146.
52218	13.7	104.0	13.7	103.8	11.6	14.3	103.5	31.	15.1	103.1	104.	16.0	102.9	113.
52300	14.1	103.8	14.8	103.8	42.0	16.0	104.0	109.	16.8	103.8	185.	17.6	103.2	202.
52306	14.4	103.6	14.9	103.9	34.6	16.4	104.2	146.	17.7	104.7	259.	17.9	105.2	315.
52312	14.5	103.3	14.9	103.9	42.2	15.5	103.8	108.	16.1	103.7	169.	17.0	103.6	224.
52318	14.6	102.9	14.5	103.0	8.3	15.2	102.6	75.	15.9	102.3	88.	16.7	102.2	162.
52400	14.7	102.5	14.9	102.5	12.0	15.9	101.5	57.	17.1	100.5	163.	0.0	0.0	0.
52406	14.8	102.2	14.8	102.3	5.8	15.3	101.3	19.	16.3	101.0	157.	17.2	100.7	230.
52412	14.8	101.9	15.0	102.0	13.3	16.4	101.2	96.	0.0	0.0	0.	0.0	0.0	0.
52418	14.8	101.7	15.2	101.3	33.3	16.3	99.3	168.	0.0	0.0	0.	0.0	0.0	0.
52500	14.8	101.5	15.0	101.2	21.1	15.3	100.9	58.	0.0	0.0	0.	0.0	0.0	0.
52506	14.7	101.4	15.0	101.2	21.4	15.7	100.8	128.	16.6	100.7	209.	0.0	0.0	0.
52512	14.5	101.4	14.8	101.1	25.0	16.0	101.1	135.	17.1	101.2	196.	0.0	0.0	0.
52518	14.4	101.4	14.6	101.6	16.6	15.1	101.5	75.	16.0	101.4	135.	16.7	100.9	132.
52600	14.2	101.4	14.6	101.6	26.6	14.8	101.8	85.	15.3	102.0	122.	16.2	102.3	44.
52606	14.1	101.6	13.8	101.8	21.4	14.0	102.7	80.	14.6	103.4	71.	15.6	104.3	101.
52612	14.0	101.9	13.8	101.6	21.1	13.6	101.1	178.	14.3	101.3	188.	15.5	101.0	0.
52618	13.9	102.2	14.0	102.1	8.3	15.0	102.5	58.	16.1	102.5	34.	0.0	0.0	0.
52700	13.9	102.5	14.0	103.0	29.5	14.4	104.5	48.	15.4	105.9	170.	17.0	106.0	0.
52706	14.0	102.9	14.8	103.8	70.8	16.3	106.4	133.	16.3	108.9	361.	0.0	0.0	0.
52712	14.2	103.1	15.0	103.8	62.8	19.1	104.6	234.	0.0	0.0	0.	0.0	0.0	0.
52718	14.5	103.5	15.0	103.5	30.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
52800	14.7	103.7	15.1	104.1	33.3	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
52806	15.0	103.8	15.4	104.3	37.6	16.4	104.3	107.	0.0	0.0	0.	0.0	0.0	0.
52812	15.2	103.7	15.2	104.4	40.5	15.6	105.0	0.	0.0	0.0	0.	0.0	0.0	0.
52818	15.3	103.4	15.8	103.0	37.9	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
52900	15.4	103.1	15.9	103.0	30.6	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
52906	15.5	102.8	15.5	102.7	5.8	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
52912	15.7	102.5	0.0	0.0	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
52918	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)								92.			158.			164.
NUMBER OF CASES								25			17			10

STOP

TABLE 3

TWO-E 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.)
53100	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.
53106	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.
53112	13.4	95.6	13.2	96.0	26.1	13.3	97.6	148.	13.3	99.7	347.	14.0	102.0	458.
53118	13.4	95.3	14.0	95.0	40.0	14.0	95.4	83.	14.5	96.7	182.	14.8	98.1	227.
6 100	13.5	95.0	14.0	95.0	30.0	14.9	95.6	79.	15.7	97.2	187.	16.5	99.4	303.
6 106	13.7	94.8	13.3	95.2	33.4	13.4	95.9	98.	13.6	96.5	0.	14.2	97.2	191.
6 112	13.8	94.4	13.7	95.1	41.0	13.7	95.7	113.	13.9	96.3	142.	14.2	97.3	207.
6 118	14.0	94.2	14.3	94.0	21.4	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
6 200	14.2	94.4	14.5	94.3	18.9	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
6 206	14.3	94.5	14.3	94.5	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
6 212	14.2	94.8	14.1	93.8	58.3	14.7	93.6	42.	15.8	93.7	29.	0.0	0.0	0.
6 218	14.0	94.7	14.1	93.6	64.0	14.8	92.7	89.	0.0	0.0	0.	0.0	0.0	0.
6 300	14.0	94.5	14.0	94.5	0.0	14.7	95.2	63.	0.0	0.0	0.	0.0	0.0	0.
6 306	14.3	94.2	0.0	0.0	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
6 312	14.7	94.2	15.1	94.2	24.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
6 318	15.0	94.2	15.1	94.2	6.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
6 400	15.4	94.4	15.3	94.3	8.3	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
6 406	15.6	94.8	15.7	94.3	29.6	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
6 412	15.8	95.0	15.9	94.2	46.7	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
6 418	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)								89.			177.			277.
NUMBER OF CASES								8			5			5

STOP
R

TABLE 4

THREE-E

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.)
61300	8.0	123.5	8.0	123.5	0.0	8.8	126.0	93.	0.0	0.0	0.	0.0	0.0	0.
61306	8.5	124.0	8.5	124.0	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
61312	8.7	124.6	8.8	125.4	46.9	10.8	127.5	186.	0.0	0.0	0.	0.0	0.0	0.
61318	8.9	125.2	9.4	125.3	30.6	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
61400	9.5	125.3	10.0	125.0	34.7	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
61406	10.1	125.1	11.0	124.7	58.8	13.0	124.0	6.	0.0	0.0	0.	0.0	0.0	0.
61412	10.8	124.8	11.4	124.4	42.9	14.5	123.2	71.	0.0	0.0	0.	0.0	0.0	0.
61418	11.4	124.5	11.8	124.1	33.4	14.1	123.4	0.	0.0	0.0	0.	0.0	0.0	0.
61500	11.8	124.2	12.6	124.0	49.4	15.2	124.0	0.	0.0	0.0	0.	0.0	0.0	0.
61506	12.5	124.0	13.0	123.9	30.6	15.6	124.2	0.	0.0	0.0	0.	0.0	0.0	0.
61512	13.0	123.9	13.6	124.0	36.5	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
61518	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)								89.			0.			0.
NUMBER OF CASES								4			0			0

STOP
R

TABLE 5

BUD

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.)
61500	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.
61506	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.
61512	12.8	105.2	13.0	105.3	13.3	14.7	108.1	73.	15.5	111.2	138.	16.5	114.2	0.
61518	13.1	105.7	13.1	105.8	5.8	14.3	108.6	48.	15.0	111.0	171.	15.5	114.0	0.
61600	13.3	106.4	13.2	106.3	8.3	14.0	108.6	42.	14.8	111.1	0.	15.3	114.4	0.
61606	13.4	107.0	13.5	107.0	6.0	14.2	109.7	48.	15.1	112.4	0.	16.0	115.2	0.
61612	13.5	107.6	13.5	107.9	17.4	13.9	110.5	36.	14.4	113.5	0.	14.4	113.5	0.
61618	13.6	108.4	13.5	108.7	18.4	14.3	112.0	227.	15.3	115.3	0.	16.4	118.0	0.
61700	13.6	109.2	13.5	109.1	8.3	13.9	112.0	0.	14.5	114.8	0.	15.2	118.4	0.
61706	13.5	110.0	13.5	110.1	5.8	13.8	112.9	0.	14.3	115.9	0.	15.2	119.6	0.
61712	13.4	110.6	13.3	110.5	8.3	13.4	113.5	0.	14.2	116.0	0.	14.8	119.1	0.
61718	0.0	0.0	14.5	108.1	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
MEAN VECTOR ERRORS (N.MI)								79.			155.			0.
NUMBER OF CASES								6			2			0

STOP
R

TABLE 6

FIVE-E

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.)
61700	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.
61706	13.0	93.9	13.0	94.0	5.8	13.6	94.9	82.	14.3	96.6	60.	14.8	98.5	0.
61712	13.5	93.7	13.0	94.0	34.6	13.0	94.5	67.	13.2	95.3	126.	13.3	96.9	0.
61718	13.8	93.4	13.7	93.6	13.0	15.2	93.9	59.	16.2	94.3	161.	0.0	0.0	0.
61800	13.4	93.2	13.4	93.4	11.5	14.4	94.0	63.	15.5	95.2	0.	0.0	0.0	0.
61806	13.7	93.6	13.6	93.5	8.3	14.3	94.3	87.	15.5	95.8	0.	0.0	0.0	0.
61812	14.0	94.0	14.0	94.0	0.0	15.1	95.6	47.	0.0	0.0	0.	0.0	0.0	0.
61818	14.3	94.4	14.4	94.5	8.3	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
61900	14.5	95.0	14.8	95.0	18.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
61906	14.7	95.7	14.8	95.7	6.0	15.9	98.6	0.	0.0	0.0	0.	0.0	0.0	0.
61912	14.9	96.4	15.0	96.4	6.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
61918	0.0	0.0	15.5	97.0	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
MEAN VECTOR ERRORS (N.MI)								67.			116.			0.
NUMBER OF CASES								6			3			0

STOP
R

TABLE 7

CARLOTTA

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.)
7 100	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.
7 106	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.
7 112	13.0	107.1	12.5	107.5	37.7	13.6	110.1	80.	15.0	113.0	168.	16.1	116.1	213.
7 118	13.6	107.2	13.2	107.2	24.0	15.1	109.0	145.	17.4	111.1	163.	19.3	113.8	142.
7 200	14.0	107.7	13.9	107.9	12.9	15.8	110.4	81.	17.0	113.1	125.	17.4	115.3	162.
7 206	14.3	108.3	13.9	108.7	33.1	15.2	111.6	110.	16.3	114.8	162.	17.3	118.1	149.
7 212	14.7	109.0	14.8	110.7	96.7	16.2	115.0	150.	17.1	119.0	288.	17.5	122.8	312.
7 218	15.0	109.8	15.2	111.5	97.2	16.0	115.1	183.	16.7	118.8	220.	17.1	122.5	326.
7 300	15.6	110.6	16.5	111.6	78.3	19.1	113.9	25.	20.8	116.0	100.	21.5	118.5	0.
7 306	16.3	111.3	17.0	112.0	57.8	19.3	114.5	34.	20.8	117.7	68.	21.7	121.1	0.
7 312	17.0	111.9	17.8	113.0	78.7	20.7	115.4	98.	22.7	118.0	150.	24.2	120.3	0.
7 318	17.8	112.8	18.7	113.6	70.5	21.4	116.0	115.	23.0	118.8	128.	24.2	120.8	0.
7 400	19.0	114.4	18.8	114.2	16.5	20.9	116.4	93.	21.7	119.5	0.	0.0	0.0	0.
7 406	19.8	115.5	19.0	115.0	55.8	20.5	118.3	70.	22.5	121.5	0.	0.0	0.0	0.
7 412	19.9	116.0	19.3	114.5	92.4	20.2	115.3	158.	21.0	116.2	0.	22.2	117.2	0.
7 418	20.0	116.5	19.5	116.3	32.1	20.6	118.9	33.	0.0	0.0	0.	0.0	0.0	0.
7 500	20.0	117.0	19.5	117.1	30.5	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
7 506	20.2	117.5	19.7	117.4	30.5	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
7 512	20.5	117.8	20.2	118.1	24.8	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
7 518	20.8	118.0	20.9	118.4	23.5	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
MEAN VECTOR ERRORS (N.MI)								98.			157.			217.
NUMBER OF CASES								14			10			6

STOP
R

TABLE 8

SEVEN-E

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.)
7 300	12.8	135.4	13.5	135.2	43.7	15.1	138.0	0.	0.0	0.0	0.	0.0	0.0	0.
7 306	13.5	135.8	13.6	135.4	24.7	16.8	135.0	0.	0.0	0.0	0.	0.0	0.0	0.
7 312	14.1	135.9	14.1	136.1	12.0	16.4	138.4	0.	0.0	0.0	0.	0.0	0.0	0.
7 318	14.3	135.4	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)								0.			0.			0.
NUMBER OF CASES								0			0			0

STOP
R

TABLE 9

DANIEL

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.)
7 700	9.2	98.0	0.0	0.0	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
7 706	9.5	98.8	0.0	0.0	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
7 712	9.8	99.7	9.6	99.6	13.3	10.7	103.1	21.	12.1	106.5	97.	13.5	109.8	169.
7 718	10.1	100.8	10.0	101.0	13.1	11.3	105.1	38.	12.6	108.6	41.	13.7	112.2	65.
7 800	10.3	101.7	10.2	101.8	8.4	11.3	105.8	13.	12.7	109.7	67.	0.0	0.0	0.
7 806	10.5	102.5	10.7	102.3	16.7	12.0	105.9	82.	13.3	109.7	123.	14.1	113.4	47.
7 812	10.7	103.4	10.5	103.4	12.0	11.2	107.1	66.	12.1	110.9	139.	13.2	114.5	95.
7 818	10.9	104.5	10.8	104.7	13.1	11.9	108.9	53.	13.0	112.7	64.	13.9	116.7	88.
7 900	11.1	105.8	11.1	105.9	5.8	12.0	109.9	93.	13.0	113.8	60.	13.7	117.4	108.
7 906	11.4	107.0	11.3	107.1	8.3	12.4	111.6	67.	13.2	115.9	116.	13.9	120.0	168.
7 912	12.0	108.2	11.7	108.1	18.9	13.0	112.3	43.	14.2	116.5	92.	15.2	120.0	81.
7 918	12.8	109.3	12.7	109.3	6.0	15.0	113.5	67.	16.1	117.0	79.	17.0	121.0	58.
71000	13.3	110.4	13.4	110.6	13.0	15.2	114.9	96.	16.1	118.8	123.	16.6	122.3	41.
71006	13.5	111.4	13.5	111.8	23.0	14.7	116.1	114.	15.3	119.8	123.	15.4	123.4	100.
71012	13.6	112.5	13.6	112.7	11.5	14.7	116.7	99.	15.8	120.6	104.	16.4	124.2	42.
71018	13.8	113.3	13.9	113.3	6.0	14.8	116.8	52.	15.9	120.1	31.	16.7	123.8	120.
71100	13.9	113.8	14.0	113.8	6.0	14.6	117.4	59.	15.3	121.1	89.	16.3	124.7	137.
71106	14.3	114.3	14.2	114.2	8.3	15.1	116.7	65.	16.2	119.7	190.	17.2	123.1	287.
71112	14.7	114.9	14.7	115.0	5.7	16.1	117.8	59.	17.0	120.8	195.	17.8	123.8	320.
71118	15.1	115.8	15.2	116.0	12.9	16.9	119.7	42.	17.5	123.2	149.	18.2	125.2	314.
71200	15.5	116.8	15.4	116.8	6.0	16.6	120.6	58.	17.8	124.0	162.	18.5	127.5	268.
71206	15.7	117.8	15.6	117.7	8.3	16.6	121.1	106.	17.8	124.4	212.	18.5	128.0	326.
71212	16.0	118.9	15.9	118.8	8.3	17.0	122.4	103.	18.0	125.9	200.	18.7	129.5	304.
71218	16.4	120.2	16.4	120.2	0.0	17.6	124.8	60.	18.6	128.6	123.	19.5	132.6	213.
71300	16.8	121.6	16.7	121.6	6.0	17.8	126.2	42.	18.9	130.3	114.	19.8	134.2	213.
71306	17.0	122.8	17.0	122.9	5.7	18.1	127.3	58.	18.9	130.9	166.	19.3	134.4	29[illegible]
71312	17.2	124.2	17.1	124.2	6.0	18.0	129.2	17.	18.6	133.8	62.	19.0	138.0	119.
71318	17.3	125.5	17.3	125.8	17.1	17.9	131.5	47.	18.7	135.7	38.	19.4	139.6	0.
71400	17.4	126.7	17.4	126.8	5.7	18.1	131.2	58.	18.6	135.3	133.	19.0	140.5	0.
71406	17.5	128.0	17.5	128.1	5.7	18.3	132.6	64.	19.1	136.6	131.	20.1	140.6	0.
71412	17.8	129.4	17.8	129.4	0.0	18.7	134.1	50.	19.6	138.1	136.	20.6	142.1	0.
71418	18.0	130.7	18.1	130.7	6.0	19.0	135.5	59.	19.7	139.6	0.	21.1	143.4	0.
71500	18.2	132.0	18.3	132.2	12.9	19.0	137.6	48.	19.5	142.6	0.	20.0	147.3	0.
71506	18.2	133.4	18.1	133.7	18.1	18.5	138.8	19.	19.0	143.4	0.	20.0	147.5	0.
71512	18.1	134.8	18.2	134.8	6.0	18.3	140.1	25.	18.5	144.8	0.	19.5	149.0	0.
71518	18.1	136.0	18.2	136.1	8.3	18.4	141.4	0.	19.4	145.5	0.	20.7	149.3	0.
71600	18.1	137.4	18.2	137.6	12.9	18.4	142.8	0.	19.1	147.5	0.	19.8	151.3	0.
71606	18.1	138.8	18.2	138.7	8.3	18.6	143.7	0.	19.3	148.0	0.	20.0	152.0	0.
71612	18.1	140.0	18.0	139.8	12.9	18.1	144.7	0.	18.2	149.0	0.	19.3	153.3	0.
71618	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)								59.			116.			164.
NUMBER OF CASES								33			29			24

STOP
R

TABLE 10

EMILIA

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.)
71200	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.
71206	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.
71212	10.0	136.5	10.0	136.5	0.0	11.3	140.2	0.	12.1	144.1	0.	13.0	148.0	0.
71218	10.1	137.8	10.1	137.8	0.0	11.0	143.0	0.	11.6	148.3	0.	12.4	153.6	0.
71300	10.3	139.2	10.3	139.3	6.0	11.4	144.0	0.	12.3	147.6	0.	12.3	150.7	0.
71306	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.
71312	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.
71318	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)								0.			0.			0.
NUMBER OF CASES								0			0			0

STOP
R

TABLE II

TEN-E

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.)
71400	12.0	111.0	12.0	111.0	0.0	13.2	115.3	0.	13.9	119.8	0.	14.7	124.3	0.
71406	12.2	112.0	12.2	112.0	0.0	13.3	116.8	0.	14.5	121.2	0.	15.5	124.9	0.
71412	12.0	113.0	12.0	113.0	0.0	12.3	117.1	0.	13.1	121.1	0.	14.0	125.3	0.
71418	12.0	114.0	12.0	114.0	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
MEAN VECTOR ERRORS (N.MI)								0.			0.			0.
NUMBER OF CASES								0			0			0

STOP
R

TABLE 12

ELEVEN E

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	10.6	120.1	10.6	120.3	11.8	10.8	124.3	144.	0.0	0.0	0.	0.0	0.0	0.
71606	10.4	120.5	10.6	121.3	48.5	11.2	125.0	160.	0.0	0.0	0.	0.0	0.0	0.
71612	10.2	121.0	10.2	121.2	11.8	10.5	124.0	30.	0.0	0.0	0.	0.0	0.0	0.
71618	10.2	121.7	10.3	121.0	41.6	10.8	123.2	103.	11.9	126.2	0.	13.2	129.2	0.
71700	10.5	122.4	10.0	122.0	38.1	10.3	124.4	0.	11.4	127.4	0.	12.7	130.4	0.
71706	11.0	122.7	9.8	122.7	72.0	10.1	126.9	0.	0.0	0.0	0.	0.0	0.0	0.
71712	11.8	122.9	10.0	124.0	125.9	11.0	127.8	0.	0.0	0.0	0.	0.0	0.0	0.
71718	12.5	123.0	12.5	123.0	0.0	14.8	123.8	0.	0.0	0.0	0.	0.0	0.0	0.
MEAN VECTOR ERRORS (N.MI)								109.			0.			0.
NUMBER OF CASES								4			0			0

STOP
R

TABLE 13

FABIO

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.)
71800	11.6	103.8	11.5	103.7	8.3	12.6	106.7	97.	14.2	110.6	187.	15.4	114.6	184.
71806	11.8	104.1	11.8	103.9	11.5	12.9	106.1	67.	11.8	103.9	468.	15.5	112.1	332.
71812	12.2	104.4	12.2	104.4	0.0	13.5	107.0	48.	14.9	109.8	187.	16.2	112.9	325.
71818	12.8	104.8	13.0	104.8	12.0	14.6	107.1	50.	16.1	110.1	191.	18.2	113.2	183.
71900	13.4	105.4	13.6	105.4	12.0	15.7	107.6	58.	17.1	110.4	181.	18.1	113.2	251.
71906	14.0	105.9	14.0	105.9	0.0	15.8	108.3	120.	17.1	111.3	194.	18.0	114.3	237.
71912	14.7	106.6	14.3	106.9	29.5	15.4	110.1	153.	16.4	113.8	186.	17.2	117.5	141.
71918	15.4	107.4	15.2	107.7	20.8	16.9	111.1	118.	17.6	114.8	129.	18.4	118.0	136.
72000	16.3	108.3	16.4	108.3	6.0	18.9	111.3	119.	20.1	114.2	186.	20.5	116.9	236.
72006	17.2	109.2	17.5	109.4	21.3	20.0	113.3	88.	16.0	115.5	245.	16.5	117.6	290.
72012	17.8	110.4	17.8	111.0	33.8	19.5	115.5	25.	20.4	119.4	86.	20.5	122.0	61.
72018	18.2	111.7	18.5	112.3	38.2	20.3	117.2	82.	21.4	121.2	130.	22.0	124.6	145.
72100	18.5	113.1	18.3	113.3	16.4	19.4	117.7	17.	20.1	121.6	41.	20.9	121.6	192.
72106	18.8	114.2	18.8	114.2	0.0	19.8	118.5	43.	20.8	122.0	77.	21.5	125.7	97.
72112	19.0	115.2	19.1	115.4	12.7	20.1	119.8	77.	21.2	123.9	124.	21.9	127.2	126.
72118	19.2	116.2	19.3	116.2	6.0	20.3	120.3	49.	21.3	123.9	96.	22.3	127.8	0.
72200	19.3	117.3	19.4	117.4	8.2	20.2	121.4	38.	21.1	125.0	79.	22.8	128.1	0.
72206	19.3	118.1	19.1	118.3	16.4	19.2	122.0	37.	19.9	125.2	45.	0.0	0.0	0.
72212	19.4	119.1	19.0	119.1	24.0	19.2	122.4	25.	19.6	125.2	102.	0.0	0.0	0.
72218	19.5	120.1	19.5	120.1	0.0	20.1	123.6	27.	0.0	0.0	0.	0.0	0.0	0.
72300	19.5	121.0	19.7	121.0	12.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
72306	19.5	121.9	19.6	121.5	23.2	20.2	124.6	81.	0.0	0.0	0.	0.0	0.0	0.
72312	19.6	122.8	19.6	122.5	16.8	19.8	125.8	68.	0.0	0.0	0.	0.0	0.0	0.
72418	19.7	123.8	19.7	123.8	0.0	20.0	127.5	0.	0.0	0.0	0.	0.0	0.0	0.
72400	19.8	124.9	19.8	124.8	5.6	20.3	128.6	0.	0.0	0.0	0.	0.0	0.0	0.
72406	19.8	126.0	19.9	126.0	6.0	20.8	130.2	0.	0.0	0.0	0.	0.0	0.0	0.
72412	19.7	127.1	19.8	127.0	8.2	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
72418	19.5	128.2	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)								68.			155.			182.
NUMBER OF CASES								22			19			15

STOP
R

TABLE 14

GILMA

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.)
72600	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.
72606	9.4	117.3	9.5	117.5	13.1	10.5	121.5	83.	11.3	125.7	146.	12.0	129.7	240.
72612	9.6	118.0	9.7	118.3	18.5	10.6	122.1	77.	11.7	125.9	153.	12.7	129.3	322.
72618	10.0	118.7	9.9	118.8	8.4	11.0	122.1	114.	12.2	125.6	223.	13.5	128.5	448.
72700	10.4	119.4	10.0	119.3	24.7	10.9	122.3	166.	12.3	125.5	328.	13.7	128.6	534.
72706	11.1	120.1	10.3	120.1	48.0	11.4	123.2	185.	12.8	126.6	359.	13.9	129.4	388.
72712	11.9	121.2	11.3	121.0	37.8	12.6	124.4	167.	14.2	128.5	336.	14.6	131.0	0.
72718	12.7	122.5	12.8	122.7	13.0	15.0	126.5	125.	16.0	131.0	284.	15.8	134.7	0
72800	13.3	123.8	13.3	123.7	5.8	14.9	128.0	139.	15.6	131.6	341.	15.4	134.5	0.
72806	13.7	125.3	13.7	125.3	0.0	14.6	130.0	137.	14.8	133.9	323.	14.3	137.0	0.
72812	14.1	127.0	14.1	126.8	11.6	14.8	132.5	101.	14.5	136.6	0.	14.3	140.0	0.
72818	14.6	128.7	14.5	128.6	8.3	15.5	134.7	70.	16.1	139.5	0.	16.4	144.0	0.
72900	15.0	130.4	15.0	130.4	0.0	16.0	136.6	52.	16.8	141.5	0.	17.4	146.5	0.
72906	15.2	132.3	15.1	132.3	6.0	15.6	139.0	55.	16.1	143.9	0.	16.5	147.9	0.
72912	15.4	134.1	15.2	134.2	13.3	15.2	140.8	0.	15.6	146.1	0.	15.4	149.0	0.
72918	15.7	135.8	15.6	135.9	8.3	16.2	142.8	0.	17.1	148.1	0.	18.5	152.7	0.
73000	16.0	137.5	16.0	137.5	0.0	17.0	143.2	0.	18.3	148.0	0.	19.2	153.0	0.
73006	16.5	139.2	16.5	139.2	0.0	18.1	145.0	0.	19.5	149.0	0.	20.6	153.2	0.
73012	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.
73018	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)								113.			277.			427.
NUMBER OF CASES								13			9			5

STOP
R

TABLE 15

HECTOR

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.)
72900	11.3	114.8	11.7	115.6	52.0	12.4	119.1	50.	13.3	122.6	59.	14.2	126.4	251.
72906	11.3	116.0	11.8	116.3	34.6	12.1	120.3	8.	13.0	124.5	116.	14.4	128.8	244.
72912	11.3	117.2	11.0	117.7	34.0	10.8	122.1	109.	11.6	126.2	278.	13.1	131.0	386.
72918	11.4	118.4	11.3	118.4	6.0	11.6	122.3	97.	12.7	126.1	270.	14.3	129.7	348.
73000	11.8	119.6	11.8	119.7	5.7	13.0	123.7	64.	14.3	127.6	241.	15.8	131.4	264.
73006	12.1	120.4	12.0	120.4	6.0	13.0	124.1	114.	14.0	128.0	294.	15.1	132.0	308.
73012	12.7	121.6	12.6	121.8	12.9	14.5	126.4	110.	16.0	131.1	215.	17.0	135.8	199.
73018	13.2	122.6	13.2	122.5	5.7	15.1	126.7	129.	16.2	130.9	220.	17.3	135.0	202.
73100	14.0	123.3	14.0	123.3	0.0	15.7	127.1	156.	16.8	131.1	215.	17.1	134.4	262.
73106	15.0	124.2	14.9	124.1	8.2	17.6	127.0	135.	18.8	130.3	214.	19.1	133.2	316.
73112	16.1	125.2	16.2	125.7	28.8	20.0	130.3	30.	21.2	134.8	64.	22.0	139.0	0.
73118	17.2	126.2	17.2	126.2	0.0	20.0	130.5	63.	22.1	140.0	238.	22.1	140.0	0.
8 100	18.2	127.5	18.3	127.3	12.8	21.1	131.5	98.	21.9	133.3	219.	22.3	135.2	0.
8 106	18.9	128.9	18.8	129.0	8.2	20.6	134.3	48.	21.2	138.0	37.	21.0	141.5	0.
8 112	19.5	130.3	19.5	130.3	0.0	20.7	136.0	54.	21.4	139.8	0.	22.0	143.0	0.
8 118	19.8	131.7	19.8	131.6	5.6	20.8	136.7	38.	21.5	140.9	0.	22.0	144.7	0.
8 200	20.0	132.9	20.0	132.8	5.6	21.2	137.7	49.	22.5	141.4	0.	23.5	145.4	0.
8 206	20.2	134.0	19.9	133.9	18.9	19.9	138.7	55.	20.4	143.0	0.	0.0	0.0	0.
8 212	20.4	135.0	20.2	135.2	16.5	20.8	139.4	0.	0.0	0.0	0.	0.0	0.0	0.
8 218	20.6	136.1	20.5	136.1	6.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
8 300	20.7	137.0	20.7	137.0	0.0	21.3	140.0	0.	0.0	0.0	0.	0.0	0.0	0.
8 306	20.9	138.6	20.8	138.5	8.2	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
8 312	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.
8 318	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)								78.			191.			280.
NUMBER OF CASES								18			14			10

STOP
R

TABLE 16

IVA

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.)
8 100	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.
8 106	11.5	106.8	11.2	107.1	25.0	11.7	112.9	143.	12.8	117.5	188.	14.2	122.2	307.
8 112	11.6	107.8	11.2	108.3	37.6	11.7	114.3	167.	13.3	119.9	245.	14.6	124.4	391.
8 118	11.9	108.6	11.7	108.8	16.7	12.8	113.5	111.	14.1	118.1	158.	15.1	122.4	226.
8 200	12.2	109.5	11.5	109.7	43.6	12.3	113.6	49.	13.2	117.4	125.	14.4	121.3	145.
8 206	12.5	110.3	11.3	110.5	72.9	11.4	114.4	19.	12.5	118.3	184.	14.3	122.3	192.
8 212	12.9	111.1	11.2	111.5	104.6	11.6	115.4	42.	13.0	119.7	181.	14.4	124.0	237.
8 218	13.2	111.8	11.3	112.4	119.2	12.0	116.3	153.	13.2	120.7	164.	14.5	125.0	261.
8 300	13.5	112.5	11.5	113.4	130.9	12.4	117.6	174.	13.7	121.5	164.	14.9	125.2	182.
8 306	14.0	113.5	11.7	114.5	149.6	13.0	118.6	166.	14.6	122.4	198.	16.5	126.0	214.
8 312	14.5	114.3	12.1	115.9	171.2	13.2	120.2	192.	14.2	124.3	251.	15.6	128.8	284.
8 318	14.9	115.1	14.4	115.4	34.6	15.7	119.2	63.	16.9	123.1	208.	17.9	127.3	227.
8 400	15.0	115.9	15.1	116.5	35.1	16.1	120.4	133.	17.1	124.3	201.	17.9	128.0	0.
8 406	15.0	116.7	15.3	117.0	24.9	16.0	120.4	126.	0.0	0.0	0.	0.0	0.0	0.
8 412	14.8	117.4	15.3	117.7	34.6	16.0	121.3	117.	0.0	0.0	0.	0.0	0.0	0.
8 418	14.6	118.0	14.9	118.5	33.9	15.2	122.0	97.	0.0	0.0	0.	0.0	0.0	0.
8 500	14.5	118.7	14.5	118.8	5.8	14.5	121.7	23.	0.0	0.0	0.	0.0	0.0	0.
8 506	14.5	119.4	14.4	119.0	23.8	14.5	121.5	76.	0.0	0.0	0.	0.0	0.0	0.
8 512	14.5	120.2	14.5	120.0	11.5	14.9	123.1	50.	0.0	0.0	0.	0.0	0.0	0.
8 518	14.5	121.1	14.5	120.5	34.5	14.9	123.3	93.	0.0	0.0	0.	0.0	0.0	0.
8 600	14.5	122.0	14.5	122.1	5.8	14.8	125.9	0.	0.0	0.0	0.	0.0	0.0	0.
8 606	14.6	123.0	14.7	122.8	13.0	15.2	126.5	0.	0.0	0.0	0.	0.0	0.0	0.
8 612	14.8	124.0	15.2	123.9	24.7	16.3	127.4	0.	0.0	0.0	0.	0.0	0.0	0.
8 618	14.8	124.9	14.9	124.9	6.0	15.5	128.5	0.	0.0	0.0	0.	0.0	0.0	0.
8 700	14.9	126.0	0.0	0.0	0.0	15.4	130.0	0.	0.0	0.0	0.	0.0	0.0	0.
8 706	14.9	127.0	0.0	0.0	0.0	15.3	131.2	0.	0.0	0.0	0.	0.0	0.0	0.
8 712	15.0	128.0	0.0	0.0	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
8 718	15.0	129.2	0.0	0.0	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
8 800	15.1	130.4	0.0	0.0	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
8 806	15.2	131.5	0.0	0.0	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
8 812	15.2	132.5	0.0	0.0	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
8 818	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)								105.			189.			247.
NUMBER OF CASES								19			12			11

STOP
R

TABLE 17

JOHN

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.)
8 400	11.2	126.7	11.4	126.5	16.8	12.4	129.6	155.	13.4	133.1	262.	14.2	136.7	0.
8 406	11.5	127.9	11.5	128.0	5.9	12.1	132.2	77.	13.0	135.9	239.	14.4	139.3	0.
8 412	11.6	129.3	11.7	129.4	8.4	12.2	134.3	38.	13.0	138.6	0.	13.7	143.0	0.
8 418	11.6	130.6	11.5	130.6	6.0	12.0	135.0	59.	12.5	139.2	0.	12.9	142.8	0.
8 500	11.6	131.9	11.9	132.2	25.2	12.5	137.0	30.	13.4	141.7	0.	13.8	145.7	0.
8 506	11.7	133.3	11.6	133.4	8.4	12.3	137.8	123.	13.6	141.7	0.	14.0	145.0	0.
8 512	11.8	134.6	11.7	134.7	8.4	12.2	139.8	0.	12.8	144.3	0.	13.1	147.9	0.
8 518	11.9	135.9	12.0	136.0	8.4	12.8	140.9	0.	13.3	145.0	0.	14.0	149.0	0.
8 600	12.1	137.3	12.2	137.4	8.4	12.8	142.5	0.	13.6	147.2	0.	14.3	152.5	0.
8 606	12.2	138.6	12.2	139.9	76.1	13.1	143.8	0.	13.7	148.3	0.	13.8	152.0	0.
8 612	12.2	139.9	0.0	0.0	0.0	12.9	144.8	0.	13.4	149.1	0.	13.7	153.3	0.
8 618	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)								80.			250.			0.
NUMBER OF CASES								6			2			0

STOP
R

TABLE 18

KRISTY

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.)
8 800	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.
8 806	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.
8 812	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.
8 818	9.5	123.7	9.5	123.7	0.0	10.0	128.7	115.	10.9	133.2	194.	11.5	137.5	0.
8 900	9.5	125.4	9.5	125.3	5.9	9.9	130.2	121.	10.5	134.8	177.	11.0	138.8	0.
8 906	9.7	127.0	9.5	127.0	12.0	9.8	133.4	54.	10.2	138.4	71.	10.6	143.0	0.
8 912	9.8	128.7	9.5	128.7	18.0	10.2	134.2	55.	11.5	139.3	0.	12.5	143.4	0.
8 918	10.0	130.5	9.6	130.6	24.7	10.3	136.5	36.	10.9	141.3	0.	11.5	145.4	0.
81000	10.3	132.0	10.3	132.2	11.8	11.5	138.9	92.	12.2	143.5	0.	13.0	148.3	0.
81006	10.7	133.5	10.7	133.5	0.0	12.0	139.4	109.	92.6	144.0	0.	12.4	148.6	0.
81012	10.8	134.9	10.9	134.8	8.4	12.1	140.1	0.	13.3	144.1	0.	14.6	147.7	0.
81018	10.7	136.5	10.9	136.5	12.0	11.7	141.7	0.	12.8	146.3	0.	13.9	150.8	0.
81100	10.4	137.9	10.4	137.8	5.9	10.7	143.2	0.	11.3	147.5	0.	12.3	150.8	0.
81106	10.2	139.6	10.2	139.6	0.0	9.8	145.5	0.	10.0	150.8	0.	10.4	155.7	0.
81112	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.
81118	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)								83.			147.			0.
NUMBER OF CASES								7			3			0

STOP
R

TABLE 19

LANE

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.)
8 800	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.
8 806	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.
8 812	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.
8 818	9.8	110.0	9.8	110.8	46.5	11.0	115.3	18.	12.5	119.4	118.	13.6	123.7	112.
8 900	10.1	111.6	10.2	111.9	18.4	11.6	117.3	56.	12.5	121.8	127.	13.2	125.6	138.
8 906	10.8	112.9	10.7	113.0	8.4	12.0	118.5	83.	12.9	123.3	120.	13.0	128.2	169.
8 912	11.2	114.2	11.2	114.2	0.0	12.6	118.7	79.	13.9	123.1	83.	14.8	127.1	84.
8 918	11.8	115.4	11.3	115.3	30.6	13.3	124.2	241.	13.3	124.2	121.	13.9	128.8	119.
81000	12.3	116.6	12.4	116.8	13.0	14.0	121.2	40.	15.0	125.3	42.	15.4	128.7	109.
81006	13.2	117.7	13.2	117.8	5.8	15.1	122.5	25.	16.2	126.3	59.	16.5	130.0	130.
81012	13.8	118.8	13.9	118.9	8.3	15.7	122.8	55.	17.1	126.7	129.	18.1	130.8	176.
81018	14.4	120.1	14.3	120.2	8.3	16.0	124.5	42.	17.4	128.4	112.	18.7	132.2	159.
81100	14.7	121.3	14.6	121.5	12.9	15.8	126.0	21.	16.7	129.9	42.	17.2	133.8	115.
81106	15.0	122.5	14.7	122.4	18.9	15.2	126.8	30.	15.8	130.9	76.	16.4	135.0	135.
81112	15.3	123.6	15.2	123.6	6.0	16.3	127.5	62.	17.2	131.2	135.	18.2	134.9	156.
81118	15.4	124.8	15.3	124.5	19.1	16.2	128.7	47.	17.6	132.3	128.	18.8	136.2	116.
81200	15.5	126.0	15.5	125.8	11.4	16.4	130.0	26.	17.6	134.0	104.	0.0	0.0	0.
81206	15.5	127.2	15.6	127.1	8.3	16.2	132.1	13.	0.0	0.0	0.	0.0	0.0	0.
81212	15.5	128.3	15.6	128.3	6.0	16.4	132.9	39.	0.0	0.0	0.	0.0	0.0	0.
81218	15.8	129.5	15.8	129.4	5.7	16.0	133.8	82.	0.0	0.0	0.	0.0	0.0	0.
81300	16.0	130.6	16.2	130.4	16.5	17.0	134.7	67.	0.0	0.0	0.	0.0	0.0	0.
81306	16.2	132.0	16.0	132.2	16.5	16.3	137.1	66.	0.0	0.0	0.	0.0	0.0	0.
81312	16.7	133.2	16.7	133.5	17.1	17.9	138.8	69.	0.0	0.0	0.	0.0	0.0	0.
81318	17.1	134.7	17.2	134.5	12.9	19.2	138.8	59.	0.0	0.0	0.	0.0	0.0	0.
81400	17.3	135.9	17.4	135.8	8.3	18.6	140.6	57.	0.0	0.0	0.	0.0	0.0	0.
81406	17.7	136.8	17.4	137.1	24.8	17.9	142.1	0.	0.0	0.0	0.	0.0	0.0	0.
81412	18.0	137.7	17.8	137.6	13.3	18.6	141.0	0.	0.0	0.0	0.	0.0	0.0	0.
81418	18.3	138.3	18.4	138.2	8.3	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
81500	18.7	139.6	18.7	139.6	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
81506	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.
81512	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.
81518	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)								58.			100.			132.
NUMBER OF CASES								22			14			11

STOP
R

TABLE 20

MIRIAM

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.)
83000	12.5	107.5	12.5	108.5	57.4	13.0	114.6	155.	0.0	0.0	0.	0.0	0.0	0.
83006	12.8	108.9	12.8	108.8	5.8	13.9	114.7	50.	15.1	120.0	18.	16.1	123.9	107.
83012	13.1	110.2	12.7	109.6	42.2	13.3	114.5	121.	14.3	119.2	140.	15.1	123.3	217.
83018	13.6	111.5	13.5	111.5	6.0	14.9	116.4	58.	16.0	120.9	125.	16.8	124.6	234.
83100	14.4	112.7	14.3	112.3	23.7	16.2	116.4	152.	17.5	120.1	268.	18.0	123.8	380.
83106	14.6	114.2	14.5	114.1	8.3	16.3	119.1	104.	17.7	123.0	208.	18.2	127.0	305.
83112	14.8	115.9	14.8	115.9	0.0	15.3	121.5	18.	15.8	126.4	35.	16.2	130.6	138.
83118	14.8	117.4	14.8	117.4	0.0	15.1	123.2	24.	15.4	128.0	34.	15.8	132.4	128.
9 100	14.8	118.7	14.8	118.6	5.7	15.5	123.6	34.	16.6	128.1	120.	17.9	132.4	259.
9 106	14.9	120.0	15.0	120.3	18.2	15.8	126.4	63.	17.0	131.0	76.	18.2	134.5	235.
9 112	15.0	121.5	15.0	121.5	0.0	15.6	126.9	8.	16.3	131.7	76.	16.6	135.9	234.
9 118	15.1	122.8	15.0	122.8	6.0	15.4	128.4	19.	16.0	132.9	98.	16.6	136.9	0.
9 200	15.2	124.2	15.2	124.1	5.8	16.1	129.1	55.	16.9	133.4	185.	17.8	137.5	0.
9 206	15.4	125.6	15.2	125.5	13.3	15.4	131.0	59.	16.3	135.8	122.	16.7	139.8	0.
9 212	15.6	127.0	15.7	127.0	6.0	16.8	132.2	62.	18.1	136.8	232.	19.2	140.8	0.
9 218	15.7	128.6	15.7	128.5	5.8	16.3	133.8	48.	17.2	138.5	0.	18.2	142.9	0.
9 300	15.8	130.0	15.8	130.0	0.0	16.0	135.8	41.	16.3	141.0	0.	16.4	146.1	0.
9 306	15.9	131.5	16.0	131.8	18.3	16.6	137.0	63.	17.4	142.3	0.	18.3	147.2	0.
9 312	16.1	133.0	16.1	133.0	0.0	16.4	139.0	71.	16.6	144.0	0.	16.8	149.0	0.
9 318	16.1	134.6	16.1	134.6	0.0	16.3	140.8	0.	16.5	145.9	0.	16.7	151.0	0.
9 400	16.0	136.3	16.1	136.5	13.0	16.6	142.0	0.	17.4	147.1	0.	18.1	151.7	0.
9 406	15.8	137.9	16.0	137.9	12.0	16.0	143.8	0.	16.1	148.8	0.	16.3	154.0	0.
9 412	15.4	139.9	15.5	139.8	8.3	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
9 418	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)								64.			124.			224.
NUMBER OF CASES								19			14			10

STOP
R

TABLE 21

NORMAN

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.)
91000	10.4	110.8	0.0	0.0	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
91006	10.8	112.0	0.0	0.0	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
91012	11.1	113.0	11.0	113.1	8.1	12.3	117.0	88.	0.0	0.0	0.	0.0	0.0	0.
91018	11.5	113.7	10.7	114.2	56.1	11.5	118.2	162.	12.3	122.0	242.	13.3	125.2	285.
91100	11.9	114.4	11.5	114.8	33.3	12.8	118.7	131.	13.9	122.2	184.	14.9	125.6	253.
91106	12.3	115.0	11.7	115.1	36.5	12.7	118.4	88.	14.1	121.8	120.	15.3	124.6	191.
91112	12.6	115.5	12.3	115.5	18.0	13.5	118.1	12.	14.8	121.0	44.	16.2	123.6	112.
91118	12.9	115.9	13.0	115.9	6.0	14.7	118.0	40.	16.5	120.7	55.	18.5	122.8	48.
91200	13.2	116.6	13.2	116.5	5.7	14.8	118.7	29.	16.3	121.0	26.	17.9	123.3	54.
91206	13.5	117.2	13.6	117.2	6.0	15.1	119.8	13.	16.6	122.5	59.	18.0	125.0	154.
91212	13.8	117.7	13.7	118.1	23.6	15.0	121.5	70.	16.4	124.7	169.	17.7	127.7	329.
91218	14.2	118.4	14.1	118.3	8.3	15.3	121.0	19.	16.7	123.8	104.	18.0	126.6	274.
91300	14.5	119.1	14.5	119.1	0.0	16.0	122.0	35.	17.5	124.8	143.	18.6	127.2	322.
91306	14.8	119.6	14.9	119.9	18.0	16.3	122.7	69.	18.7	125.5	185.	19.4	128.4	400.
91312	15.1	120.3	15.1	120.3	0.0	16.4	123.0	75.	17.8	125.8	222.	19.2	128.7	447.
91318	15.5	120.8	15.6	120.9	8.2	17.0	123.5	79.	18.3	126.3	254.	19.4	129.2	449.
91400	16.0	121.3	16.1	121.4	8.2	18.0	124.0	92.	19.9	126.9	300.	21.8	129.8	490.
91406	16.5	121.6	16.4	121.5	8.2	18.2	123.0	40.	20.5	124.5	174.	23.3	125.0	240.
91412	16.9	121.9	16.9	121.8	5.5	19.0	122.9	56.	20.8	124.2	180.	22.4	126.0	306.
91418	17.4	122.2	17.8	122.4	26.4	20.6	123.9	148.	23.3	124.9	220.	0.0	0.0	0.
91500	17.8	122.3	18.2	122.4	24.6	20.6	123.5	126.	22.7	124.3	185.	0.0	0.0	0.
91506	18.3	122.2	18.2	122.3	8.1	19.5	122.0	69.	20.6	121.4	107.	23.0	120.0	161.
91512	18.7	122.1	18.6	122.0	8.1	19.8	121.4	75.	21.3	120.8	97.	23.0	120.0	211.
91518	19.2	121.8	19.0	121.9	13.2	20.7	120.4	75.	22.2	118.7	116.	24.0	115.9	0.
91600	19.5	121.7	19.5	121.6	5.5	21.2	120.3	72.	22.9	118.3	103.	24.5	115.6	0.
91606	20.2	121.5	20.5	121.4	18.8	24.1	119.7	124.	26.6	117.8	87.	30.0	116.6	0.
91612	20.8	121.3	21.0	121.0	20.3	23.9	118.7	116.	26.4	117.9	25.	28.1	118.9	0.
91618	21.4	121.2	21.4	121.5	16.4	23.2	122.0	133.	24.8	122.9	0.	0.0	0.0	0.
91700	21.9	121.0	22.2	121.0	18.0	24.2	120.8	100.	0.0	0.0	0.	0.0	0.0	0.
91706	22.5	120.8	22.3	120.8	12.0	24.1	120.5	131.	0.0	0.0	0.	0.0	0.0	0.
91712	23.2	120.4	22.9	120.5	18.8	24.7	119.4	109.	0.0	0.0	0.	0.0	0.0	0.
91718	23.9	119.8	23.9	119.7	5.5	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
91800	24.7	119.3	24.5	119.0	20.3	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
91806	25.2	118.5	25.3	118.5	6.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
91812	25.8	117.8	26.0	118.0	16.2	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	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)								82.			142.			268.
NUMBER OF CASES								29			24			18

STOP
R

TABLE 22

TWENTY ONE-E

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.)
91100	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.
91106	13.5	131.4	13.5	131.5	6.0	14.1	134.8	0.	0.0	0.0	0.	0.0	0.0	0.
91112	13.6	132.2	13.6	132.4	12.0	14.3	136.0	0.	0.0	0.0	0.	0.0	0.0	0.
91118	13.6	132.9	13.6	132.9	0.0	14.0	135.9	0.	0.0	0.0	0.	0.0	0.0	0.
MEAN VECTOR ERRORS (N.MI)								0.			0.			0.
NUMBER OF CASES								0			0			0

STOP
R

TABLE 23

OLIVIA

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.)
91800	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.
91806	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.
91812	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.
91818	11.3	101.7	11.0	102.0	25.1	11.2	103.0	109.	11.6	104.7	212.	12.0	107.4	337.
91900	11.8	101.9	11.3	102.0	30.6	11.8	103.9	103.	12.0	105.3	212.	12.3	107.5	377.
91906	12.2	102.1	11.8	102.5	33.2	13.6	105.0	58.	14.9	107.7	66.	15.9	110.6	190.
91912	12.6	102.4	12.2	102.8	33.1	14.1	104.9	25.	15.2	107.5	104.	16.4	110.2	292.
91918	13.2	103.0	13.0	103.3	20.8	15.2	105.8	13.	17.1	108.2	103.	18.5	110.6	319.
92000	13.5	103.5	13.5	103.7	11.3	15.5	106.0	37.	16.9	108.7	138.	18.1	111.3	390.
92006	14.0	104.0	14.0	104.1	5.6	15.6	106.5	68.	17.0	109.4	199.	18.2	112.7	401.
92012	14.5	104.7	14.5	104.8	5.6	16.4	107.2	92.	18.0	109.8	267.	19.4	112.3	528.
92018	15.0	105.5	15.0	105.7	11.2	16.6	108.3	101.	18.3	111.1	296.	20.0	114.5	389.
92100	15.4	106.5	15.3	106.6	8.2	16.7	109.9	83.	17.7	112.8	325.	18.9	115.8	442.
92106	16.0	107.6	16.0	107.6	0.0	17.3	111.2	103.	18.5	114.3	314.	20.3	117.0	411.
92112	16.5	108.7	16.4	108.8	8.1	18.2	112.3	131.	19.6	115.7	340.	20.6	118.2	418.
92118	17.1	110.0	17.0	110.0	6.0	20.0	114.0	113.	20.4	116.9	256.	21.4	119.4	415.
92200	17.8	111.1	17.6	111.0	13.2	19.5	114.7	179.	20.9	117.7	282.	22.0	119.6	421.
92206	18.5	112.4	18.5	112.5	5.3	21.2	116.3	151.	23.8	118.9	204.	27.0	121.0	162.
92212	19.3	114.0	19.3	114.3	15.9	21.8	118.7	140.	24.0	121.0	162.	25.5	122.2	270.
92218	20.0	115.9	20.0	116.0	5.3	22.3	120.6	22.	23.8	122.2	226.	25.3	123.8	365.
92300	20.5	117.8	20.5	117.7	5.3	22.7	122.9	93.	24.4	126.1	313.	26.4	127.2	0.
92306	21.1	119.1	21.3	119.0	13.1	23.1	125.0	182.	25.3	128.8	453.	28.0	130.8	0.
92312	21.7	120.3	22.0	121.2	50.9	24.5	126.4	205.	26.7	129.2	429.	28.6	130.9	0.
92318	22.3	121.0	22.3	121.0	0.0	24.4	123.9	192.	26.1	126.0	381.	27.9	127.8	0.
92400	23.4	122.0	23.8	121.7	28.8	30.4	120.5	155.	0.0	0.0	0.	0.0	0.0	0.
92406	24.7	122.6	25.0	122.4	20.9	30.0	122.4	39.	0.0	0.0	0.	0.0	0.0	0.
92412	26.0	123.0	26.0	123.0	0.0	31.2	122.5	76.	31.2	122.5	0.	0.0	0.0	0.
92418	27.3	122.9	27.5	123.0	13.1	33.2	121.4	132.	0.0	0.0	0.	0.0	0.0	0.
92500	28.4	122.6	28.5	122.5	8.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
92506	29.3	122.3	29.6	121.8	32.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
92512	30.0	122.0	30.0	122.0	0.0	33.2	119.8	0.	0.0	0.0	0.	0.0	0.0	0.
92518	31.0	121.4	31.0	121.4	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
MEAN VECTOR ERRORS (N.MI)								104.			252.			360.
NUMBER OF CASES								25			21			17

STOP
E

TABLE 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	12.2	90.3	12.1	90.3	6.0	13.1	90.7	0.	13.6	92.8	105.	13.8	95.0	0.
91906	12.6	90.1	12.5	90.1	6.0	14.0	92.2	0.	0.0	0.0	0.	0.0	0.0	0.
91912	13.0	90.1	13.3	90.2	18.8	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
91918	13.4	90.2	14.1	90.4	43.4	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
92000	13.9	90.2	0.0	0.0	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
92006	14.2	90.5	0.0	0.0	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
92012	14.2	91.0	0.0	0.0	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
92018	14.0	91.4	14.8	93.1	104.9	14.9	96.1	64.	0.0	0.0	0.	0.0	0.0	0.
92100	13.9	92.4	14.9	94.0	106.3	15.9	97.4	0.	0.0	0.0	0.	0.0	0.0	0.
92106	14.1	93.4	15.1	94.5	85.1	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
92112	14.4	94.5	15.0	95.0	45.3	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
92118	14.5	95.7	15.0	95.0	48.7	15.9	97.2	0.	0.0	0.0	0.	0.0	0.0	0.
92200	14.3	96.7	0.0	0.0	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
92206	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.
92212	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.
92218	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.
92300	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.
92306	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.
92312	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.
92318	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.
92400	13.3	104.2	13.4	104.5	18.3	13.2	109.0	218.	14.3	112.2	309.	16.0	115.0	332.
92406	13.5	104.8	13.0	105.0	32.1	13.1	104.0	157.	14.2	112.6	300.	16.7	115.7	328.
92412	13.8	105.0	13.0	106.0	74.9	13.3	109.7	163.	14.7	113.2	309.	16.4	116.3	351.
92418	14.2	105.0	13.0	107.3	150.4	14.1	110.5	275.	15.5	113.6	292.	17.0	116.7	356.
92500	14.4	105.2	14.5	105.5	18.2	15.3	108.7	109.	16.7	111.3	115.	18.0	114.6	237.
92506	14.6	105.6	14.3	106.4	49.2	14.8	109.9	140.	15.9	113.3	196.	17.2	116.8	357.
92512	14.7	105.9	14.3	107.1	72.5	14.7	110.2	137.	16.2	113.8	209.	17.9	117.2	373.
92518	14.7	106.3	14.6	105.8	29.1	15.1	107.8	81.	16.2	110.1	38.	17.4	112.7	153.
92600	14.8	106.8	14.8	106.9	5.7	15.7	109.8	72.	17.1	112.6	122.	18.4	115.5	290.
92606	15.0	107.5	15.0	107.5	0.0	16.1	110.0	36.	17.3	112.5	113.	18.9	115.2	288.
92612	15.4	109.1	15.2	107.9	68.5	16.5	110.1	13.	17.8	111.8	79.	19.7	113.8	224.
92618	15.8	108.7	16.2	108.6	24.6	18.5	110.3	109.	20.2	112.0	99.	21.7	113.0	195.
92700	16.0	109.3	16.8	109.3	48.0	19.2	111.2	115.	21.6	112.8	164.	23.7	113.8	244.
92706	16.1	109.9	16.7	110.0	36.4	18.7	112.9	142.	20.5	114.6	236.	22.9	115.0	349.
92712	16.4	110.2	16.7	110.2	18.0	17.6	112.3	109.	18.4	114.8	315.	20.6	115.9	0.
92718	16.8	110.4	16.7	110.5	8.1	17.7	112.7	141.	18.7	114.6	362.	20.0	115.4	0.
92800	17.4	110.6	17.4	110.5	5.5	19.3	112.0	85.	21.3	112.9	264.	23.6	113.7	0.
92806	18.0	110.7	17.8	110.6	13.2	20.0	110.9	41.	22.1	111.2	247.	25.0	111.1	0.
92812	18.6	110.7	18.6	110.7	0.0	21.3	110.3	12.	23.3	109.7	0.	25.6	108.7	0.
92818	19.2	110.8	19.1	110.7	8.1	21.7	110.3	62.	23.9	109.7	0.	26.0	108.7	0.
92900	19.8	110.6	19.8	110.6	0.0	22.3	110.2	128.	24.7	109.4	0.	0.0	0.0	0.
92906	20.5	110.3	20.5	110.4	5.5	23.7	110.1	134.	26.8	109.7	0.	0.0	0.0	0.
92912	21.5	110.2	21.5	110.3	5.5	25.2	109.5	0.	0.0	0.0	0.	0.0	0.0	0.
92918	22.5	109.6	22.5	109.6	0.0	26.2	107.7	0.	0.0	0.0	0.	0.0	0.0	0.
93000	24.3	109.3	24.3	109.4	5.5	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
93006	25.7	109.0	25.7	109.0	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
93012	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.
93018	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)								111.			204.			293.
NUMBER OF CASES								23			19			14

STOP

ROSA

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.)
93000	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.
93006	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.
93012	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.
93018	12.5	95.1	12.5	96.0	52.0	13.1	98.0	102.	14.7	100.5	96.	16.5	102.9	216.
10 100	12.6	95.6	12.7	95.3	18.4	12.4	97.6	80.	13.2	99.9	187.	15.0	102.4	110.
10 106	12.7	96.0	13.0	97.0	60.4	13.9	99.6	123.	15.1	101.7	0.	17.0	104.4	236.
10 112	12.8	96.5	13.4	96.8	39.9	14.5	98.5	42.	16.2	100.9	0.	17.6	103.0	170.
10 118	12.9	96.9	13.5	96.3	49.9	14.7	97.1	107.	16.5	99.2	125.	0.0	0.0	0.
10 200	13.1	97.3	13.6	97.0	34.6	14.3	98.4	102.	15.0	99.4	64.	15.7	100.8	0.
10 206	13.3	97.8	13.7	97.5	29.6	14.8	99.8	0.	16.1	102.1	94.	17.5	104.3	0.
10 212	13.5	98.3	13.8	98.4	18.9	15.2	101.0	0.	16.9	103.7	182.	18.2	106.3	0.
10 218	13.7	98.7	14.3	98.9	37.8	16.0	101.5	133.	17.8	103.9	153.	19.7	106.1	0.
10 300	14.0	99.0	16.0	98.5	123.4	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
10 306	14.3	99.4	0.0	0.0	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
10 312	14.5	99.6	0.0	0.0	0.0	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
10 318	14.8	99.9	14.5	99.8	18.9	14.8	101.6	76.	15.7	103.8	0.	0.0	0.0	0.
10 400	15.1	100.3	14.9	100.5	16.6	16.2	102.3	0.	17.7	104.4	0.	19.5	106.7	0.
10 406	15.4	100.7	15.3	100.7	6.0	16.7	102.4	0.	18.0	104.3	0.	19.3	106.3	0.
10 412	15.8	101.2	15.7	100.8	23.8	17.2	102.1	0.	0.0	0.0	0.	0.0	0.0	0.
10 418	16.2	101.6	16.0	102.0	25.9	17.9	104.7	0.	0.0	0.0	0.	0.0	0.0	0.
MEAN VECTOR ERRORS (N.MI)								96.			129.			183.
NUMBER OF CASES								8			7			4

STOP
R

TABLE 26

SERGIO

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.)
101400	9.1	91.5	9.1	91.3	11.4	10.5	94.4	43.	0.0	0.0	0.	0.0	0.0	0.
101406	9.3	92.4	9.5	92.5	13.3	11.2	96.0	68.	12.8	99.5	122.	14.8	102.9	209.
101412	9.6	93.3	9.7	92.8	29.7	11.1	95.8	109.	13.0	99.2	182.	15.4	102.8	296.
101418	9.8	94.2	9.7	93.9	18.5	10.7	97.4	78.	12.1	100.7	159.	14.5	103.5	306.
101500	10.0	95.1	10.1	95.0	8.4	11.3	99.3	43.	12.7	103.0	113.	14.7	106.7	182.
101506	10.1	96.3	10.1	96.3	0.0	11.3	100.3	35.	12.7	104.0	112.	14.5	107.7	181.
101512	10.3	97.5	10.4	97.5	6.0	11.4	101.6	30.	12.8	104.9	149.	14.3	108.3	188.
101518	10.5	98.7	10.5	98.7	0.0	11.4	103.0	43.	12.6	106.6	139.	13.9	109.8	184.
101600	10.8	99.7	10.7	99.7	6.0	11.8	103.9	69.	13.1	107.8	137.	14.0	112.0	197.
101606	11.2	100.9	11.3	100.9	6.0	13.1	105.3	37.	14.4	109.0	107.	15.2	112.6	125.
101612	11.7	102.0	11.7	102.0	0.0	13.2	107.7	19.	14.6	111.6	38.	15.9	114.2	64.
101618	12.0	103.4	12.0	103.4	0.0	13.4	105.8	170.	15.1	108.6	218.	15.7	111.5	233.
101700	12.4	104.7	12.4	104.9	11.5	13.9	109.4	33.	15.1	113.1	78.	16.1	116.0	30.
101706	12.9	106.0	12.9	105.9	5.7	14.6	110.9	13.	16.1	114.8	62.	17.2	117.2	44.
101712	13.3	107.4	13.3	107.4	0.0	15.0	112.4	59.	16.0	116.0	84.	17.2	119.5	109.
101718	13.7	108.6	13.7	108.7	5.7	15.4	113.6	79.	16.8	117.5	121.	18.4	120.9	170.
101800	14.3	109.8	14.3	109.8	0.0	15.9	114.0	60.	17.1	116.9	60.	18.3	118.9	108
101806	14.7	110.7	14.8	110.8	8.3	16.8	114.7	40.	18.4	117.3	115.	19.9	118.7	199.
101812	15.3	111.5	15.2	111.4	8.3	16.9	114.9	8.	18.1	117.3	93.	19.1	119.8	166.
101818	15.9	112.3	15.8	112.3	6.0	17.9	115.0	76.	19.5	116.9	199.	20.9	119.0	401.
101900	16.3	113.1	16.4	113.1	6.0	18.2	116.3	98.	19.8	117.0	239.	21.5	118.8	494.
101906	16.6	113.8	16.8	114.0	16.5	18.9	116.9	144.	20.3	118.5	226.	21.2	120.9	489.
101912	16.7	114.5	16.8	114.8	18.1	17.8	117.8	72.	18.5	120.3	120.	19.1	123.2	315.
101918	16.7	115.3	16.7	115.4	5.7	17.2	118.4	38.	18.3	121.4	202.	19.3	123.6	353.
102000	16.6	116.0	16.6	116.0	0.0	16.5	118.6	52.	16.8	121.5	264.	17.5	124.6	32[illegible]
102006	16.6	116.9	16.5	117.0	8.3	16.5	120.4	30.	17.0	122.8	264.	17.8	125.0	383.
102012	16.6	117.8	16.6	117.7	5.7	16.7	120.5	71.	17.2	122.8	321.	18.0	125.1	434.
102018	16.7	118.7	16.6	118.6	8.3	16.9	121.5	173.	17.7	123.6	338.	18.9	125.6	432.
102100	16.7	119.7	16.6	119.5	12.8	16.7	122.9	185.	17.0	125.8	262.	17.3	128.7	0.
102106	16.7	121.3	17.0	120.4	54.2	18.1	123.9	211.	19.3	127.0	278.	21.0	129.0	0.
102112	16.7	122.9	17.0	121.7	70.5	17.9	125.2	187.	18.7	128.2	256.	19.4	130.5	0.
102118	16.8	124.5	16.7	124.5	6.0	17.0	128.0	91.	17.5	131.4	129.	18.2	134.3	0.
102200	17.0	126.0	17.0	126.1	5.7	17.8	130.8	29.	18.7	134.7	0.	0.0	0.0	0.
102206	17.3	127.4	17.0	127.4	18.0	17.8	132.4	42.	18.5	135.5	0.	0.0	0.0	0.
102212	17.4	128.4	17.3	128.4	6.0	18.0	132.3	38.	0.0	0.0	0.	0.0	0.0	0.
102218	17.6	129.5	17.5	129.5	6.0	18.5	133.5	25.	0.0	0.0	0.	0.0	0.0	0.
102300	17.9	130.6	17.8	130.3	18.1	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
102306	18.3	131.6	18.0	131.7	18.9	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
102312	18.6	132.6	18.5	132.7	8.3	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
102318	18.8	133.3	18.8	133.2	5.7	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
MEAN VECTOR ERRORS (N.MI)								72.			167.			244.
NUMBER OF CASES								36			31			27

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TABLE 27

TARA

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.)
101900	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.
101906	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.
101912	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.
101918	9.4	103.3	9.7	103.2	18.9	10.0	106.2	157.	10.8	108.9	289.	11.6	111.7	426.
102000	9.3	105.3	9.8	105.0	34.7	10.5	110.7	91.	11.5	115.4	105.	12.6	119.1	155.
102006	9.1	106.1	9.2	106.2	8.4	9.9	111.6	32.	11.0	116.0	145.	12.4	120.0	170.
102012	9.2	107.4	9.1	107.4	6.0	9.7	111.9	106.	11.0	115.7	190.	12.0	118.9	268.
102018	9.3	108.6	9.1	108.7	13.3	9.4	113.3	186.	10.3	117.2	266.	11.7	120.3	261.
102100	9.5	109.7	9.1	110.1	33.5	9.5	114.9	222.	10.4	119.4	283.	11.4	123.7	236.
102106	10.3	111.0	9.7	111.1	36.5	10.7	115.2	174.	11.9	119.2	210.	13.2	122.4	200.
102112	11.2	112.2	11.1	113.0	46.6	14.0	116.7	18.	14.7	118.1	239.	15.0	119.8	374.
102118	12.4	113.5	12.5	113.5	6.0	14.9	115.8	146.	16.3	119.3	231.	17.5	122.0	275.
102200	13.3	114.9	13.2	115.0	8.3	15.6	118.6	76.	17.0	122.4	145.	17.2	124.7	169.
102206	13.8	116.1	13.4	116.3	26.6	15.8	121.2	59.	17.0	123.7	105.	0.0	0.0	0.
102212	14.2	117.1	13.9	117.0	18.9	15.4	120.3	111.	17.6	125.5	56.	18.3	125.8	159.
102218	14.7	118.2	14.6	118.3	8.3	16.3	122.3	86.	18.2	127.5	62.	18.8	128.0	88.
102300	15.0	119.7	15.1	119.8	8.2	16.7	124.3	84.	17.9	127.1	26.	19.0	130.1	87.
102306	15.1	121.0	15.2	120.4	34.3	16.6	124.0	76.	16.2	129.0	160.	19.1	130.1	110.
102312	15.2	122.5	15.1	122.2	17.9	15.4	126.0	84.	16.4	130.7	200.	17.5	132.7	0.
102318	15.3	123.3	15.1	123.1	16.5	15.6	127.1	109.	15.5	131.0	265.	16.8	133.3	0.
102400	15.5	124.1	15.3	124.2	13.3	15.3	127.0	170.	17.4	130.2	182.	16.4	134.4	0.
102406	15.9	124.9	15.6	124.8	18.9	16.4	127.7	126.	20.1	128.4	125.	18.1	132.4	0.
102412	16.7	125.9	16.8	126.0	8.2	18.7	127.6	54.	20.1	128.4	0.	21.6	128.9	0.
102418	17.3	126.7	17.4	126.8	8.2	19.7	128.9	23.	21.5	129.9	0.	23.5	130.6	0.
102500	17.9	127.2	18.1	127.5	20.7	20.3	130.2	29.	21.4	130.7	0.	0.0	0.0	0.
102506	18.4	127.9	18.5	127.6	17.9	20.5	128.7	100.	22.6	129.5	0.	0.0	0.0	0.
102512	19.0	128.5	19.0	128.5	0.0	20.9	130.9	0.	22.6	132.9	0.	0.0	0.0	0.
102518	19.7	129.3	19.6	129.3	6.0	21.5	132.0	0.	0.0	0.0	0.	0.0	0.0	0.
102600	20.3	129.8	20.4	129.7	8.2	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
102606	21.0	130.3	21.0	130.4	5.6	0.0	0.0	0.	0.0	0.0	0.	0.0	0.0	0.
102612	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.
102618	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)								101.			173.			213.
NUMBER OF CASES								23			19			14

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TABLE 28

NOAA Technical Memoranda NWS WR: (Continued)

121 Climatological Prediction of Cumulonimbus Clouds in the Vicinity of the Yucca Flat Weather Station. R. F. Quiring, June 1977. (PB-271-704/AS)
122 A Method for Transforming Temperature Distribution to Normality. Morris S. Webb, Jr., June 1977. (PB-271-742/AS)
124 Statistical Guidance for Prediction of Eastern North Pacific Tropical Cyclone Motion - Part I. Charles J. Neumann and Preston W. Leftwich, August 1977. (PB-272-661)
125 Statistical Guidance on the Prediction of Eastern North Pacific Tropical Cyclone Motion - Part II. Preston W. Leftwich and Charles J. Neumann, August 1977. (PB-273-155/AS)
127 Development of a Probability Equation for Winter-Type Precipitation Patterns in Great Falls, Montana. Kenneth B. Mielke, February 1978.(PB-281-387/AS)
128 Hand Calculator Program to Compute Parcel Thermal Dynamics. Dan Gudgel, April 1978. (PB-283-080/AS)
129 Fire Whirls. David W. Goens, May 1978. (PB-283-866/AS)
130 Flash-Flood Procedure. Ralph C. Hatch and Gerald Williams, May 1978. (PB-286-014/AS)
131 Automated Fire-Weather Forecasts. Mark A. Mollner and David E. Olsen, September 1978. (PB-289-916/AS)
132 Estimates of the Effects of Terrain Blocking on the Los Angeles WSR-74C Weather Radar. R. G. Pappas, R. Y. Lee, B. W. Finke, October 1978.(PB289767/AS)
133 Spectral Techniques in Ocean Wave Forecasting. John A. Jannuzzi, October 1978. (PB291317/AS)
134 Solar Radiation. John A. Jannuzzi, November 1978. (PB291195/AS)
135 Application of a Spectrum Analyzer in Forecasting Ocean Swell in Southern California Coastal Waters. Lawrence P. Kierulff, January 1979. (PB292716/AS)
136 Basic Hydrologic Principles. Thomas L. Dietrich, January 1979. (PB292247/AS)
137 LFM 24-Hour Prediction of Eastern Pacific Cyclones Refined by Satellite Images. John R. Zimmerman and Charles P. Ruscha, Jr., Jan. 1979. (PB294324/AS)
138 A Simple Analysis/Diagnosis System for Real Time Evaluation of Vertical Motion. Scott Heflick and James R. Fors, February 1979. (PB294216/AS)
139 Aids for Forecasting Minimum Temperature in the Wenatchee Frost District. Robert S. Robinson, April 1979. (PB298339/AS)
140 Influence of Cloudiness on Summertime Temperatures in the Eastern Washington Fire Weather District. James Holcomb, April 1979. (PB298674/AS)
141 Comparison of LFM and MFM Precipitation Guidance for Nevada During Doreen. Christopher Hill, April 1979. (PB298613/AS)
142 The Usefulness of Data from Mountaintop Fire Lookout Stations in Determining Atmospheric Stability. Jonathan W. Corey, April 1979. (PB298899/AS)
143 The Depth of the Marine Layer at San Diego as Related to Subsequent Cool Season Precipitation Episodes in Arizona. Ira S. Brenner, May 1979. (PB298817/AS)
144 Arizona Cool Season Climatological Surface Wind and Pressure Gradient Study. Ira S. Brenner, May 1979. (PB298900/AS)
145 On the Use of Solar Radiation and Temperature Models to Estimate the Snap Bean Maturity Date in the Willamette Valley. Earl M. Bates, August 1979. (PB80-160971)
146 The BART Experiment. Morris S. Webb, October 1979. (PB80-155112)
147 Occurrence and Distribution of Flash Floods in the Western Region. Thomas L. Dietrich, December 1979. (PB80-160344)
149 Misinterpretations of Precipitation Probability Forecasts. Allan H. Murphy, Sarah Lichtenstein, Baruch Fischhoff, and Robert L. Winkler, February 1980. (PB80-174576)
150 Annual Data and Verification Tabulation - Eastern and Central North Pacific Tropical Storms and Hurricanes 1979. Emil B. Gunther and Staff, EPHC, April 1980. (PB80-220486)
151 NMC Model Performance in the Northeast Pacific. James E. Overland, PMEL-ERL, April 1980. (PB80-196033)
152 Climate of Salt Lake City, Utah. Wilbur E. Figgins, June 1980. (PB80-225493) (Out of print.)
153 An Automatic Lightning Detection System in Northern California. James E. Rea and Chris E. Fontana, June 1980. (PB80-225592)
154 Regression Equation for the Peak Wind Gust 6 to 12 Hours in Advance at Great Falls During Strong Downslope Wind Storms. Michael J. Oard, July 1980. (PB81-108367)
155 A Raininess Index for the Arizona Monsoon. John H. TenHarkel, July 1980. (PB81-106494)
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159 Tropical Cyclone Effects on California. Arnold Court, October 1980. (PB81-133779)
160 Eastern North Pacific Tropical Cyclone Occurrences During Intraseasonal Periods. Preston W. Leftwich and Gail M. Brown, February 1981. (PB81-205494)
161 Solar Radiation as a Sole Source of Energy for Photovoltaics in Las Vegas, Nevada, for July and December. Darryl Randerson, April 1981. (PB81-224503)
162 A Systems Approach to Real-Time Runoff Analysis with a Deterministic Rainfall-Runoff Model. Robert J. C. Burnash and R. Larry Ferral, April 1981. (PB81-224495)
163 A Comparison of Two Methods for Forecasting Thunderstorms at Luke Air Force Base, Arizona. Lt. Colonel Keith R. Cooley, April 1981. (PB81-225393)
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165 Annual Data and Verification Tabulation, Eastern North Pacific Tropical Storms and Hurricanes 1980. Emil B. Gunther and Staff, May 1981. (PB82-230336)
166 Preliminary Estimates of Wind Power Potential at the Nevada Test Site. Howard G. Booth, June 1981. (PB82-127036)
167 ARAP User's Guide. Mark Mathewson, July 1981. (revised September 1981). (PB82-196783)
168 Forecasting the Onset of Coastal Gales Off Washington-Oregon. John R. Zimmerman and William D. Burton, August 1981. (PB82-127051)
169 A Statistical-Dynamical Model for Prediction of Tropical Cyclone Motion in the Eastern North Pacific Ocean. Preston W. Leftwich, Jr., October 1981.
170 An Enhanced Plotter for Surface Airways Observations. Andrew J. Spry and Jeffrey L. Anderson, October 1981. (PB82-153883)
171 Verification of 72-Hour 500-mb Map-Type Predictions. R. F. Quiring, November 1981. (PB82-158098)
172 Forecasting Heavy Snow at Wenatchee, Washington. James W. Holcomb, December 1981. (PB82-177783)
173 Central San Joaquin Valley Type Maps. Thomas R. Crossan, December 1981. (PB82-196064)
174 ARAP Test Results. Mark A. Mathewson, December 1981. (PB82-193103)
175 Annual Data and Verification Tabulation Eastern North Pacific Tropical Storms and Hurricanes 1981. Emil B. Gunther and Staff, June 1982.(PB82-252420)
176 Approximations to the Peak Surface Wind Gusts from Desert Thunderstorms. Darryl Randerson, June 1982. (PB82-253089)
177 Climate of Phoenix, Arizona. Robert J. Schmidli, April 1982 (revised March 1983).

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