

Flt ID: 010803N	From: KMCF	To: KMCF
Flt No: 01-44	Blk In: 0222Z	ATA: 0211Z
ETD: 1730Z	Blk Out: 1714Z 100E	ATD: 1730Z
ETE: 0200Z	Blk Time: 9:08 9.1	Flt Time: 8:41 8.7
Sponsor Org: NOAA	Program: NHC SURV.	Purpose: T.S. BARRY

AOC Personnel

AC: MCCANN, B ✓	Sys Eng: HORN BROOK, C ✓
CP: YATES, G ✓ / POSTON, R ✓	Data Sys: GOLDSTEIN, A ✓
Nav:	Radar:
FE: KITSON, G ✓	GPS/BT: LINO, D ✓
FD: C2424K, S ✓	Cld Phys:
Avionics:	

Participating Specialists / Visitors / AOC

Name (Last, First)	Activity on Aircraft	Affiliation
MILLER, R ✓	MIDAS	NOAA/AL
LANOSEA, C ✓	HAPS	HRD
BLACK, M ✓	"	"

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

0403A BARRY

2355Z 20 45 87 29W 1005MB
30KTS NW

TEAL 54 2230Z

25.5 TO NE BACK CENTER
86.1

TEAL 99

SYSTEM DOWN 0210Z

0130Z

Flt ID: 010803N	Time Off: 1730Z	Time On: 0211Z
W/C (Take Off)	W/C Station (Take Off)	W/C (Land)
Pressure 1016.5	30.04	1015.0
		29.97

	Number	Data Disposition / Date / Quality
Flt Lvl Tapes		
Radar Tapes		
Cloud Physics Tapes		
Video Tapes		
AXBT		
AXCP		
AXCTD		
Dropsondes	35	32 XMT

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

Remarks

ADCTOT PROB5 1758-1808

BAL DRAS ~1814

Flight ID: 010803N

Page of

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

Form 413-50

TIME	LOT	LOW	TIC	HP	TA	TD	WD	WS	PA	GA	OPS	REMARKS
												THIN CLOUDS MUCH OF CLIMB TO 411K
1800-												LA TURN
181005	2430	8430										DROP #1 ^{LATE} TEMP
181033	2426	8431		189	-59.6	-60.5	347	6.1	12495	13156	177.6	DROP #1A WIND DIED
183405	2132	8500										DROP #2 ^{NO} TEMP
183439	2129	8456		101	-60.1	-68.6	324	10.7	12495	13160	177.6	DROP #2A
184803	2115	8310	98	95	-60.9	-68.2	330	8.2	12633	13297	173.7	DROP #3 ^{NO} TEMP
184840												DROP 3A
190350	2054	8117	160	160	-61.4	-67.5	333	6.6	12631	13292	173.7	DROP 4
191940	1848	8120	242	244	-60.1	-66.3	8	7.6	12490	13139	177.8	DROP 5
193144	1841	8327										DROP 6 ^{NO} TEMP
193718	1837	8329	194	189	-62.8	-68.9	352	8.7	12785	13456	169.3	DROP 6A
195400	1633	8335			-62.8	-68.1	49	8.1	12773	13453	169.7	DROP 7
201446	1640	8610	316	315	-62.3	-68.2	331	8.7	12748	13461	169.8	DROP 8
203002	1800	8724			-67.6	-71.1	342	6.5	13340	14058	154.2	DROP 9
204530	1917	8603			-67.2							DROP 10 ^{LATE} ^{NO} TEMP
204604	1921	8603			-67.5	-73.3	315	13.2	13334	14043	154.4	DROP 10A ^{LATE} ^{NO} TEMP
205752	2037	8630	342	339	-68.8	-73.0	318	13.7	13479	14188	150.5	DROP 11 OVER CLOUDS
211028	2158	8703	299	299	-67.1	-72.5	297	5.7	13478	14201	150.6	DROP 12
211404	2213	9130			-68.2	-74.8	234	6.9	13605	14323	147.4	DROP 13
220211	2045	9245	218	217	-68.5	-74.6	218	4.7	13605	14323	147.4	DROP 14
221842	1921	9402										DROP 15 ^{NO} TEMP
221921	1924	9410	317	315	-68.7	-75.5	202	4.5	13614	14315	147.2	DROP 15A
223436	2045	9530	318	314	-68.9	-74.4	237	6.8	13614	14310	147.2	DROP 16
225152	2217	9656			-67.5	-74.9	222	10.9	13620	14307	147.1	DROP 17
231020	2408	9527			-66.2	-71.0	161	2.9	13608	14308	147.3	DROP 18
232805	2238	9356			-68.5	-75.5	192	7.3	13613	14303	147.2	DROP 19
234800	2415	9303			-67.9	-74.1	265	3.1	13609	14304	147.3	DROP 20 ^{NO} TEMP
234930												DROP 20A
000109	2615	9355			-66.3	-73.7	287	2.8	13607	14318	147.4	DROP 21
001904	2724	9202										DROP 22 ^{NO} TEMP
001945	2721	9156			-65.2	-73.0	107	2.9	13607	14340	147.3	DROP 22A
003735	2530	9059	138	134	-66.6	-73.9	107	11.1	13616	14332	147.1	DROP 23
005715	2404	8859			-68.3	-73.6	98	5.7	13615	14341	147.1	DROP 24
011121	2501	8729			-67.3	-72.8	18	3.8	13611	14332	147.2	DROP 25
012142	2600	8645	39	40	-67.2	-74.2	56	18.5	13618	14344	147.1	DROP 25 ADD
0124												LTS TEN AT 2142
013242	2659	8557	34	34	-67.9	-72.5	42	19.8	13616	14340	147.1	DROP 26

Aircraft Operations Center
PO Box 6829
MacDill AFB, FL 33608-0829

MEMORANDUM FOR: *Dr. Hugh Willoughby, Director HRD*

FROM: Captain Robert W. Maxson, NOAA
Director, Aircraft Operations Center

SUBJECT: Hazard Duty Flight

The mission flown on AOC aircraft N 49 RF on 8/3/01 has been declared hazardous. The following personnel from your laboratory participated in this mission.

*LANDSEA, C
BLACK, M*

For purposes of computing allowable hazard duty time, the hazard period during this mission was from 8/3/01 local time on 1314L until 2222L on 8/3/01.

010803N

1730 - 2610
1808 - 2544

AKROZ ✓
APZ ✓
ATZ ✓
BPZ ✓
DAPZ ✓
DBPZ ✓
LAT-PITR ✓
DPRC ✓
LON-PITR ✓
VEW-PITR ✓
VNS-PITR ✓
USPD-PITR ✓
PITCH-PITR ✓
PSZM ✓
QSZM ✓
ROLL-PITR ✓
SSROZ ✓
TASZ ✓
THOG-PITR ✓
TIZ -

✓ ADCSAT PROBS @ -64.00
✓ DBPZ PROBS AFTER 2248Z

GPCALT SPIKES

1853-1855
1925-1927
2135-2137
2250-2320 UNCE 2316-2317
✓ 2351-2352
0008-0010
0015-0022
0028-0030

TIME PROBLEMS @ 0214Z ON

DPRC BALANCE 1813-1825

✓ DPRC

✓ 16M232 1751-1757, 1821-1823,
1823-1826, 1837-1838, 1841-1843,
1845-1847, 1849-1902, 1908-1910,
1914-1916, 1926-1972, 2024-2027
2049-2050, 2057-2058, 2105-2107
2116-2121, 2146-2154, 2157-2159,
2235-2236, 2320-2321, 2373-2324,
2343-2345, 2357-2358, 0149-0150,
0153-0154, 0200-0201,

✓ ADCSAT

2036-2116, 2132-2251,
2318-2355, 0047-0145

✓ SYSTEM DOWN 0211Z-

NOAA/AOC/SED N49RF Flight Performance log

N49RF Project: Harr 01 Project No. 106 Flight No. 4 Flight ID: 010803N
 SED Crew: Hornbrook, Lino, Goldstein Mission: Tropical Storm Barry
 Pre-Flight: 1630 Z Take-Off: 1730 Z Landing: 0211 Z

SYSTEM			Pre-Flight Check	In-Flight	Post-Flight Check		
N A V	IRS #1		✓ <u>E</u>				
	IRS #2		✓ <u>E</u>				
	IRS #3		✓ <u>E</u>				
	GPS Honeywell #1		✓ <u>E</u>				
	GPS Honeywell #2		✓ <u>E</u>				
	GPS Collins		✓ <u>E</u>		Off? ☐		
Nose Radar - Collins					Off? ☐		
T E M P	Time	Temp °C			Time	Temp °C	
	Temp #1	<u>1640</u>	<u>29.7</u>	✓ <u>E</u>			
	Temp #2		<u>29.5</u>	✓ <u>E</u>			
	Temp #3		<u>29.2</u>	✓ <u>E</u>			
	Temp #4		<u>29.9</u>	✓ <u>E</u>			
	DP Left		<u>22.5</u>	✓ <u>E</u>	Cal. Time: <u>1821</u>		
P	DP Right		<u>23.0</u>	✓ <u>E</u>	Cal. Time: <u>1821</u>		
P R E S S	Attack Angle (ADCAOA)		✓ <u>E</u>				
	Slip Angle (BPx/DxPx)		✓ <u>E</u>				
	Differential (PQ1/PQ2)		✓ <u>E</u>				
	Absolute (PS1/PS2)		✓ <u>E</u>				
	Check Radome Press. Lines ☐		Date: <u>6/9/01</u>				
S Y S T E M S	DOWN PRT-5 ⇨ Open? ☐		<u>NH</u>		Closed? ☐		
	MADS (WINDS/DISCWIN)		✓ <u>E</u>	(1)	# DATs:		
	Printer 1 ⇨ Paper? ☒		✓ <u>E</u>		Printer Power off? ☐		
	MADS Cal. Date:		QC time: <u>1716</u>		QC time: <u>0217</u>		
	WINDS ⇨ NET BCAST ☒		✓ <u>E</u>				
	HAPS System / Time set? ☒		✓ <u>CH</u>		# Msg.: <u>32</u> # Fail: <u>25</u>		
	AVAPS System		✓ <u>ASG</u>				
	Printer 2 ⇨ Paper? ☐		<u>NI</u>		Printer Power off? ☐		
	Exterior Walk Around ☒		✓ <u>CH</u>				
	Inspect DropSonde Chute Bolts		✓ <u>CH</u>				
M I S C	Satcom (Flight Phone) ☒		✓ <u>CH</u>		Off CB? ☐		
	Call COMSAT? ☒ (*292#)		✓ <u>CH</u>				
	FCU/UPS/CB		CB's Checked? ☒ <u>CH</u>		UPS off? ☐		
	AVAPS Sondes		# On Board: <u>66</u>	# Dropped: <u>35</u>	# Good: <u>23</u>		
	Sci. Power Monitor ☒		✓ <u>CH</u>				
	APN-232 Altimeter		✓ <u>E</u>				
	Modem Power On? ☒		✓ <u>CH</u>				
	Pilots are happy? ☒		✓ <u>E</u>				

1	DAT Tape #1	On: <u>1716</u>	Type: <u>Sony DG60P</u>	Off: <u>0219</u>
Comments:				

Please Note Any Discrepancies

[illegible]



NOAA Gulfstream-IV Hurricane Surveillance 2001 Tropical Storm Barry



Flight Name: 010803n

<u>Instrument/System</u>	<u>Variable Name</u>			
Attack Pressure	AP1	☐	AP2	☒
Sideslip Pressure	BP1	☐	BP2	☒
Dynamic Attack Pressure	DAP1	☐	DAP2	☒
Dynamic Sideslip Pressure	DBP1	☐	DBP2	☒
Static Pressure	PS1M	☐	PS2M	☒
Dynamic Pressure	QC1M	☐	QC2M	☒
True Airspeed	TAS1	☐	TAS2	☒
Latitude	LAT	☐	LAT_PITR	☒
Longitude	LON	☐	LON_PITR	☒
E-W Ground Speed	VEW	☐	VEW_PITR	☒
N-S Ground Speed	VNS	☐	VNS_PITR	☒
Vertical Velocity	VSPD	☐	VSPD_PITR	☒
Pitch	PITCH	☐	PITCH_PITR	☒
Roll	ROLL	☐	ROLL_PITR	☒
True Heading	THDG	☐	THDG_PITR	☒
Dewpoint Temperature	DPRC	☒	DPLC	☐
Total Temperature	TT1	☐	TT2	☒
Ambient Temperature	AT1	☐	AT2	☒
			AT3	☐
			AT4	☐
			CRYOC	☐

Constants File: header01a

	Takeoff	Landing
Aircraft Static Pressure	1016.5 mb	1015.0 mb
Corrected Tower Pressure	1017.3 mb	1014.9 mb

Flight Director: Stan Czyzyk
E-mail: Stanley.Czyzyk@noaa.gov
Phone #: (813) 828-3310
FAX #: (813) 828-5061
Address: P.O. Box 6829
MacDill AFB, FL 33608-0829

Mission Notes:

All scientific and aircraft sensors appeared to perform properly throughout the mission with the exception of the following parameters:

GPGALT - Several offsets, spikes and deviations (1853-1855, 1925-1927, 2135-2137, 2250-2320, 2351-2352, 0008-0010, 0015-0022 and 0028-0030).

HGM232 - Several offsets, spikes and deviations (1751-1757, 1821-1826, 1837-1838, 1841-1843, 1845-1847, 1849-1902, 1908-1910, 1914-1916, 1926-1932, 2024-2027, 2049-2050, 2057-2058, 2105-2107, 2116-2121, 2146-2155, 2157-2159, 2235-2236, 2320-2321, 2323-2324, 2343-2345, 2357-2358, 0149-0150, 0153-0154 and 0200-0201).

DPLC - Spike due to balancing 1813-1825.
&
DPRC

ADCSAT - Problems with derivation below -63C (2036-2116, 2132-2251, 2318-2355 and 0047-0145).

DBP2 - Not functioning properly from 2252-0211.

System Crash at 0211Z.

Dropsondes: 35 Dropsondes released
32 Transmitted

N49RF AVAPS DropSonde Log

N49RF Project: HARR 2001 - T.S. BARRY Flight ID 010803N

Mission: _____ Flight #: 4 System Status: OK

Drop #	Sonde Serial Number	Chn. #	Time (Zulu)	Press. offset	Winds time	Operator Initials	Comments / Drop Status / Failure Reason	GOOD ☒
1	011315 003	1	1810	0	19	QSS	NO TEMP FOR 1ST 190 _{SEC}	
2	011345 074	2	1810	.4	47	QSS	NO WINDS AFTER ≈ 370 _{SEC} TELM?	
3	011315 005	1	1834	.3	24	QSS	NO TEMP, BAD HUM	
4	011378 186	2	1834	.3	20	QSS		✓
5	011335 047	3	1848	.2	17	QSS	NO TEMP BAD HUM	
6	011378 019	4	1848	.2	13	QSS		✓
7	011345 008	1	1902	.4	21	QSS	IMAJOR GAPS IN PTH TELEM	
8	011378 014	2	1919	0	30	QSS		✓
9	011378 217	1	1936	.3	30	QSS	NO TEMP BAD HUM	
10	011378 021	2	1937	.3	30	QSS		✓
11	011345 002	3	1954	.3	17	QSS		✓
12	011378 003	1	2014	0	56	QSS	TELEM INTERFERE @ END?	✓
13	011345 007	2	2030	.3	14	QSS	NO WINDS AFTER ≈ 300 mb	
14	011378 058	1	2045	.2	435	QSS	NO TEMP BAD HUM	
15	011378 020	2	2046	.2	117	QSS	LATE WINDS	
16	011378 215	2	2057	0	35	QSS		✓
17	003 475 119	1	2110	0	49	QSS		✓
18	003 515 048	1	2146	0	23	QSS	Ind. Winds	✓
19	003 515 281	3	2202	.5	26	QSS		✓
20	011 245 406	1	2218	.5		QSS	NO TEMP / HUM	
21	990 415 115	2	2219	.6	26	QSS		✓
22	003 515 092	3	2234	.4	34	QSS		✓
23	003 515 268	1	2251	0	26	QSS		✓
24	003 515 115	3	2310	.5	29	QSS		✓
25	990 435 424	1	2328	.4	34	QSS		✓
26	004 255 290	2	2343	0	41	QSS	No Temp	
27	004 255 306	3	2343	0	42	QSS	Backup	✓
28	003 515 279	1	0001	0	24	QSS		✓
29	003 515 090	2	0019	.4	107	QSS	No Temp	
30	003 475 084	1	0019	0	74	QSS		✓
31	003 515 269	3	0037	0	54	QSS		✓
32	003 475 077	1	0057	0	34	QSS		✓
33	003 515 277	2	0111	.4	33	QSS	Temporarily lost telemetry	✓

DO NOT USE: 0045x - 011335

NHC

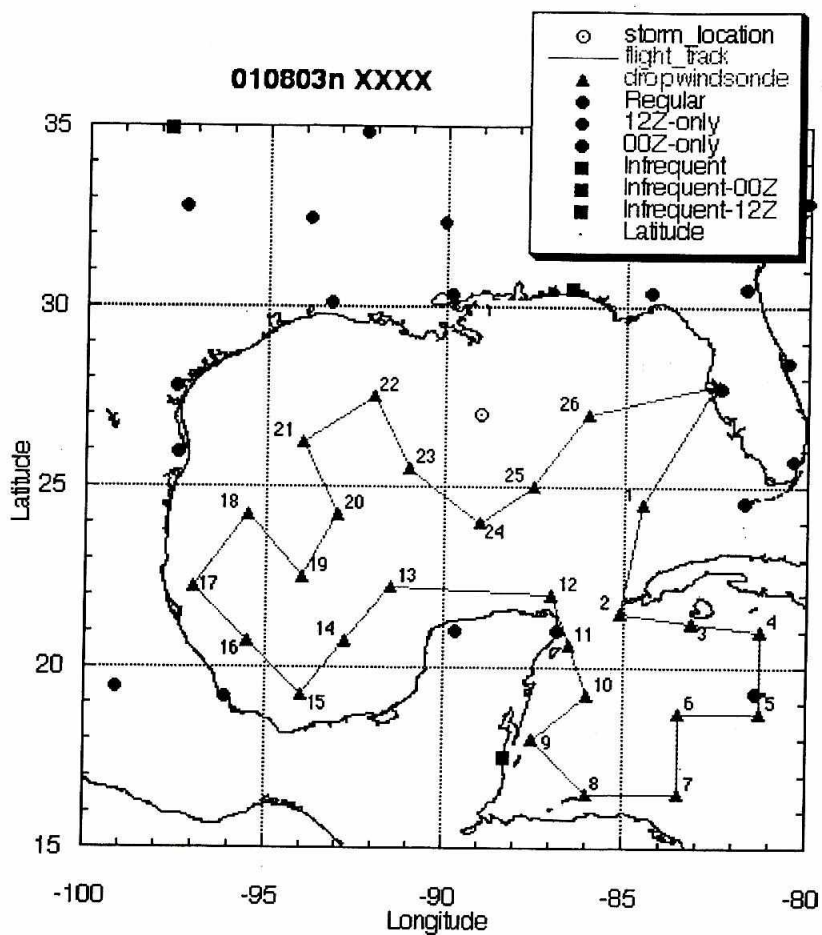
Drop point 1 18/4 2 28/4 3 38/4 4 5 6 68/4 7 8 9 10 108/4 11 12 13 14 15 15/4 16 17 18 19 20 20 21 22 22 23 24 25

Drop #	Sonde Serial Number	Chn #	Time (ZULU)	Press. offset	Winds time	Operator Initials	Comments/ Drop Status /Reason for Failure	GOOD ☒	
34	990 415 179	1	0121	1.0	19	ZE	Extra Drops Added	✓	25.5
35	990 415 180	2	0132	0.7	32	SE		✓	26
36									
37							23/35		
38									
39									
40									
41									
42									
43									
44									
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57									
58									
59									
60									

06/21/00

AVAPS HINTS

- N43's **RED PHONE** appears to interfere with AVAPS telemetry, don't allow its use while sondes are in the air
- ASDL transmits on 401.8MHz, and will trash AVAPS telemetry +/- 1 MHz from that point
- Rawinsondes transmit at 403.0. Caribbean taxi drivers and bandit radio stations transmit wherever they want.
- The sonde GPS Oscillator needs at least 2 minutes to warm-up and stabilize. If you drop early, the winds data (if any) will be initially not accurate and probably late.
- Below 10,000', open the P3 launch chute cover holes at least 2/3 of the way. From 10,000' to 18,000', open about 1/2 way, above 18,000' open 1/3 of the way.
- Dropping a backup sonde prior to selecting **BEGIN COLLECTING DATA** is the single most frequent operator error.
- 60 seconds is the cut-off time for Good vs. Late winds. If no satellites are locked on by 60 seconds, or no winds data by 80 seconds, drop the backup.
- Frequency block assignments: **Air Force - Block A** **N42RF - Block B** **N43RF - Block C** **N49RF - Block D**
- P3 Drops only.... Shorten the ribbon to about 20" - 25"
- When sonde telemetry fails prematurely, wait until the normal drop time has elapsed to terminate data collection.
- If Pre-launch sonde telemetry is dependent upon hand position while holding the sonde in order to **NOT** generate CRC errors, the sonde transmitter is bad and it should not be dropped.



===== HURRICANE SYNOPTIC SURVEILLANCE MISSION PLAN: XXXX/SYNOPTIC =====

NOAA/Hurricane Research Division Thursday, August 2, 2001 10:58:31 AM
 Aircraft: N49RF Proposed takeoff: 03/1730Z

===== TRACK DISTANCES =====

#	LAT (d m)	LON (d m)	RAD/AZM (nm/dg)	LEG (nm)	TOTAL (nm)	TIME (h:mm)
0	MACDILL			0.	0.	0:00
1	24 30	84 30		230.	230.	0:31
2	21 30	85 06		183.	414.	0:56
3	21 00	81 15		225.	639.	1:27
4	18 45	81 15		135.	774.	1:45
5	18 45	83 30		131.	905.	2:03
6	16 30	83 30		135.	1040.	2:21
7	16 30	86 00		147.	1187.	2:41
8	18 00	87 30		126.	1313.	2:59
9	19 15	86 00		115.	1428.	3:14
10	22 00	87 00		175.	1603.	3:38
11	22 15	91 30		260.	1863.	4:14
12	19 15	94 00		231.	2094.	4:45
13	22 15	97 00		250.	2345.	5:19
14	24 15	95 30		148.	2493.	5:39
15	22 30	94 00		136.	2629.	5:58
16	24 15	93 00		120.	2748.	6:14
17	26 15	94 00		133.	2881.	6:32
18	27 30	92 00		136.	3017.	6:51
19	25 30	91 00		133.	3150.	7:09
20	24 00	89 00		146.	3295.	7:29
21	25 00	87 30		105.	3400.	7:43
22	27 00	86 00		147.	3547.	8:03
23	MACDILL			203.	3750.	8:31