

FLT ID: 98104I	FM: KMCF	TO: KMCF
FLT NO: 99-02	BLK IN: 0657Z	ATA: 0648
ETD: 2230Z	BLK OUT: 2209Z	ATD: 2219
ETE: 8.5	BLK TIME: 8:48 (8.8)	FLT TIME: 8:29 (8.5)
SPONSOR ORG: NHC	PROGRAM: RECCO	PURPOSE: T.S. MANTA

DAO PERSONNEL

AC McKim	SYS ENG Lynch ✓
CP O'Mara	DATA SYS McDemara
NAV Strong	RADAR Caputo ✓
FE Moore ✓	BT/ODW
RADIO Sims, Spence ✓	CLD PHYS Seem, S. ✓
FD Parrish ✓	DOPPLER

PARTICIPATING SCIENTIST/VISITORS/DAO

LAST, FIRST NAME	ACTIVITY ON A/C	AFFILIATION
Allen, D. ✓		
Pauling, P. ✓		

PROPOSED/ACTUAL MISSION/REMARKS (RECCO, FIXES, STORM, PENET, NHOP #)

NORAB 00,06Z MITK 2313A 002 EP 24R85W.

2455N, 84058'W 996 2330Z

2452N, 84033'W 996 0120Z

24039'N, 83058'W 995 0251Z

25005'N, 83038'W 994 0428Z

25011'N, 83022'W 993 0553Z

20212  
110/4  
21/20  
29.78  
1007.8  
  
2017  
19.4  
1506.9  
80/9  
SP1007  
at 1.5K  
SP1007.5  
Emik 47  
SP1007  
1.5K  
SP1006.8  
Em 5.5  
PI.5K  
1002.5  
VS 1002.7

98104I T.S. Mitch Recco

Time	LAT	LONG	TK	WD	WS	PA	GA	TA	TD	SP	PS	WD		
2209	27 51	82 29.6				52		20.5	19.3		1007			BLK
2221	27 43.6	82 33.8	196	42	16.5	853	841	16.4	15.6	1007.9	910.9	20	9	
2235.45	27 10	83 25	226	170	23	4.59	4293	1.0	0.8	1001.9	599			
2246	26 41	83 59	224	159	30	4330	4464	1.2	2.9	998.7	590.2			
2330	24 55	84 58						23		996				
2349	24 09	84 05	135	172	24	526	406	25.1	23.4	996	951			SE OF CENTER
000830	23 37	83 24	350	179	39	527	418	25.3	21.6	997	952			
0049	26 15	83 05	9	60	41	551	417	18.4	17.6	1003	948			
01202	24 52	84 33								996				
0140	23 54	85 28		001	058									
020330	23 34	84 33	89	266	32	538	406	24.5	23.3	995	949			0251 2459.9
035630	23 57	84 52	39	357	61	533	431	21.4	19.2	999	952			8358 995
0428	25 05	83 38								994				
045715	26 05	82 47	279	68	89	575	457	19.6	18.7	999	948			
052215	26 27	84 31	285	40	39	539	470	20.1	16.6	1003	950			
054045	25 46	83 56	137	24	52	536	434	19.3	19.7	999	950			
0553	25 11	83 22	247	17	14	158	157	16.3	14.4	993				
062915	27 06	82 56	23	75	30	1581	1554	14.2	14.2	1002.7	837			

981104Z 1001 E-DAN

221900 0.1 0.0 50.1 32.1

~~011000 -0.1 -0.4 26.6 07.5~~

014000 +0.2 -0.4 54.0 28.5

0220 +0.2 +0.6 36.7 23.0

0305 1.4 -0.6 35.2 35.8

0345 +1.1 +0.7 34.0 07.3

0435 +3.3 -1.3 21.4 15.2

0500 +2.7 0.0 03.8 58.4

0600 +4.5 -2.2 30.0 23.4

0620 +4.3 -0.8 36.1 12.7

(10) 0657 +6.0 -0.7 50.9 29.5

Fixed RA 59 w/ RA 232 at start, end of IFF.

~~April 1 - Thursday~~. 10:15. 12:45. 40 kids

DATE	SCHEDULED FIX TIME	AIRCRAFT NUMBER	ARWO
------	--------------------	-----------------	------

WX MISSION IDENTIFICATION

00

(ABBREVIATED) (DETAILED) VORTEX DATA MESSAGE

A	04/2330	Z	DATE AND TIME OF FIX
	24 DEG 55 MIN (N) S		LATITUDE OF VORTEX FIX
B	84 DEG 58 MIN E (W)		LONGITUDE OF VORTEX FIX
C	NA MB NA	M	MINIMUM HEIGHT AT STANDARD LEVEL
D	30	KT	ESTIMATE OF MAXIMUM SURFACE WIND OBSERVED
E	005 DEG 20	NM	BEARING AND RANGE FROM CENTER OF MAXIMUM SURFACE WIND
F	035 DEG 48	KT	MAXIMUM FLIGHT LEVEL WIND NEAR CENTER
G	005 DEG 20	NM	BEARING AND RANGE FROM CENTER OF MAXIMUM FLIGHT LEVEL WIND
H	996	MB	MINIMUM SEA LEVEL PRESSURE COMPUTED FROM DROPSONDE OR EXTRAPOLATED FROM FLIGHT LEVEL. IF EXTRAPOLATED, CLARIFY IN REMARKS.
I	24 CI 524	M	MAXIMUM FLIGHT LEVEL TEMP/PRESSURE ALTITUDE OUTSIDE EYE
J	24 CI 526	M	MAXIMUM FLIGHT LEVEL TEMP/PRESSURE ALTITUDE INSIDE EYE
K	22 CI 26	C	DEWPOINT TEMP/SEA SURFACE TEMP INSIDE EYE
L	POORLY DEFINED		EYE CHARACTER: Closed wall, poorly defined, open SW, etc.
M	NA		EYE SHAPE/ORIENTATION/DIAMETER. Code eye shape as: C - Circular; CO - Concentric; E - Elliptical. Transmit orientation of major axis in tens of degree, i.e., 01-010 to 190; 17-170 to 350. Transmit diameter in nautical miles. Examples: C8 - Circular eye 8 miles in diameter. EO9/15/5 - Elliptical eye, major axis 090-270, length of major axis 15 NM, length of minor axis 5NM. CO8-14 - Concentric eye, diameter inner eye 8 NM, outer eye 14 NM.
N	24 DEG 55 MIN (N) S		CONFIRMATION OF FIX: Coordinates and time
	84 DEG 58 MIN E (W)		
	04/2330	Z	
O	1,3,4 / 1		FIX DETERMINED BY/FIX LEVEL. FIX DETERMINED BY: 1 - Penetration; 2 - Radar; 3 - Wind; 4 - Pressure; 5 - Temperature. FIX LEVEL (Indicate surface center if visible; indicate both surface and flight level centers only when same): 0 - Surface; 1 - 1500ft; 9-925mb; 8 - 850 mb; 7 - 700 mb; 6 - 500 mb; 4 - 400 mb; 3 - 300 mb; 2 - 200 mb; NA - Other.
P	1 / 10	NM	NAVIGATION FIX ACCURACY/METEOROLOGICAL ACCURACY

REMARKS

MAX FL WIND 48 KT N QUAD 2309Z Z  
 SLP EXTRAP FROM (1500 FT) 925 MB/ 850 MB/ DROPSONDE)  
 SFC CNTR \_\_\_\_\_ / \_\_\_\_\_ NM FROM FL CNTR  
 MAX FL TEMP C \_\_\_\_\_ / \_\_\_\_\_ NM FROM FL CNTR

BRUAD SURFACE CALM 5 OF CENTER. BRUAD REGION LIGHT SW EDD  
LVL WIND SE OF CENTER

INSTRUCTIONS: Items A through G (and H when extrapolated) are transmitted from the aircraft immediately following the fix. remainder of the message is transmitted as soon as available for scheduled fixes and at the ARWO's discretion for scheduled (intermediate) fixes.

CA.

XMIT (TA) 23:50

DATE	SCHEDULED FIX TIME	AIRCRAFT NUMBER	ARWO
------	--------------------	-----------------	------

WX MISSION IDENTIFICATION

OR

**(ABBREVIATED) (DETAILED) VORTEX DATA MESSAGE**

A	05/0120	Z	DATE AND TIME OF FIX
B	24 DEG 52 MIN (N) S		LATITUDE OF VORTEX FIX
	84 DEG 33 MIN E (W)		LONGITUDE OF VORTEX FIX
C	NA MB NA	M	MINIMUM HEIGHT AT STANDARD LEVEL
D	NA	KT	ESTIMATE OF MAXIMUM SURFACE WIND OBSERVED
E	NA DEG NA	NM	BEARING AND RANGE FROM CENTER OF MAXIMUM SURFACE WIND
F	55 DEG 53	KT	MAXIMUM FLIGHT LEVEL WIND NEAR CENTER
G	035 DEG 51	NM	BEARING AND RANGE FROM CENTER OF MAXIMUM FLIGHT LEVEL WIND
H	E 996	MB	MINIMUM SEA LEVEL PRESSURE COMPUTED FROM DROPSONDE OR EXTRAPOLATED FROM FLIGHT LEVEL. IF EXTRAPOLATED, CLARIFY IN REMARKS.
I	20 CI 552	M	MAXIMUM FLIGHT LEVEL TEMP/PRESSURE ALTITUDE OUTSIDE EYE
J	23 CI 541	M	MAXIMUM FLIGHT LEVEL TEMP/PRESSURE ALTITUDE INSIDE EYE
K	22 CI 26.5	C	DEWPOINT TEMP/SEA SURFACE TEMP INSIDE EYE
L	POORLY DEFINED		EYE CHARACTER: Closed wall, poorly defined, open SW, etc.
M	NA		EYE SHAPE/ORIENTATION/DIAMETER. Code eye shape as: C - Circular; CO - Concentric; E- Elliptical. Transmit orientation of major axis in tens of degree, i.e., 01-010 to 190; 17-170 to 350. Transmit diameter in nautical miles. <i>Examples:</i> C8 - Circular eye 8 miles in diameter. EO9/15/6 - Elliptical eye, major axis 090-270, length of major axis 15 NM, length of minor axis 5NM. CO8-14 - Concentric eye, diameter inner eye 8 NM, outer eye 14 NM.
N	24 DEG 52 MIN (N) S		CONFIRMATION OF FIX: Coordinates and time
	84 DEG 33 MIN E (W)		
	05/0120	Z	
O	1, 3, 4, 5 / 1		FIX DETERMINED BY/FIX LEVEL. FIX DETERMINED BY: 1 - Penetration; 2 - Radar; 3 - Wind; 4 - Pressure; 5 - Temperature. FIX LEVEL (Indicate surface center if visible; Indicate both surface and flight level centers only when same): 0 - Surface; 1 - 1500ft; 9-925mb; 8 - 850 mb; 7 - 700 mb; 6 - 500 mb; 4 - 400 mb; 3 - 300 mb; 2 - 200 mb; NA - Other.
P	1 / 10	NM	NAVIGATION FIX ACCURACY/METEOROLOGICAL ACCURACY

**REMARKS**

MAX FL WIND 53 KT NE QUAD 01082 Z  
 SLP EXTRAP FROM (1500 FT) 925 MB/ 850 MB/ DROPSONDE)  
 SFC CNTR \_\_\_\_\_ / \_\_\_\_\_ NM FROM FL CNTR  
 MAX FL TEMP C / \_\_\_\_\_ NM FROM FL CNTR  
NE/SW WIND SHIFT LINE BETWEEN 24°58'N, 84°26'W 000  
ORIENTED 24°40'N, 84°04'W

INSTRUCTIONS: Items A through G (and H when extrapolated) are transmitted from the aircraft immediately following the fix. The remainder of the message is transmitted as soon as available for scheduled fixes and at the ARWO's discretion for scheduled (intermediate) fixes.

WX MISSION IDENTIFICATION OR 11

(ABBREVIATED) (DETAILED) VORTEX DATA MESSAGE

A	05/0251	Z	DATE AND TIME OF FIX
	24 DEG 59 MIN (N) S		LATITUDE OF VORTEX FIX
B	83 DEG 58 MIN E (W)		LONGITUDE OF VORTEX FIX
C	NA MB NA	M	MINIMUM HEIGHT AT STANDARD LEVEL
D	NA	KT	ESTIMATE OF MAXIMUM SURFACE WIND OBSERVED
E	NA DEG NA	NM	BEARING AND RANGE FROM CENTER OF MAXIMUM SURFACE WIND
F	185 DEG 51	KT	MAXIMUM FLIGHT LEVEL WIND NEAR CENTER
G	150 DEG 75	NM	BEARING AND RANGE FROM CENTER OF MAXIMUM FLIGHT LEVEL WIND
H	995	MB	MINIMUM SEA LEVEL PRESSURE COMPUTED FROM DROPSONDE OR EXTRAPOLATED FROM FLIGHT LEVEL. IF EXTRAPOLATED, CLARIFY IN REMARKS.
I	23 CI 575	M	MAXIMUM FLIGHT LEVEL TEMP/PRESSURE ALTITUDE OUTSIDE EYE
J	23 CI 578	M	MAXIMUM FLIGHT LEVEL TEMP/PRESSURE ALTITUDE INSIDE EYE
K	21 CI 26	C	DEWPOINT TEMP/SEA SURFACE TEMP INSIDE EYE
L	POORLY DEFINED		EYE CHARACTER: Closed wall, poorly defined, open SW, etc.
M	NA		EYE SHAPE/ORIENTATION/DIAMETER. Code eye shape as: C -Circular; CO - Concentric; E- Elliptical. Transmit orientation of major axis in tens of degree, i.e., 01-010 to 190; 17-170 to 350. Transmit diameter in nautical miles. <i>Examples:</i> C8 - Circular eye 8 miles in diameter. EO9/15/5 - Elliptical eye, major axis 090-270, length of major axis 15 NM, length of minor axis 5NM. CO8-14 - Concentric eye, diameter inner eye 8 NM, outer eye 14 NM.
	24 DEG 59 MIN (N) S		CONFIRMATION OF FIX: Coordinates and time
	83 DEG 58 MIN E (W)		
N	05/0251	Z	
O	1,3,4 / 1		FIX DETERMINED BY/FIX LEVEL. FIX DETERMINED BY: 1 - Penetration; 2 - Radar; 3 - Wind; 4 - Pressure; 5 - Temperature. FIX LEVEL (Indicate surface center if visible; indicate both surface and flight level centers only when same): 0 - Surface; 1 - 1500ft; 9-925mb; 8 - 850 mb; 7 - 700 mb; 6 - 500 mb; 4 - 400 mb; 3 - 300 mb; 2 - 200 mb; NA - Other.
P	1 / 10	NM	NAVIGATION FIX ACCURACY/METEOROLOGICAL ACCURACY

REMARKS

MAX FL WIND 53 KT NE QUAD 0108 Z

SLP EXTRAP FROM (1500 FT) 925 MB/ 850 MB/ DROPSONDE)

SFC CNTR \_\_\_\_\_ / \_\_\_\_\_ NM FROM FL CNTR

MAX FL TEMP \_\_\_\_\_ C \_\_\_\_\_ / \_\_\_\_\_ NM FROM FL CNTR

INSTRUCTIONS: Items A through G (and H when extrapolated) are transmitted from the aircraft immediately following the fix. The remainder of the message is transmitted as soon as available for scheduled fixes and at the ARWO's discretion for scheduled (intermediate) fixes.

OB 01

WX MISSION IDENTIFICATION \_\_\_\_\_ OR **14**

(ABBREVIATED) (DETAILED) VORTEX DATA MESSAGE

A	05/0428	Z	DATE AND TIME OF FIX
	25 DEG 05 MIN (N) S		LATITUDE OF VORTEX FIX
B	83 DEG 38 MIN E (W)		LONGITUDE OF VORTEX FIX
C	NA MB NA	M	MINIMUM HEIGHT AT STANDARD LEVEL
D	NA	KT	ESTIMATE OF MAXIMUM SURFACE WIND OBSERVED
E	NA DEG NA	NM	BEARING AND RANGE FROM CENTER OF MAXIMUM SURFACE WIND
F	360 DEG 63	KT	MAXIMUM FLIGHT LEVEL WIND NEAR CENTER
G	225 DEG 90	NM	BEARING AND RANGE FROM CENTER OF MAXIMUM FLIGHT LEVEL WIND
H	994	MB	MINIMUM SEA LEVEL PRESSURE COMPUTED FROM DROPSONDE OR EXTRAPOLATED FROM FLIGHT LEVEL. IF EXTRAPOLATED, CLARIFY IN REMARKS.
I	24 CI 542	M	MAXIMUM FLIGHT LEVEL TEMP/PRESSURE ALTITUDE OUTSIDE EYE
J	24 CI 539	M	MAXIMUM FLIGHT LEVEL TEMP/PRESSURE ALTITUDE INSIDE EYE
K	22 CI NA	C	DEWPOINT TEMP/SEA SURFACE TEMP INSIDE EYE
L	POORLY DEFINED		EYE CHARACTER: Closed wall, poorly defined, open SW, etc.
M	NA		EYE SHAPE/ORIENTATION/DIAMETER. Code eye shape as: C - Circular; CO - Concentric; E - Elliptical. Transmit orientation of major axis in tens of degree, i.e., 01-010 to 190; 17-170 to 350. Transmit diameter in nautical miles. <i>Examples:</i> C8 - Circular eye 8 miles in diameter. EO9/15/5 - Elliptical eye, major axis 090-270, length of major axis 15 NM, length of minor axis 5NM. CO8-14 - Concentric eye, diameter inner eye 8 NM, outer eye 14 NM.
N	25 DEG 05 MIN (N) S		CONFIRMATION OF FIX: Coordinates and time
	83 DEG 38 MIN E (W)		
	05/0428	Z	
	134 / 1		FIX DETERMINED BY/FIX LEVEL. FIX DETERMINED BY: 1 - Penetration; 2 - Radar; 3 - Wind; 4 - Pressure; 5 - Temperature. FIX LEVEL (Indicate surface center if visible; indicate both surface and flight level centers only when same): 0 - Surface; 1 - 1500ft; 9-925mb; 8 - 850 mb; 7 - 700 mb; 6 - 500 mb; 4 - 400 mb; 3 - 300 mb; 2 - 200 mb; NA - Other.
	1 / 8	NM	NAVIGATION FIX ACCURACY/METEOROLOGICAL ACCURACY

REMARKS

MAX FL WIND 63 KT SW QUAD 0403 Z

SLP EXTRAP FROM (1500 FT) 925 MB/ 850 MB/ DROPSONDE)

SFC CNTR \_\_\_\_\_ / \_\_\_\_\_ NM FROM FL CNTR

MAX FL TEMP \_\_\_\_\_ C \_\_\_\_\_ NM FROM FL CNTR

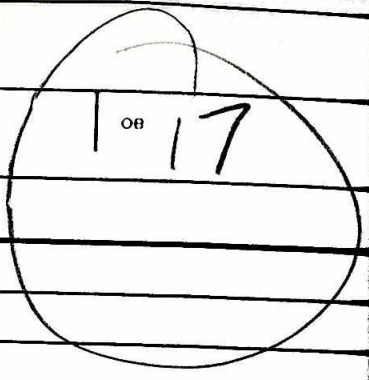
*POSSIBLE HOOK FEATURE IN ASADBAAD AT 24 30'N, 83° 30'W AT 0415Z*

INSTRUCTIONS: Items A through G (and H when extrapolated) are transmitted from the aircraft immediately following the fix. The remainder of the message is transmitted as soon as available for scheduled fixes and at the ARWO's discretion for unscheduled (intermediate) fixes.

*0643E*

DATE SCHEDULED FIX TIME AIRCRAFT NUMBER ARWO

WX MISSION IDENTIFICATION



(ABBREVIATED) (DETAILED) VORTEX DATA MESSAGE

A	05/0553 Z	DATE AND TIME OF FIX
B	25 DEG 11 MIN (N) S	LATITUDE OF VORTEX FIX
B	83 DEG 22 MIN E (W)	LONGITUDE OF VORTEX FIX
C	NA MB NA M	MINIMUM HEIGHT AT STANDARD LEVEL
D	NA KT	ESTIMATE OF MAXIMUM SURFACE WIND OBSERVED
E	NA DEG NA NM	BEARING AND RANGE FROM CENTER OF MAXIMUM SURFACE WIND
F	20 DEG 59 KT	MAXIMUM FLIGHT LEVEL WIND NEAR CENTER
G	315 DEG 36 NM	BEARING AND RANGE FROM CENTER OF MAXIMUM FLIGHT LEVEL WIND
H	993 MB	MINIMUM SEA LEVEL PRESSURE COMPUTED FROM DROPSONDE OR EXTRAPOLATED FROM FLIGHT LEVEL. IF EXTRAPOLATED, CLARIFY IN REMARKS.
I	20 CI 534 M	MAXIMUM FLIGHT LEVEL TEMP/PRESSURE ALTITUDE OUTSIDE EYE
J	24 CI 592 M	MAXIMUM FLIGHT LEVEL TEMP/PRESSURE ALTITUDE INSIDE EYE
K	21 CI NA C	DEWPOINT TEMP/SEA SURFACE TEMP INSIDE EYE
L	POORLY DEFINED	EYE CHARACTER: Closed wall, poorly defined, open SW, etc.
M	NA	EYE SHAPE/ORIENTATION/DIAMETER. Code eye shape as: C - Circular; CO - Concentric; E - Elliptical. Transmit orientation of major axis in tens of degree, i.e., 01-010 to 190; 17-170 to 350. Transmit diameter in nautical miles. Examples: C8 - Circular eye 8 miles in diameter. EO9/15/5 - Elliptical eye, major axis 090-270, length of major axis 15 NM, length of minor axis 5NM. CO8-14 - Concentric eye, diameter inner eye 8 NM, outer eye 14 NM.
N	25 DEG 11 MIN (N) S 83 DEG 22 MIN E (W) 05/0553 Z	CONFIRMATION OF FIX: Coordinates and time
O	1345/ 1	FIX DETERMINED BY/FIX LEVEL. FIX DETERMINED BY: 1 - Penetration; 2 - Radar; 3 - Wind; 4 - Pressure; 5 - Temperature. FIX LEVEL (Indicate surface center if visible; indicate both surface and flight level centers only when same): 0 - Surface; 1 - 1500ft; 9-925mb; 8 - 850 mb; 7 - 700 mb; 6 - 600 mb; 5 - 500 mb; 4 - 400 mb; 3 - 300 mb; 2 - 200 mb; NA - Other.
P	1 / 6 NM	NAVIGATION FIX ACCURACY/METEOROLOGICAL ACCURACY

REMARKS  
 MAX FL WIND 63 KT JW QUAD 0403 Z  
 SLP EXTRAP FROM (1500 FT) / 925 MB / 850 MB / DROPSONDE)  
 SFC CNTR \_\_\_\_\_ / \_\_\_\_\_ NM FROM FL CNTR  
 MAX FL TEMP \_\_\_\_\_ C \_\_\_\_\_ NM FROM FL CNTR WITHIN 50 NMI NE  
 REGION OF MODERATE RAINBANDS, MOD TRAB NE OF CENTER.

INSTRUCTIONS: Items A through G (and H when extrapolated) are transmitted from the aircraft immediately following the fix. The remainder of the message is transmitted as soon as available for scheduled fixes and at the ARWO's discretion for scheduled (intermediate) fixes.





MISSION PREFLIGHT LOG

NAVIGATOR

AIRCRAFT COMMANDER

FLIGHT DIRECTOR

SCHEDULED / ACTUAL TAKEOFF Z DATE OF TAKEOFF

DESTINATION  
MCF

MISSION  
MITA

STRONG

MCALIN

PARRISH

2200 / 2218

11/4/98

001 2209  
002 2218  
003 0648  
004 0657

WP	LAT / LON	RTE	MH	VAR +E=>	TH	DR +R=>	TRK	GS	WD	WS	ALT	TAS	LEG / TOT DIST	LEG / TOT TIME	PROP ETA	ETA	ATA	REMARKS	
1) 600	27-23.9							220					17	105	2223				
2) 600	26-02.8							250					20.5 23.2	74.9 75.4	2312				2200
3) 1P	25-15							↓					51	112	2324	2209			2231
4) 6	24-N												223	106	2349				34
5) 1321	24-N 85W												103 378	125 143	2349				2305

INS PERFORMANCE	
INS 1	INS 2
2027	2027
1	0
30 0658	0658
2200	2200
8458	8458

TERMINAL ERRORS	
INS 1	INS 2
+6.1	+7.0
-1.7	-4.3
6	8
6	9

REMARKS
CAF MCF
L190
L1716
240 14.0 T10
119.05 4622