U.S. Dept. of Commerce/NOAA/Aircraft Operations Center

AOCWF1

Flt ID: I001004	From: KMCF	To: KMCF
Flt No.: 01 – 02	Blk In: 0132	ATA: 0123Z
ETD: 1930Z	Blk Out: 1914Z	ATD: 1928Z
ETE: 0130Z	Blk Time: 6:18 6.3	Flt Time: 5:55 5.9
Sponsor Org: NHC	Program: HURR. RECON	Purpose: INVEST NEAR DAYTONA BEACH, FL

AOC Personnel

AC: TENNESEN ✓	Sys Eng:
CP: HALVERSON ✓ / TEBEEST	Data Sys: LYNCH ✓
Nav: ADLER ✓ / RATHBUN ✓	Radar: BARR ✓
FE: BAST ✓	GPS/BT:
Avionics: SANS SOUCI ✓	Cld Phys:
FD: DAMIANO / SHEPHERD ✓	

Participating Scientists/Visitors/AOC

Name (Last, First)	Activity on Aircraft	Affiliation
COOK, ROB	MEDIA	CH. 9
FLOYD	MECH	AOC
MANNING	PURCHASING / ADMIN	AOC

Proposed/Actual Mission/Remarks (Recco, Fixes, Storm, PENET, NHOP #)

Bal DW1 1943Z

Called CARCH 2105Z
go SE 150 NM then N
2240Z

2020Z went to 1K to get below clds
Went to DME2 2113Z

24 KTS 2320Z

U.S. Dept. of Commerce/NOAA/Aircraft Operations Center

AOCWF2

Flt ID: I001004	Time Off: 1928Z	Time On: 0173Z

	A/C (Take Off)	Wx Stn (Take Off)	A/C (Land)	Wx Stn (Land)
Pressure	1013.3	1014.6 29.96	29.99 1015.6	1013.7

	Number	Data Disposition/Date/Quality
Slow/Fast Flt Lvl Tapes	2	
Radar Tapes	1	
Cloud Physics Tapes	4	
Video Tapes		
AXBT		
AXCP		
AXCTD		
Dropsondes		

Video

	Forward	Left Side	Right Side	Down	Remarks
Time On					
Time Off					
Rate					

Remarks

OB 3

15

150 2135

Flight ID: I001004

Page ____ of ____

U.S. Dept. of Commerce/NOAA/Aircraft Operations Center Form 413-50

Time	Lat	Long	Trk	Hdg	Wind Dir	Wind Spd	T_a	T_d	Press. Alt.	Geo. Alt.	Sfc Press.	Press. Sfc	Dyn. Press	Remarks
193800	2742	8154	68	68	256	20	14.4	12.1	2128	2206	1008.4	782.4	79.1	IN CLD
195400	2806	8038	80	82	252	31	18.7	17.2	1225	1261	1011.9	875.8	77.3	IN/out CLD
208000	2838	8000	359	358	211	28	23.8	21.2	434	437	1011.1	962.4	72.4	CLD ABV
202300	2939	7958	359	0	211	8	23.9	22.7	300	289	1010.2	977.8	74.6	BLW CLD
			29	46										
263000	3006	8001	354	357	45	10	23.9	21.0	298	290	1010.7	978.0	73.9	BLW CLD
264000	3021	8005	181	180	77	8	23.1	21.8	294	292	1011.3	978.4	73.5	BLW CLD
211500	2935	7959	136	141	226	16	24.3	22.2	288	276	1010.1	979.2	72.2	BLW CLD
212500	2909	7935	134	143	197	35	24.5	22.4	299	293	1010.8	977.7	74.1	RW
214300	2826	7843	147	153	207	30	25.2	23.6	299	312	1012.8	977.9	71.9	RWT
220800	2842	7757	15	22	143	28	24.3	23.4	279	291	1012.8	980.3	70.3	RWT
212500	2942	7756	328	328	154	33	23.1	20.7	283	296	1013.3	979.8	73.6	RWT
224900	3116	7810	276	308	96	18	22.0	20.4	278	307	1015.1	980.2	72.5	RWT
231900	3019	7927	226	221	123	24	24.6	18.3	276	277	1011.9	980.4	73.6	SCT CLD
003900	3005	8116	157	154	025	17.6	18.5	16.8	1348	1421	1013.1	848.8	67.4	OVR. LAND CLIMBING

OB 3 24

ETA KMCB 05/0120Z

OBS @ TIME 12

OBS REPORT TO KMHC VIA KMCB

Recco east of Daytona Beach

Flight 1 I001004

DATA TYPE	SENSOR or OPTION
INE	2
Accelerometer	2
Temperature Probe	1
Altitude (for vertical wind)	RA159 radar altimeter
Static Pressure	Fuselage
Dynamic Pressure	Fuselage
Dewpoint Probe	2

Notes:

There were no data/time gaps.

The RA159 radar altimeter generated erroneous data from 205619Z - 205653Z. The data was removed and replaced with data from the RA232 radar altimeter using the following equation,

$$RA159 = RA232 - 5.0$$

Downward spikes in radar altimeter values were due to overflying land.

Aircraft INE positions were renavigated with respect to GPS.

SPECIAL NOTE!!! Locations 80, 81 and 82 of record five on the standard tape contain vertical ground, vertical air and vertical wind speeds, respectively, derived from Dave Jorgensen's vertical wind algorithm. It is recommended that these values be used for vertical wind analysis.

The King liquid water voltage is in location 79 of record five on the standard tape. However, for this flight the sensor was inoperative.

	Takeoff	Landing
Aircraft static pressure	1013.2 mb	1014.2 mb
Corrected tower pressure	1014.1 mb	1015.1 mb

Flight Director: A. Barry Damiano, (813) 828-3310 ext. 3073

DATE	SCHEDULED RX TIME	AIRCRAFT NUMBER	ARWO
[redacted]			

WX MISSION IDENTIFICATION | OB 11

VORTEX DATA MESSAGE

A	04/23382 Z	DATE AND TIME OF FIX
	29 DEG 37 MIN (N) S	LATITUDE OF VORTEX FIX
B	79 DEG 55 MIN E (W)	LONGITUDE OF VORTEX FIX
C	MB NA M	MINIMUM HEIGHT AT STANDARD LEVEL
D	20 KT	ESTIMATE OF MAXIMUM SURFACE WIND OBSERVED
E	030 DEG 46 NM	BEARING AND RANGE FROM CENTER OF MAXIMUM SURFACE WIND
F	120 DEG 24 KT	MAXIMUM FLIGHT LEVEL WIND NEAR CENTER
G	030 DEG 46 NM	BEARING AND RANGE FROM CENTER OF MAXIMUM FLIGHT LEVEL WIND
H	EXTRAP 1010 MB	MINIMUM SEA LEVEL PRESSURE COMPUTED FROM DROPSONDE OR EXTRAPOLATED FROM FLIGHT LEVEL. IF EXTRAPOLATED, CLARIFY IN REMARKS.
I	23 C/ 277 M	MAXIMUM FLIGHT LEVEL TEMP/PRESSURE ALTITUDE OUTSIDE EYE
J	25 C/ 320 M	MAXIMUM FLIGHT LEVEL TEMP/PRESSURE ALTITUDE INSIDE EYE
K	22 C/ 27 C	DEWPOINT TEMP/SEA SURFACE TEMP INSIDE EYE
L	NA	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. E09/15/5 - 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	134/01	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; 5 - 500 mb; 4 - 400 mb; 3 - 300 mb; 2 - 200 mb; NA - Other.
O	1 / 5 NM	NAVIGATION FIX ACCURACY/METEOROLOGICAL ACCURACY
P	REMARKS	

MAX FL WIND [redacted]37 KT SE QUAD 2229 Z

SEA LEVEL PRES EXTRAPOLATED FROM 1000 FT

ALL CONVECTION EAST AND SE of 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 unscheduled (intermediate) fixes.

NOAA • AOC • SED

N43RF DATA STATION LOG

Project : Hurricane '00 Mission : Invest Flight ID : 001004I

Operators : Lynch, Barr

Take Off : 19:27 Landing : 01:23

RAMS DAT 1 On [8 / 9] : 19:11	RAMS DAT 1 Off : 01:32	Data : (Slow) (Fast) AVAPS
RAMS DAT 2 On [8 / 9] :	RAMS DAT 2 Off :	Data : (Slow) (Fast) AVAPS
RAMS DAT 3 On [8 / 9] :	RAMS DAT 3 Off :	Data : Slow Fast AVAPS
Printer On : 19:12	Printer Off : 01:32	Disk Recording : (Enabled) Disabled
MARS DAT 1 On [(8) / 9] : 20:04	MARS DAT 1 Off : 04:39	CPU Selected : A (B)
MARS DAT 2 On [8 / 9] :	MARS DAT 2 Off :	VCR's Used : (N) (L) (R) (D)
MARS DAT 3 On [8 / 9] :	MARS DAT 3 Off :	VCR Mode : VHS / (S-VHS) 2 / (12)
PMS DAT 1 On :	PMS DAT 1 Off :	
PMS DAT 2 On :	PMS DAT 2 Off :	Tapes Given To
PMS DAT 3 On :	PMS DAT 3 Off :	RAMS : ABD
VCR Tape 1 On : 19:12	VCR Tape 1 Off : 00:56	MARS : ABD
VCR Tape 2 On :	VCR Tape 2 Off :	PMS : ———
VCR Tape 3 On:	VCR Tape 3 Off :	VCR : ABD

CARCAH Tasking

Mission Number : 02XXA

Storm Name : Invest

ASDL Setup

Flight Level (Minobs) Sample Frequency : 60s

Flight Level (Minobs) Block Time : 10m

Data Station Operator Notes

044 → 224

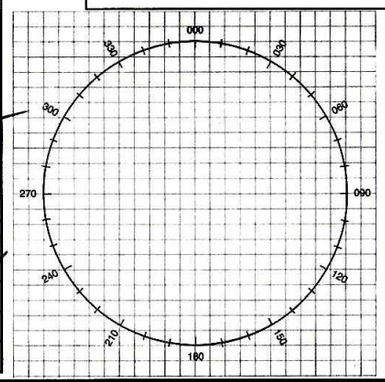
6K 120.95 Seaford

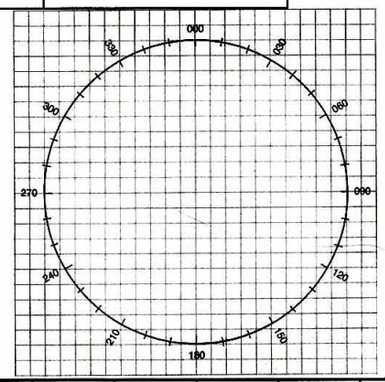
MISSION LOG

PAGE ___ OF ___

CLEARANCES

FREQ	ALT	HDG	OTHER
			R 080 ↗ 16000
			7K H10 136
			R 4K
			7K R140
			3K 4K 020°
			3030
			028
			3017 7930 46
			2937 7955





POSITION REPORT

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

211

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 _____

- POSITION _____ N / S
  _____ E / W AT _____ Z
- HEADING _____ TRUE/MAG
- AT _____ KTS TRUE/INDICATED
- FLIGHT LEVEL OR ALTITUDE _____
- WE ARE A P-3 AIRCRAFT WITH ___4___ SOULS ON BOARD
- NATURE OF EMERGENCY
- ASSISTANCE DESIRED
- PILOT INTENTIONS
- WE HAVE _____ ENDURANCE REMAINING

12000

TIME	FIX TYPE	POSITION	INS 1 POSITION	K ERR	INS 2 POSITION	K ERR	MH	VAR +E==>	TH	DR +R==>	TRK	GS	WD	WS	ALT	TAS	NEXT PT	DIST	TIME	ETA	REMARKS
1911 1915	ENG TAXI																				
1914 1927	BLOCK T/O																				
1930	X✓	27 52.8 082 23.1	27 52.8 082 23.0	+0 +.1	27 52.8 082 23.0	+0 -.1			139	3L	136	225	250	15	↗7K	220					080 / 8
1944	X	27 51.1 081 25.7	27 51.6 081 25.5	-.5 +.2	27 51.0 081 25.6	+.1 +.1			069	1R	068	073	250	25	7K	242					
2005	D	28 26.1 080 00.5	28 27.7 080 00.6	-1.6 -.1	28 27.1 080 00.2	-1.0 +.3			358	3R	001	250	210	25	1500	224					
2015	D	30 04.1 080 05.2	30 00.8 080 08.3	+3.3 -3.1	30 03.3 080 04.5	+.8 +.7			180	0	180	221	L/✓		1000	223					HD 096 345 030
2029	D	29 06.1 079 25.7	28 55.8 079 20.2	+4.2 +5.5	29 00.8 079 24.4	-.7 +1.3	M3	GW	139	9L	128	208	200	40	1000	222	⑤	92	+27	256	~2° from #1
2209	D	2845.9 7755.7	2842.3 7800.9	+3.4 +5.2	2846.2 7755.0	-.3 +.7			022	7L	015	232	130	35	1000	219					
2303		3103.2 7845.8	3057.8 7846.0	75.4 -.2	3104.1 7844.2	-.9 +1.6			206	9R	209	205	144	39	1000	221					
2333:04		2936.8 7956.1	2933.9 7959.6	+2.9 -3.5	2938.2 7954.5	-2.4 +1.6															
2337:17		2938.2 7953.6	2934.6 7956.6	+3.6 -3.0	2939.8 7952.6	-1.6 +1.6															
2355		3020.9 7957.9	3012.7 7958.7	+8.2 -1.2	3025.0 7956.2	-2.1 +1.7			178	3R	181	222	116	11	1000	223					
0082	D	30 30.5 081 10.6	30 23.2 081 14.2	+7.3 -3.6	30 33.0 081 08.0	-2.5 +2.6															
0123	D	mcf																			
0132	BLOCK	27 51.2 082 31.0	27 44.2 082 34.7	+7.0 -3.7	27 55.4 082 28.2	-4.2 +2.8															

NOAA FORM 56-49
(2-95)

MISSION PREFLIGHT LOG

HD

DESTINATION	MISSION	NAVIGATOR	AIRCRAFT COMMANDER	FLIGHT DIRECTOR	SCHEDULED / ACTUAL TAKEOFF Z	DATE OF TAKEOFF
MCF	INVEST	ADLER/RATHBUN	TENESSEN	SHEPHERD/DAMIANO	1930'	OCT 00

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
9	MCF																	
1	LAS																	
2	MLB																	
3	080/35 MLB 28 13/080																	
4	32 N 080 00																	
1 ORMOND	29 18,2 81 06,8	+2 −2																
2 LAKELAND	27 59,2 82 00,8	↓																
3 MACDILL	27 51,7 82 30,8	↓																
																		1+23
																		4+51
																		6+14
																		909
																		614
																		2523
																		01

14 $08

INS PERFORMANCE

	INS 1	INS 2
BEGIN ALIGN TIME	1812	1745
ALIGN STATUS (0-5)	1	1
END NAV TIME	0123	0123
START NAV TIME	1909	1909
DELTA T	6+14	6+14

TERMINAL ERRORS

	INS 1	INS 2
DELTA LAT	+7.0	-4.2
DELTA LON	-3.7	+2.8
RGS	13	2
RADIAL ERROR	8	6.

REMARKS

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
AIRCRAFT OPERATIONS CENTER