

U.S. DEPT. COMM./NOAA/DAO - DATA SECTION WORK FORM NO.1 DAOWF1 FILE

FLT ID: 95082814	FM: TBTP	TO: TISX
FLT NO: 95-42	BLK IN: 0236Z	ATA: 0232
ETD: 17Z	BLK OUT: 1707Z	RTD: 1717
EYE: 9+	BLK TIME: 9:29 (9.5)	FLT TIME: 9:15 (9.5)
SPONSOR ORG: HAD	PROGRAM: T.S. 1215	PURPOSE: XCDX EX

DAO PERSONNEL

AC McKim *	SYS ENG Goldstein *
CP O'Mara *	DATA SYS Toles *
NAV Strong *	RADAR Sart *
FE Torrey/Wade *	BT/ODW Gonzales *
RADIO Arnason *	CED PHYS Kinney *
FD Parrish *	DOPPLER

PARTICIPATING SCIENTIST/VISITORS/DAO

LAST, FIRST NAME	ACTIVITY ON A/C	AFFILIATION
W. Loughby, H. *	P.I.	HAD ↓
Black, M. *	Radar	
Ganache, J. *	"	
Black, P. *	SFMR	
Smith, R. *		

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

180111 XCDX Experiment

5/1006.1 9 20°48'N, 62°26'W 982m

FM 3K 9 21°07'N, 62°24'W 982m (DRUPSONIC)

5/1012.7 9 21°23'N, 62°24'W 982m

5/1012.5 0135 - Cut pattern short on W leg due to 0230Z closing time at TISX.

5/1012.2

5/1012.2 5/1005

5/1012.2 27.1/24.5

3 hurricane penetrations

95082814

IRIS XCDX Experiment

Time	LAT	LOA	TR	WD	WS	PA	GA	TA	TD	SP	AS				
1707	1304.7	59293	94			59		31.1	25.9		1006.2				
171830	1305.4	5925.1	79	171	15.8	303	213	25.8	21.0	1012.6	967.6	↑			
172150	1313	5922	294	170	13.2	1522	1608	18.9	12.0	1013.0	828.4	↑			
173945	1400	6022	306	192	14.1	4208	4445	3.4	-1.2	1009.5	599.8	—			
1757	1444	6125	305	196	14.7	4208	4442	2.4	0.1	1010.7	599.8				
180845	1508	6210	297	211	12.7	4210	4439	3.1	-0.7	1009.1					
182315	1549	6302	309	209	17	4210	4435	3.7	-7.7	1008.3	599.7				
184530	1650	6420	306	206	14.9	4210	4428	3.5	-23.6	1007.8	599.7				
184730	1656	6434	32	209	11.8	4210	4426	4.2	-6.3	1007.1	599.7	AT AT 1 (600 AT)			
185915	1745	6411	30	233	15.7	4210	4425	3.5	-3.0	1008.8					
1918	1904	6322	32	265	27.6	4209	4417	4.6	-10.3	1008.6	599.7				
192715	1942	6257	33	270	30.2	4209	4395	4.1	—	1002.2	600.1				
1944	2048	6226						9.5	2.0	982		5			
202530	2332	6046	31	176	21.2	4206	4437	3.4	0.0	1008.7	600.1				
2037	2413	6015	2	172	17.4	4205	4445	2.3	1.8	1011.3	600.1	AT AT 2			
205030	2415.4	6118.5	266	128	17.4	4209	4446	2.3	1.1	1011.0	599.8				
2100	2413.3	6208.3	267	107	16.6	4205	4436	2.9	1.0	1009.0	600.1				
2113	2412.8	6316	270	90	20.5	4208	4438	3.4	0.4	1008.5	599.9				
213030	2407.6	6441.4	147	88	11.6	4207	4438	2.6	1.4	1010.0	600.0	PT 3			
214230	2321.5	6409.7	147	58	14.0	4207	4431	3.1	2.0	1008.0	599.9				
215230	2243	6343	147	71	20.1	4206	4418	2.4	2.3	1008.1	600.2				
220745	2148	6306	140	42	30	4204	4391	3.6	3.0	1003.0	600	60MI OUT			
22212	2107	6224								982	DAOR	DAOR			
2241	1952.5	6136.1	149	218	33.1	4206	4420	3.6	-3.6	1006.7	599.8				
2255	1901	6103	150	222	25	4204	4436	3.4	0.3	1006.4	599.9				
230530	1821	6042	151	218	25.8	4207	4446	3.9	-4.3	1009.5	600.0				
2316	1741	6020	151	214	21.7	4207	4451	4.4	-1.3	1009.6	600.0	SE TURN AT			
2326	1755	5956	29	205	23.7	4207	4454	3.4	1.2	1010.1	599.9				
2342	1859	5913	27	206	23	4208	4454	3.6	0.8	1009.9	599.9				
2352	1942	5847	29	204	18.3	4209	4458	2.8	0.5	1011.7	599.9				
0005	2035.4	5817.4	25	206	17	4207	4458	2.8	0.5	1012.0	600.0				
001200	2104	5802	2	190	14	4205	4456	2.6	-0.6	1012.4	600.1	E AT			
002345	2106	5856	256	198	30.7	4209	4451	2.8	-4.2	1011.5	599.8				
0044	2114	6031	275	185	43	4209	4438	2.6	-1.6	1010.2	600.0				
0109	2123	6224								982		5			
0131	2124	6408	272	8	21.5	4206	4427	3.1	3.8	1007.7	599.9				
013430	2124.5	6408	Turn	AT	→	70	715X								
015130	2005.6	6431.3	184	337	8.3	5483	5803	-3.8	-5.5	1006.3	506.3	-18X			
020115	1917	6434	183	282	1.8	5483	5805	-3.1	-11.5	1006.1	506.2				
021030	1836	6436	179	245	13	2923	3052	11.0	-3.9	1011.9	7239	↓			
021815	1804	6439	185	255	14	1411	1476	18.8	16.8	1012.1	858	↓			
022830	1740	6459	2	287	8.5	731	768	22.1	22.1	1013	928				
0237	1742	6447.5				17		27.2	23.8		1011.2	PSLK			

950828H N42RF HRD Hurricane Iris XCDX

<u>Sensor or system</u>	<u>Number or Name</u>
INE	1 (See note)
Accelerometer	1
Temperature Probe	1
Dew Point Probe	1
Altimeter	APN-159
Altitude change option (for vertical winds)	RA
Static Pressure	Rosemount Fuselage
Dynamic Pressure	Rosemount Fuselage
Time Source	Micro 99
Constants File	CO2951.CON

Notes:

INE 1 positions were corrected periodically with good GPS positions. No corrections were made to groundspeeds.

JW Liquid Water instrument inoperative during this flight.

Special note. Locations 80, 81 and 82 of the Type 5 record on the Standard Tape contain vertical groundspeed, vertical airspeed and vertical wind, respectively, computed using Dave Jorgensen's vertical wind algorithm. It is recommended that these values be used for vertical wind analysis.

Jack Parrish, Flight Director

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TITLE (MAX 21 CHARACTERS) -- EX HURRICANE PAINE
H.IRIS HRD XCDX
YYMMDDL FLT I.D.
950828H
HHMMSS START TIME -99999 DEFAULT TO START OF DATA FOR PRINTOUT ONLY
170711
HHMMSS END TIME 999999 DEFAULT TO END OF DATA FOR PRINTOUT ONLY
023600
HHMMSS TAKE OFF TIME
171700
* NUMBER OF TAPES (I2) ...FOR STANDARD TAPE OUTPUT ONLY
01
* -----LOGICAL UNIT OF INPUT DATA (I1) 5, 8 OR 9 FOR TAPE DRIVE
1
* -----LOGICAL UNIT OF OUTPUT TAPE DRIVE (I1) [FOR STANDARD TAPE ONLY]
9
* -----LOGICAL UNIT OF PRINTER (I1)
6
* -----DATE OF PROGRAM (MMDDY)
06094
* -----STATIC PRESSURE PROBE (I1)
* 1 = PSW (WINGTIP)
* 2 = PSF (CO-PILOT/FUSELAGE)
* 3 = FUTURE USE
2
* -----DYNAMIC PRESSURE PROBE (I1)
* 0 = PQW(WINGTIP)
* 1 = PQF1 (FUSELAGE 1281)
* 2 = PQF2 (FUSELAGE 1221)
* 3 =FUTURE US
1
* -----INE SELECTION (I1)
* 1 = INE 1
* 2 = INE 2
1
* -----ACCELEROMETER (I1) - USUALLY THE SAME AS YOUR INE SELECTION
1
* ----- TOTAL TEMPERATURE PROBE (I1) [1 OR 2]
1
* ----- DEWPONT TEMPERATURE PROBE (I1) [1 OR 2]
1
* -----ALTIMETER OPTION (I1) - FOR VERTICAL WIND COMPUTATION
* 0 = PRESSURE ALTITUDE (OVER LAND)
* 1 = RADAR ALTITUDE APN-159 (OVER WATER)
* 2 = RADAR ALTITUDE APN-232 (OVER WATER)
1
* -----PRINTOUT RATE SECONDS (I2)
10
* -----WINDSPEED/DIRECTION RUNNING AVERAGE TIME, SECONDS (I2)
10 ! FOR STANDARD TAPE OUTPUT ONLY
* -----TIME OPTION (I1)
* 1 = MICRO 29
* 2 = TIME BASED GENERATOR #1
* 3 = TIME BASED GENEATOR #2
1
* -----NAME OF CONSTANTS FILE EX CO3863.CON
CO2951.CON
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950828H IRE1 REJAV

171700	+0.1	0.0	04.4	30.0 ✓	04.9 30.1
191500	-0.2	+0.2	52.2	30.0 ✓	52.1 29.7
200000	+1.4	+0.7	49.1	50.2 ✓	49.1 50.1
204500	+0.6	+0.1	16.7	50.1 ✓	16.4 49.8
213130	+1.6	+1.4	03.9	38.8 ✓	3.5 38.5
221500	+1.0	+1.0	23.8	43.3 ✓	23.5 43.2
230000	+1.5	+2.7	42.4	53.7 ✓	41.4 53.7
234500	+0.5	+2.5	12.6	05.7 ✓	11.7 5.5
003000	+0.7	+2.7	05.7	25.0 ✓	7.2 25.3
011200	-0.6	+3.2	23.3	38.9 ✓	
011530	-0.5	+3.3	23.5	38.4	21.7 55.1
015930	-0.5	+3.0	26.3	33.8 ✓	24.1 34.1
(12) 023600	-2.4	+3.8	42.1	47.5 ✓	39.9 47.3

DATE 28 Aug 95		SCHEDULED FIX TIME —		AIRCRAFT NUMBER 042 RF		ARWO PARRISH	
MANOP HEADING (PRECEDENCE IMMEDIATE)							
MISSION IDENTIFIER AND OBSERVATION NUMBER NORAZ WXXWX IRIS							
(ABBREVIATED) (DETAILED) VORTEX DATA MESSAGE							
A	29/ 0109			Z	DATE AND TIME OF FIX		
B	21 DEG 23 MIN N S				LATITUDE OF VORTEX FIX *		
	62 DEG 24 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	190 DEG 65			KT	MAXIMUM FLIGHT LEVEL WIND NEAR CENTER		
G	090 DEG 20			NM	BEARING AND RANGE FROM CENTER OF MAXIMUM FLIGHT LEVEL WIND		
H	EXTRAP 982			MB	MINIMUM SEA LEVEL PRESSURE COMPUTED FROM DROPSONDE OR EXTRAPOLATED FROM WITHIN 1500 FT OF SEA SURFACE		
I	C/			M	MAXIMUM FLIGHT LEVEL TEMP/PRESSURE ALTITUDE OUTSIDE EYE		
J	C/			M	MAXIMUM FLIGHT LEVEL TEMP/PRESSURE ALTITUDE INSIDE EYE		
K	C/			C	DEWPOINT TEMP/SEA SURFACE TEMP INSIDE EYE		
L	EYE CHARACTER: Closed wall, poorly defined, open SW, etc.						
M	EYE SHAPE/ORIENTATION/DIAMETER. Code eye shape as: C - Circular; CO - Concentric; E - Elliptical. Transmit orientation of major axis in tens of degrees, i.e., 01-010 to 190; 17-170 to 350. Transmit diameter in nautical miles. Examples: C8 - Circular eye 8 miles in diameter. E09/15/5 - Elliptical eye, major axis 090-270, length of major axis 15 NM, length of minor axis 5 NM. CO8-14 - Concentric eye, diameter inner eye 8 NM, outer eye 14 NM.						
N	DEG		MIN N S		CONFIRMATION OF FIX: Coordinates and Time *		
	DEG		MIN E W				
			Z				
O	/				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 - 1500 ft; 8 - 850 mb; 7 - 700 mb; 5 - 500 mb; 4 - 400 mb; 3 - 300 mb; 2 - 200 mb; 9 - Other.		
P	/			NM	NAVIGATION FIX ACCURACY/METEOROLOGICAL ACCURACY		
Q	REMARKS						
FIX MADE FROM 14,000 FT. PEAK FLT LVL WIND ITEMS F & G AT 010430Z. NUMEROUS MOD AIRBORNS N, E 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 unscheduled (intermediate) fixes. * CHECK SUM REQUIRED IN WESTPAC.							

DATE <u>28 Aug 95</u>		SCHEDULED FIX TIME <u> </u>		AIRCRAFT NUMBER <u>N42RF</u>		ARWO <u>Parrish</u>	
MANOP HEADING (PRECEDENCE IMMEDIATE)							
MISSION IDENTIFIER AND OBSERVATION NUMBER <u>10X00 N0RAZ 10X10X IIRIS</u>							
(ABBREVIATED) <u>(DETAILED)</u> VORTEX DATA MESSAGE							
A	<u>28/1944</u>	Z	DATE AND TIME OF FIX				
B	<u>20 DEG 48 MIN (N) S</u>		LATITUDE OF VORTEX FIX *				
	<u>62 DEG 26 MIN E (W)</u>		LONGITUDE OF VORTEX FIX *				
C	<u>NA MB NA</u>	M	MINIMUM HEIGHT AT STANDARD LEVEL				
D	<u>45</u>	KT	ESTIMATE OF MAXIMUM SURFACE WIND OBSERVED				
E	<u>200 DEG 20</u>	NM	BEARING AND RANGE FROM CENTER OF MAXIMUM SURFACE WIND				
F	<u>275 DEG 40</u>	KT	MAXIMUM FLIGHT LEVEL WIND NEAR CENTER				
G	<u>200 DEG 26</u>	NM	BEARING AND RANGE FROM CENTER OF MAXIMUM FLIGHT LEVEL WIND				
H	<u>EXTRAP 982</u>	MB	MINIMUM SEA LEVEL PRESSURE COMPUTED FROM DROPSONDE OR EXTRAPOLATED FROM WITHIN 1500 FT OF SEA SURFACE				
I	<u>5.0 CI 4206</u>	M	MAXIMUM FLIGHT LEVEL TEMP/PRESSURE ALTITUDE OUTSIDE EYE				
J	<u>9.5 CI 4210</u>	M	MAXIMUM FLIGHT LEVEL TEMP/PRESSURE ALTITUDE INSIDE EYE				
K	<u>2.0 CI NA</u>	C	DEWPOINT TEMP/SEA SURFACE TEMP INSIDE EYE				
L	<u>OPEN SW</u>		EYE CHARACTER: Closed wall, poorly defined, open SW, etc.				
M	<u>E03/25/20</u>		EYE SHAPE/ORIENTATION/DIAMETER. Code eye shape as: C - Circular; CO - Concentric; E - Elliptical. Transmit orientation of major axis in tens of degrees, i.e., 01-010 to 190; 17-170 to 350. Transmit diameter in nautical miles. Examples: C8 - Circular eye 8 miles in diameter. E09/15/5 - Elliptical eye, major axis 090-270, length of major axis 15 NM, length of minor axis 5 NM. CO8-14 - Concentric eye, diameter inner eye 8 NM, outer eye 14 NM.				
N	<u>20 DEG 48 MIN (N) S</u>		CONFIRMATION OF FIX: Coordinates and Time *				
	<u>62 DEG 26 MIN E (W)</u>						
	<u>1944</u>	Z					
O	<u>1,2,3,4,5/ NA</u>		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 - 1500 ft; 8 - 850 mb; 7 - 700 mb; 5 - 500 mb; 4 - 400 mb; 3 - 300 mb; 2 - 200 mb; 9 - Other.				
P	<u>2 / 5</u>	NM	NAVIGATION FIX ACCURACY/METEOROLOGICAL ACCURACY				
Q	REMARKS <u>FIX MADE FROM 14,000 FT.</u> <u>PEAK FLT LVL WIND ITEMS F AND G AT 1938Z.</u> <u>STRONG RAIN/BAODS NE QUAD.</u>						

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.

* CHECK SUM REQUIRED IN WESTPAC.

DATE 28 Aug 95	SCHEDULED FIX TIME	AIRCRAFT NUMBER D42RF	ARWO PARISH
MANOP HEADING (PRECEDENCE IMMEDIATE)			
MISSION IDENTIFIER AND OBSERVATION NUMBER DOAAZ WXWX IRIS			
(ABBREVIATED) (DETAILED) VORTEX DATA MESSAGE			
A	28 / 2221 Z	DATE AND TIME OF FIX	
B	21 DEG 07 MIN N S	LATITUDE OF VORTEX FIX *	
	62 DEG 24 MIN E W	LONGITUDE OF VORTEX FIX *	
C	NA MB NA M	MINIMUM HEIGHT AT STANDARD LEVEL	
D	50 KT	ESTIMATE OF MAXIMUM SURFACE WIND OBSERVED	
E	330 DEG 25 NM	BEARING AND RANGE FROM CENTER OF MAXIMUM SURFACE WIND	
F	060 DEG 50 KT	MAXIMUM FLIGHT LEVEL WIND NEAR CENTER	
G	330 DEG 28 NM	BEARING AND RANGE FROM CENTER OF MAXIMUM FLIGHT LEVEL WIND	
H	982 MB	MINIMUM SEA LEVEL PRESSURE COMPUTED FROM DROPSONDE OR EXTRAPOLATED FROM WITHIN 1500 FT OF SEA SURFACE	
I	C/ M	MAXIMUM FLIGHT LEVEL TEMP/PRESSURE ALTITUDE OUTSIDE EYE	
J	C/ M	MAXIMUM FLIGHT LEVEL TEMP/PRESSURE ALTITUDE INSIDE EYE	
K	C/ C	DEWPOINT TEMP/SEA SURFACE TEMP INSIDE EYE	
L		EYE CHARACTER: Closed wall, poorly defined, open SW, etc.	
M		EYE SHAPE/ORIENTATION/DIAMETER. Code eye shape as: C - Circular; CO - Concentric; E - Elliptical. Transmit orientation of major axis in tens of degrees, i.e., 01-010 to 190; 17-170 to 350. Transmit diameter in nautical miles. Examples: C8 - Circular eye 8 miles in diameter. E09/15/5 - Elliptical eye, major axis 090-270, length of major axis 15 NM, length of minor axis 5 NM. CO8-14 - Concentric eye, diameter inner eye 8 NM, outer eye 14 NM.	
N	DEG MIN N S	CONFIRMATION OF FIX: Coordinates and Time *	
	DEG MIN E W		
	Z		
O	/	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 - 1500 ft; 8 - 850 mb; 7 - 700 mb; 5 - 500 mb; 4 - 400 mb; 3 - 300 mb; 2 - 200 mb; 9 - Other.	
P	/ NM	NAVIGATION FIX ACCURACY/METEOROLOGICAL ACCURACY	
Q	REMARKS PEAK FLT LVL WIND ITEMS F AND G AT 2215Z. FIX MADE FROM 14,000 FT. SUR WIND MAX 210 DEG/65 KNOTS AT 150 DEG/12 NM FROM CENTER. NUMEROUS MOD RAIN BANDS NW OF CENTER. SUR PRESS FROM DROPSONDE.		
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. * CHECK SUM REQUIRED IN WESTPAC.			

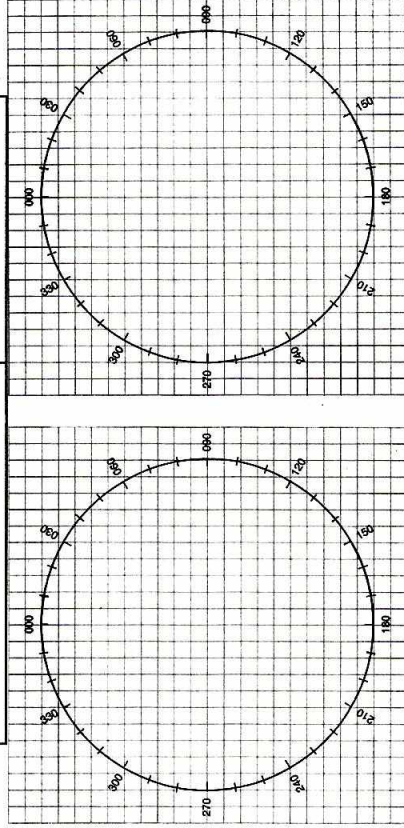
CLEARANCES

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MISSION LOG

PAGE OF

PAGE OF



POSITION REPORT

1. POSITION
2. TIME
3. ALTITUDE
4. NEXT POSITION
5. ETA
6. NEXT POSITION

EMERGENCY MESSAGE

TRANSMIT THE FOLLOWING MESSAGE TO ANY AGENCY ON THE AIR-GROUND FREQUENCY IN USE. IF UNABLE TO ESTABLISH COMMS, ATTEMPT CONTACT ON ANY OF THE FOLLOWING EMERGENCY FREQUENCIES:

UHF/VOICE	VHF/VOICE	MF/VOICE	HF/CW	MF/CW
243.0	121.5	2182 KHZ	8364 KHZ	500 KHZ

MAYDAY, MAYDAY, MAYDAY
THIS IS NOAA, NOAA, NOAA, NOAA

- POSITION _____ N/S _____
F/W AT _____

- HEADING TRUE/MAG

-AT _____ KTS TRUE/INDICATED

- FLIGHT LEVEL OR ALTITUDE -

- WE ARE A P-3 AIRCRAFT WITH _____ SOULS ON BOARD _____

-NATURE OF EMERGENCY
-ASSOCIATION REQUIRED

- ASSIS TANCE DESIR
- RILOT INTENTIONS

- FLEET INTENTIONS

- WE HAVE

ENDURANCE REMAINING