

# Hurricane 2000

## T. S. Leslie

Flight 001005H

<u>Sensor or system</u>	<u>Number or Name</u>
INE	2
Accelerometer	2
Temperature Probe	2
Dew Point Probe	1
Altitude (for vertical wind)	RA-159
Static Pressure	Rosemount Fuselage
Dynamic Pressure	Rosemount Fuselage
Time Source	Micro 99
Constants File	CO2004.CON

Notes:

Takeoff: 1607Z

Land: 2321Z

Prior to and during takeoff, the radar altimeter (RA-159) was replaced by the RA-232 (1604:01-1612:00) due to spiking. Prior to and during landing the RA-159 was replaced by the RA-232 (2307:30-2324:00) due to spiking.

Between 2203:30 and 2219:30, the RA-159 had a failure. During that time, the RA-232 was substituted for the RA-159 with a +68 meter offset.

Two spikes in dewpoint #1 (due to dewpointer balancing procedure) were removed and patched using dewpointer #2 as reference (1705:00-1708:00 and 1847:00-1849:00).

At 2300:30, dewpointer #1 ceased to function. Dewpointer #3 was substituted for dewpointer #1 from 2300:30-2324:00.

	<u>Takeoff</u>	<u>Landing</u>
Aircraft static pressure	1017.1 mb	1014.6 mb
Corrected tower pressure	1018.3 mb	1016.3 mb

The aircraft INE positions were re-navigated 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 speeds, respectively, computed using Dave Jorgensen's vertical wind algorithm. It is recommended that these values be used for vertical wind analysis.

Flight Director: Tom Shepherd, (813) 828-3310 ext. 3053

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

AOCWF1

Flt ID: 001005H	From: KMCF	To: KMCF
Flt No.: 01-02	Blk In: 2330Z	ATA: 2321
ETD: 1600Z	Blk Out: 1553Z	ATD: 1607Z
ETE:	Blk Time: 7:37 7.6	Flt Time: 7:13 7.2
Sponsor Org: NHC	Program: HURRICANE 2000	Purpose: T.S. LESLIE

AOC Personnel

AC: TENNESON, D ✓	Sys Eng: MCNAMARA, R ✓
CP: HALVERSON, H / TERREEST, R ✓	Data Sys: MCMILLAN, S
Nav: <del>ADAMS, D</del> / NEWMAN, C ✓	Radar:
FE: TORREY, R ✓	GPS/BT:
Avionics: ROGERS, M ✓	Cld Phys:
FD: SHEPHERD, T / DAMIANO, T ✓	

Participating Scientists/Visitors/AOC

Name (Last, First)	Activity on Aircraft	Affiliation
WALSH, E ✓	PI	NASA
CASTELS, T ✓	PI	UMASS

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

IP 2948 7628 , 3215 7330 , 3210 7625, 2948 7339  
 CP 31.0 75.0  
 Bal(?) Dpt 1 1706  
 Dpt 2 off 2302 - Dpt 1 still oscillates at ~ 0°C (T<sub>d</sub>)  
 Dpt 1 Bal 2307  
 Dpt 1 off 2309 (not working)

2290  
 1553  
 737  
 7.6

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AOCWF2

Flt ID: **001005H**      Time Off: **1607Z**      Time On: **2321Z**

	A/C (Take Off)	Wx Stn (Take Off)	A/C (Land)	Wx Stn (Land)
Pressure	<b>1017.1</b>	<b>30.07</b>	<b>1014.6</b>	<b>30.01</b>

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

**Video**

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

Remarks

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Form 413-50

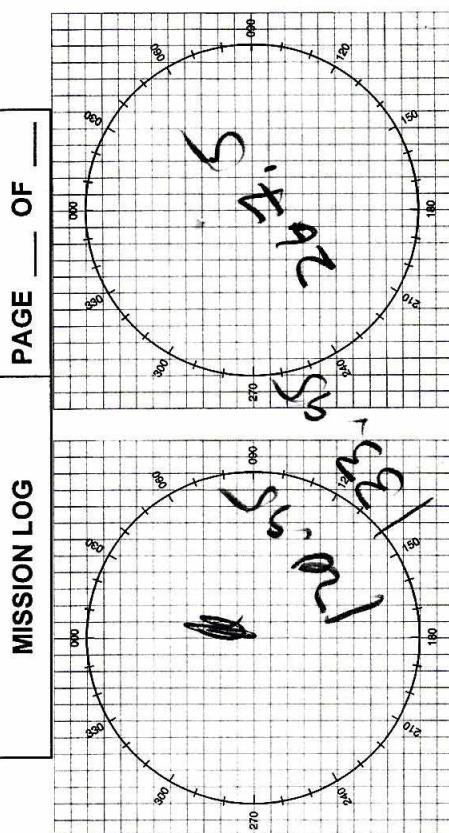
Time	Lat	Long	Trk	Hdg	Wind Dir	Wind Spd	T <sub>a</sub>	T <sub>d</sub>	Press. Alt.	Geo. Alt.	Sfc Press.	Press. Sfc	Dyn. Press	Remarks
1638														RECCO
165050	2851	7908	67	63	297	30.3	6.8	-15.5	3319	3515	1016.4	673.1	100.3	BKN BLO
1700														RECCO
171655	2938	7657	069	065	292	21.6	21.0	22.4	318	323	1012.0	975.9	74.5	IP 6 miles
172900	2959	7616	045	039	310	22.9	23.1	21.9	318	306	1010.2	975.7	75.5	1000 ft.
183050	3130	7527	271	270	101	12.8	22.8	21.3	318	317	1011.6	975.7	76.5	1000 FT N of CNTR BKN
185455	3130	7718	270	272	065	14.3	23.0	20.6	321	330	1012.8	976.0	74.2	
195100	2932	7422	136	144	233	31	24.2	21.9	318	319	1011.5	975.6	75.3	IN CLD
200210	2903	7345	133	141	217	28.5	25.2	21.9	319	330	1012.4	975.9	76.8	RW-
205340	3146	7319	000	002	157	21.0	22.0	20.7	317	324	1012.6	975.7	73.2	BKN ABV
211845	3037	7612	253	252	321	19.6	-1.4	-33.3	5033	5319	1008.9	537.7	91.2	BKN BLO
221940	2953	7900	257	259	297	17.6	-1.9	-34.0	5033	5340	1012.3	537.7	91.4	FL170
225700	2831	8159	265	266	298	6.7	1.8	-39.6	4495	4730	1009.0	581.0	85.8	DESCENDING

75 29.5

(12) 1x15 2753 8232 2315

10:00am 14313

CLEARANCES		
FREQ	ALT	HDG
4000set		
29.99	2705	30.07
32 2343		
	MIF	LAL OIL TUG APOO
	VFL	MARDILL
		2080
		11,000 +10
		119.9
		3600
		3715



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

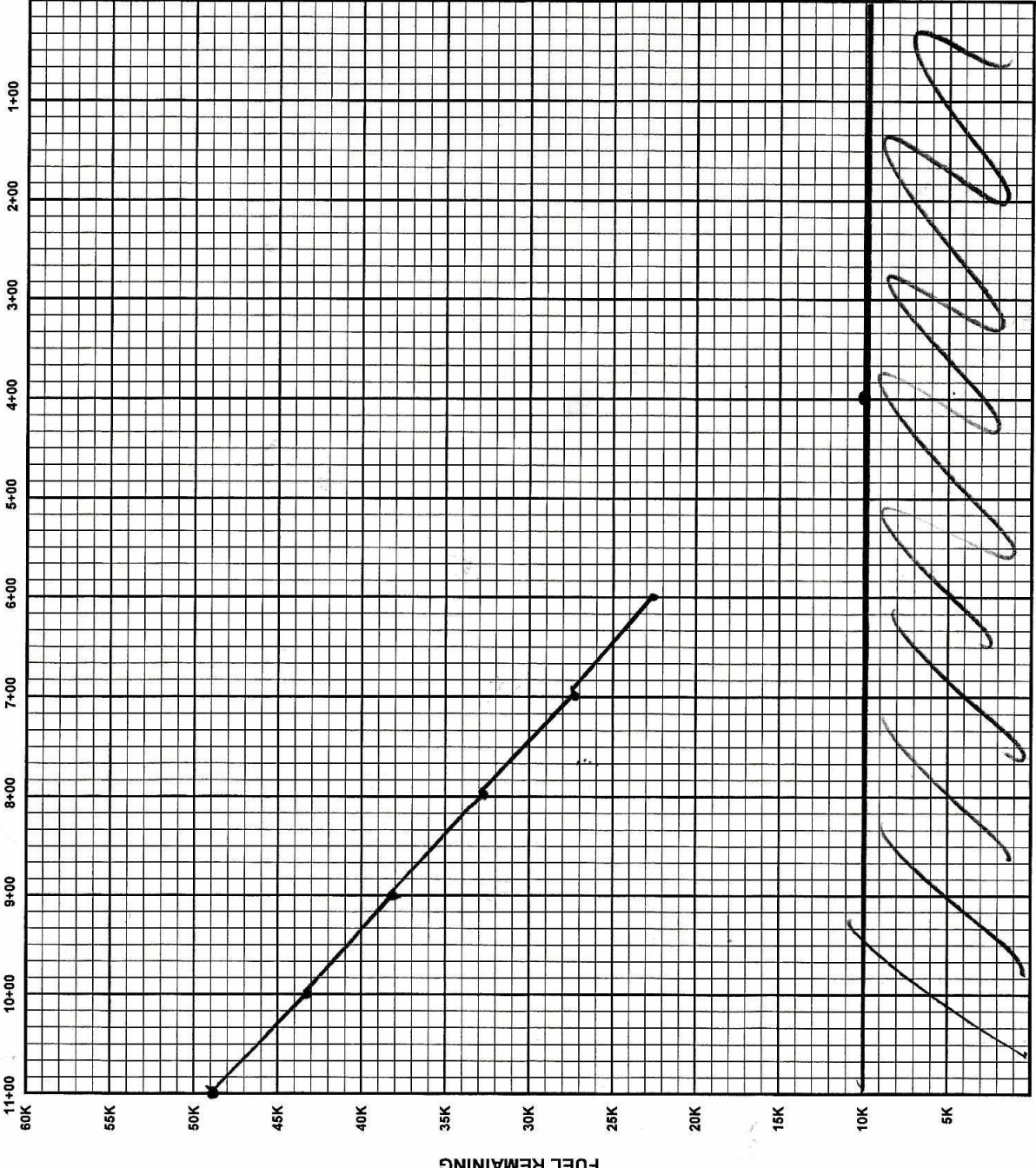
**EMERGENCY MESSAGE**  
 TRANSMIT THE FOLLOWING MESSAGE TO ANY AGENCY ON THE AIR-GROUND FREQUENCY IN USE. IF UNABLE TO ESTABLISH COMMS, ATTEMPT CONTACT ON ANY OF THE FOLLOWING EMERGENCY FREQUENCIES:  
 UHF/VOICE 2182 KHZ HF/CW 8364 KHZ MF/CW 500 KHZ  
 243.0  
 MAYDAY, MAYDAY, MAYDAY  
 THIS IS NOAA, 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 \_\_\_\_\_ SOULS ON BOARD  
 - NATURE OF EMERGENCY \_\_\_\_\_  
 - ASSISTANCE DESIRED \_\_\_\_\_  
 - PILOT INTENTIONS \_\_\_\_\_  
 - WE HAVE \_\_\_\_\_ ENDURANCE REMAINING

TIME	FIX TYPE	POSITION	INS 1 POSITION	K ERR	INS 2 POSITION	K ERR	VAR +E-->	TH	DR +R-->	TRK	GS	WD	WS	ALT	TAS	NEXT PT	DIST	TIME	ETA	REMARKS	
1558																				7421 49.2 39.07	
1608																				TOFF	
1640	Δ	28 29.9 80 05.1	28 29.9 80 04.9	+1.2 +1.2	28 30.0 80 04.7	+1.4	069	063	4R	067	316	294	28	11.0	295	1P	192	+36		278 +14 TMS 288	
1723			07N		07N																
1730	Δ	30 10.9 76 02.7	30 10.9 76 01.8		30 10.8 76 00.8		0779W	068	1R	069	218	254	3	1.1	216	CENTR	69	+19	1752		
1744			30 13N		30 13N																
1831	Δ	31 30.0 75 28.4	31 30.4 75 28.4	-1.4 0	31 30.2 75 26.9	+1.3	279	270		269	235	675	14	1.1	222	NW	POINT	1855			
1925:00	Δ	30 20.9	30 20.0N	75 29.5W	30 21.1 75 18.3	+1.2															
1931	Δ	30 20.9 75 19	30 22.1 75 19.1	-1.2 -1.1	30 21.1 75 18.3	+1.7	142	135	4L	131	214	194	15	1.1	221	SE	POINT	2010		2411	
2030	Δ	30 12.4 73 14.7	30 14.4 73 14.0	-2.0 +1.4	30 12.6 73 12.8	+2.2	006	356	1R	357	243	193	22	1.1	220	NE		2057			
2122:54			31 10 N	74 35.9 W																	
2130	Δ																				
2130:20			31 02.3N 74 49.6W																		
2321																					
2334																					LAND CHECK

2321  
2334  
VRS 1.9  
OFF STATION



00000  
10000  
20000  
30000  
40000  
50000  
60000  
70000  
80000  
90000  
100000  
110000



ENROUTE FUEL	
ENROUTE TIME	
ENROUTE FUEL (6K 5K/5KRULE)	
RESERVE AT DESTINATION	
REQUIRED RAMP	
ACTUAL RAMP FUEL	

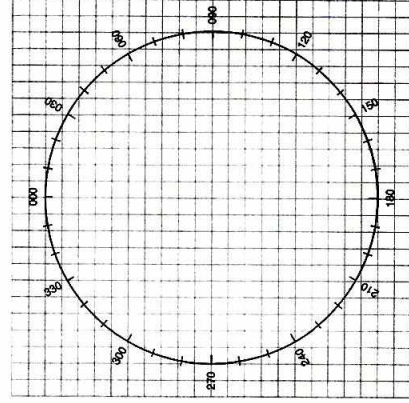
TACTICAL (OFFSTA TO DESTINATION)	
DISTANCE (OFFSTA TO DEST)	
ENROUTE TIME (OFFSTA TO DEST)	
BURN RATE (LBS/HR)	4500
ENROUTE FUEL REQUIRED	5500
RESERVE AT DESTINATION	
FUEL AT OFFSTA	

POINT OF SAFE RETURN	
ETP DISTANCE (TO DEPARTURE)	
ENROUTE TIME (TO DEPARTURE)	
BURN RATE (LBS/HR)	4500
FUEL REQUIRED	5500
RESERVE AT DEPARTURE	
PSR FUEL	

CEX - TRUE BEARING METHOD		
COMPASS TYPE	INS1	INS2
MCH (READING)		
MTH (SEXTANT)		
CE		
-VAR		
DEV		

CEX - ERB METHOD		
COMPASS TYPE	INS1	INS2
MERB (DIAL 000)		
+ZN		
= MTH		
MCH (READING)		
CE		
-VAR		
= DEV		

CEX SIGHT	
GMT	
GHA	
CORR	
GHA	
LONG+W E	
EXACT LHA	
LAT	
BODY	
DEC	
HC/D	
CORR	
HC	
Z	
ZN	



WIND FACTOR		
WINDSPEED	HEADWIND	TAILWIND
10	1.03	.97
20	1.06	.94
30	1.10	.92
40	1.14	.89
50	1.18	.87
60	1.22	.85

DISTANCE REMAINING

ETP = .5(TOTAL DISTANCE x OUTBOUND WIND FACTOR)

PRESS ALT		WIND FACTOR	
10,000	1.0	200	.99
20,000	.99	250	.98
30,000	.97	300	.97
40,000	.96	350	.96

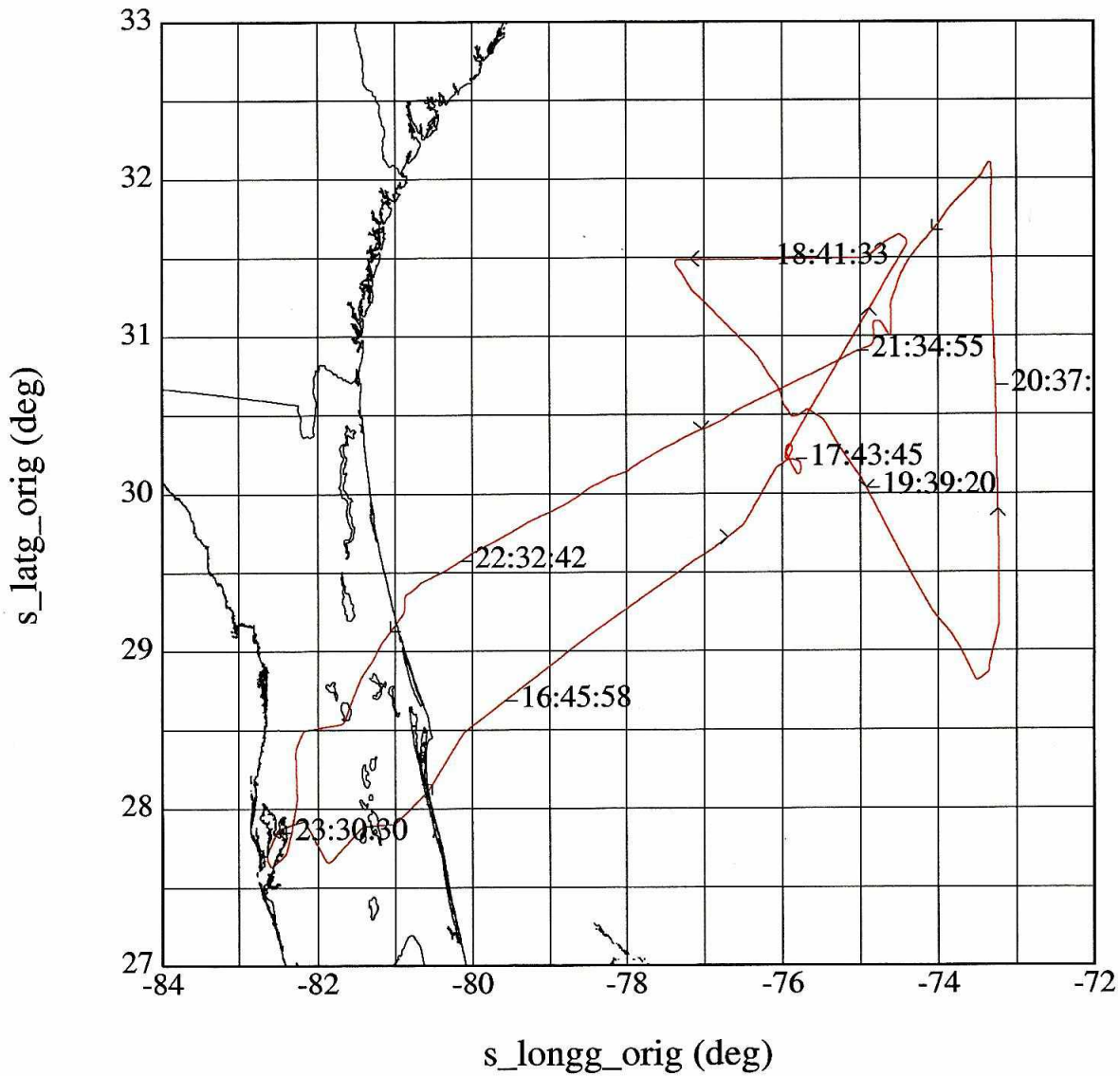
TRUE AIRSPEED CROSS-CHECK						
TIME	IAS	PRESS ALT	"IF" FACTOR	EAS	OAT	ITAS





# HUR00, T. S. Leslie

001005Hs\_P, 15:48:11-23:30:30



	mean	sigma	min	max
— s_latg_orig (deg), 1 s/sec	29.92	1.27	27.64	32.11
— s_longg_orig (deg), 1 s/sec	-77.19	3.07	-82.63	-73.22

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