

FLT ID: N991002	FM: KMCF	TO: KMCF
FLT NO: 00-01	BLK IN: 0241Z	ATA: 0232Z
ETD: 1730Z	BLK OUT: 1725Z	ATD: 1737Z
ETE:	BLK TIME: 9:16	FLT TIME: 8:55
SPONSOR ORG: NHC	PROGRAM: HURR. SURVEILLANCE	PURPOSE: DIST. IN NW CARIBBEAN

DAO PERSONNEL

AC FINKIE	SYS ENG GOLDSTEIN
CP McCANN	DATA SYS
NAV	RADAR
FE XXXXXXXXXX	BT/ODW SMITH / CARPENTER
RADIO	CLD PHYS
FD DAMIANO	DOPPLER

PARTICIPATING SCIENTIST/VISITORS/DAO

LAST, FIRST NAME	ACTIVITY ON A/C	AFFILIATION
DORST	HAPS	HRD
KAPLAN	HAPS	HRD
FROMHERTZ, P.	OBS	NOAA/NOS

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

174645 starts data

0138Z check WINDS

0222Z Check winds

U.S. DEPT. COMM./NOAA/ORA - DATA SECTION WORK FORM NO.2 DROWF2 FILE

FLT ID: N991002

TIME OFF: 1737Z

TIME ON: 0232Z

	A/C T/O	WX STN	A/C LAND	WX STN
PRESSURE	1016.0 1016.0	30.02	1017.1	30.06

NO DATA DISPOSITION/DATE/QUALITY

1/SEC FLT LVL TAPES	2	
FAST FLT LVL TAPES		
RADAR TAPES		
DOPPLER TAPES		
ODW CASSETTES		
HARD COPIES		
AXBT		
AXCP		
ODW GPS	23	20 messages XMIT; one bad serial

PHOTOGRAPHY

	FWD	LS	RS	VERT
ON				
OFF				
RATE				

REMARKS 1555Z 31 0155Z 2T 30.06
23 23

~~N990~~ N991002

DPR

TIME	LAT	LONG	TRK	HD	WD	WS	TA	TD	PA	GA	PS	AGL	CLD	PO
181600	2707	8538	250	247	254	25	-57.9	-65.3	12139	12687	187.7	AGL	CLD	78.1
181329	2700	8600	265	262								NO WED	DROP	
181335	2700	8601			235	28	-61.9	-69.6	12570	13110	175.4	(21)	DROP	78.2
182900	2700	8754	270	265	232	26	-61.3	-71.2	12568	13116	175.5	AGL	CLD	88.6
183346	2700	8830	270	266	242	24	-61.4	-71.6	12570	13114	175.5	(36)	DROP	88.8
185342	2700	9100	270	270	236	23	-61.2	-70.1	12565	13104	175.6	(13)	DROP	89.0
190700	2700	9241	270	266	235	23	-61.4	-71.1	12572	13088	175.4	THN	CLD	88.4
191325	2655	9329	219	218	220	18	-60.3	-71.1	12561	13084	175.7	(30)	DROP	
191434	2648	9332	189	191	216	16	-60.5	-71.1	12562	13090	175.7	AGL	CLD	89.1
193000	2503	9351	189	190	210	16	-60.6	-70.6	12558	13098	175.8	(42)	DROP	88.3
193545	2425	9405	201	201	209	17	-60.8	-70.3	12560	13105	175.8	(22)	DROP	87.9
195300	2233	9450	200	199	189	13	-60.3	-67.0	12559	13120	175.7	BTN	CLD	87.9
195928	2150	9507	200	199	183	11	-60.5	-67.0	12559	13130	175.7	(16)	DROP	89.2
201300	2019	9540	193	190	106	7	-60.7	-61.3	12557	13134	175.8	THN	CLD	
202217	1915	9606	190	185	115	15	-60.4	-65.7	12557	13131	175.9	(76)	DROP	86.5
203200	1806	9609	182	178	109	16	-66.0	-68.2	13146	13723	159.5	OVERLAND		81.1
205356	1531	9610	130	123	80	22	-66.8	-69.6	13142	13710	159.5	(24)	DROP	80.1
210400	1514	9502	102	100	72	19	-66.7	-69.1	13142	13709	159.5	THN	CLD	80.8
211309	1500	9400	109	106	69	19	-65.9	-68.9	13140	13713	159.5	(26)	DROP	79.9
213700	1355	9128	114	108	61	26	-66.0	-67.5	13140	13714	159.5	THN	CLD	80.2
214954	1323	9040	337	341	67	14	-66.0	-70.3	13145	13714	159.4	(30)	DROP	80.2
220529	1419	9222	343	346	57	13	-66.1	-68.5	13140	13714	159.4	(27)	DROP	80.9
223200	1719	9317	22	24	66	14	-65.0	-68.1	13124	13714	159.7	BTN	CLD	79.5
224636	1900	9245	11	15	98	13	-70.1	-69.5	13715	14311	144.7	(26)	DROP	72.2
230500	2107	9201	18	18	192	2	-70.4	-72.2	13706	14314	144.9	THN	CLD	72.2
230812	2130	9153	18	18	217	2	-70.5	-72.3	13709	14319	144.9	(24)	DROP	74.3
232935	2358	9056	70	73	194	8	-71.2	-73.0	13709	14308	144.8	(17)	DROP	72.3
234300	2400	8911	90	92	168	8	-71.3	-72.8	13706	14308	144.9	AGL	CLD	72.0
235157	2357	8800	126	129	172	11	-71.1	-72.7	13709	14322	144.9	(22)	DROP	73.9
235203	2357	8800											DROP	
001219	2200	8638	147	146	120	16	-71.0	-72.5	13707	14334	144.8	(7)	DROP	72.8
003303	2000	8518	180	178	109	11	-71.1	-72.3	13709	14327	144.8	(17)	DROP	73.6
005548	1800	8621	346	346	64	1	-71.1	-71.6	13707	14323	144.9	(40)	DROP	73.3
012300	2054	8515	359	0	107	5	-71.2	-71.8	13706	14340	144.8			74.0
013757	2300	8514	14	14	208	5	-70.3	-71.8	13703	14354	144.8		DROP	72.9
015100	2414	8438	25	21	275	16	-70.6	-72.2	13704	14349	144.9			72.4
020211	2530	8400	28	22	264	22	-71.1	-72.6	13705	14338	144.9	(20)	DROP	73.5

(23) (23)

N49RF AVAPS DropSonde Log

N49RF Project: Carpenter, Goldstein, Smith Flight ID 991002N

Mission: Blot Flight #: _____ System Status: ✓

Drop #	Sonde Serial Number	Chn. #	Time (Zulu)	Press. offset	Winds time	Operator Initials	Comments / Drop Status / Failure Reason	GOOD ☒ / B
1	990 415 126	1/5	1813	.3	22	JAS	LO CF+650 *1	✓
2	993 645 232	2/6	1813	0	31		L.O. CF+1600-REV C-PI	✓
3	990 215 618	1/5	1833	.3	36		LO CF+0 *1	✓
4	990 415 227	2/5	1853	.5	12		LO CF-800	✓
5	990 845 145	2/5	1913	0	-		LO CF +50HZ -FAST FALL	B
6	992 455 458	3	1914	0	30			✓
7	992 455 451	2/5	1935	.8	25		...413,530 Bar CS telem	✓
8	992 455 336	2/5	1959	0	16		...413,150	✓
9	992 455 341	2/5	2022	0	17		...413,816	✓
10	992 455 371	2/5	2054	0.4	24	ASG	...413,300	✓
11	992 538 008	2/5	2113	0.3	16	ASG	...413,330	✓
12	992 455 297	2/5	2149	0.5	34	ASG	...412,920 HIGH % OF WIND DROPOUTS	T
13	992 615 045	3/6	2205	0.3	37	ASG	...413,310	✓
14	992 645 041	2/5	2246	.5	66	ASG	...412,990 LOST WINDS @ 725 mbar	T
15	992 538 005	2/5	2308	.6	24	ASG		✓
16	992 455 301	2/5	2329	.4	17	ASG		✓
17	992 455 457	2/5	2352	.5	32	DWC		✓
18	993 645 229	3/6	2352	.3	28		Prototype	✓
19	992 515 779	2/5	0012	.2	7		WINDS FAILED PRIOR TO SPLASH	T
20	992 538 084	2/5	0033	.6	17		412,800	✓
21	992 455 441	2/5	0055	.6	41		412,930	✓
22	992 538 011	2/5	0140	.5	72	PI-GP FAILED @ 90m	412,840 Late winds	✓
23	990 415 260	2/5	0202	.7	26	DWC		✓
24								
25								
26								
27								
28								
29								
30								
31								
32								
33								

PI collected on CHANNEL 5

CH1 → 4 MW62.01

CH5 → 8 MW62.05

*1 WINDS FAILED ON CH 1, BUT NOT CH #5

AVAPS BUG - DISPLAY "SOUNDING DATA" does not work for Channels 5-8

Rev C Notes:

- Sonde is tight in chute due to chute cap
- BATTERY PIN OPERATION WILL REQUIRE TRAINING

G4 Hurricane Surveillance

N991002 Tropical Disturbance (NW Caribbean)

<u>DATA TYPE</u>	<u>SENSOR or OPTION</u>
INE	VEW_PITR, VNS_PITR
Accelerometer	ACINS_PITR
Temperature Probe	AT2
Altitude (for vertical wind)	PALT
Static Pressure	PS1M
Dynamic Pressure	QC1M
Dewpoint Probe	DPLC

Notes:

There were problems with the aircraft data system before and just after takeoff. Data recording did not begin until 174645Z and was continuous for the remainder of the flight.

No dynamic corrections were applied to the measured static and dynamic pressures. Thus wind direction and wind speed may not be representative of actual flight level conditions.

	<u>Takeoff</u>	<u>Landing</u>
Aircraft static pressure	1016.0mb	1017.1mb
Corrected tower pressure	1016.2mb	1017.5mb

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

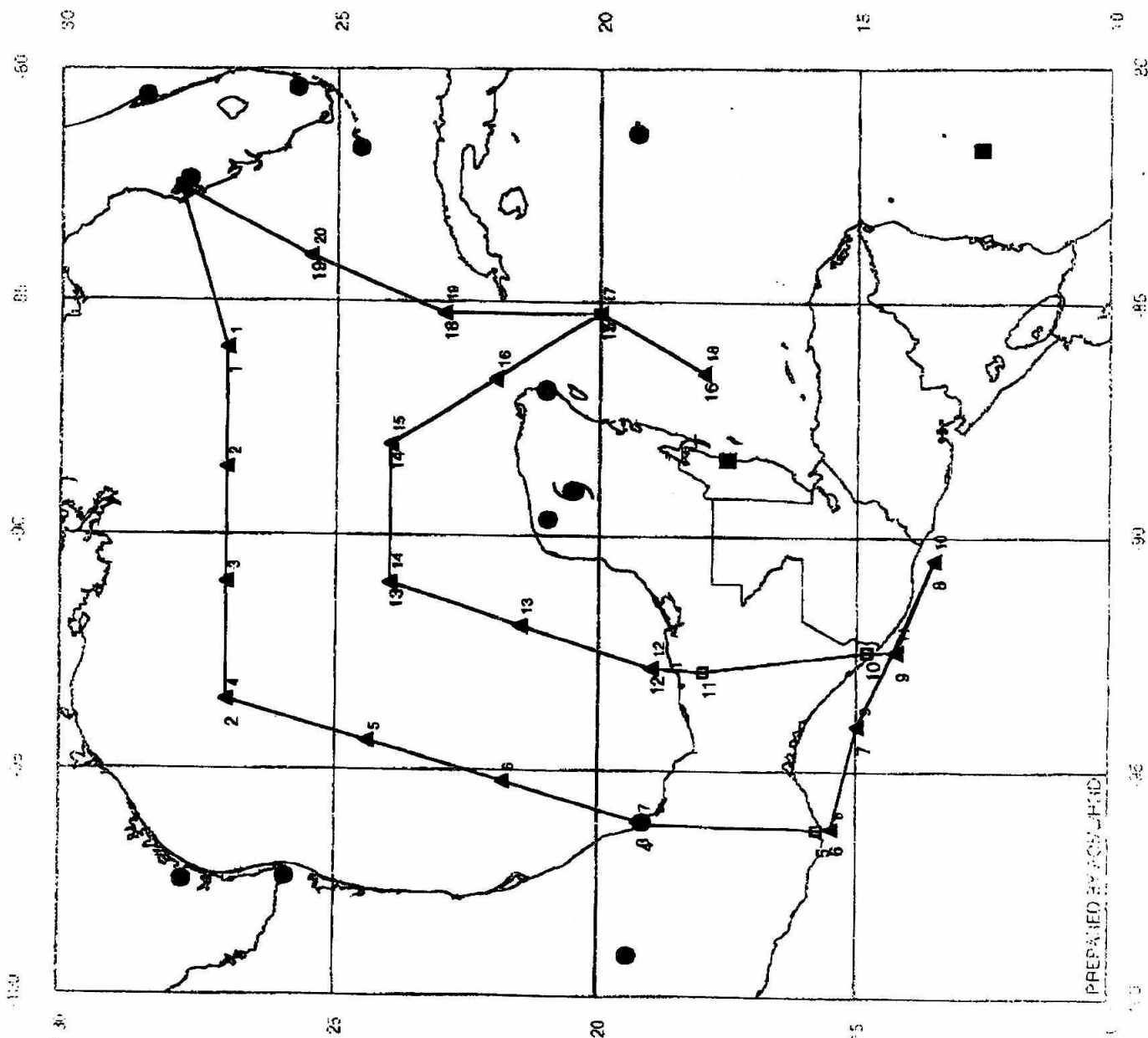
FLIGHT TRACKS
XXXX/SYNOPTIC

— 991002np.fkk

RAWINSONDES 9908

- Regular
- 12Z only
- 00Z only
- Infrequent
- Infrequent - 00Z
- Infrequent - 12Z

▲ DROP LOCATIONS



PREPARED BY JCS/JFMD

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

Prepared by the Hurricane Research Division at 02:40:44 PM on 10/01/99.
File: 991002np.ftk

Aircraft: N49RF Altitude: FL410-450 Proposed takeoff: 02/1730Z

===== DROP LOCATIONS

#	LAT (d m)	LON (d m)	RAD/AZM (nm/dg)	TIME (h:mm)
1	27 00	86 00		0:36
2	27 00	88 30		0:54
3	27 00	91 00		1:13
4	27 00	93 30		1:31
5	24 25	94 22		1:53
6	21 50	95 14		2:15
7	18 15	96 06		2:37
8	15 30	96 15		3:08
9	15 00	94 00		3:26
10	13 30	90 30		3:56
11	14 15	92 23		4:12
12	19 00	92 45		4:51
13	21 30	91 53		5:13
14	24 00	91 00		5:34
15	24 00	88 00		5:56
16	22 00	86 38		6:16
17	20 00	85 15		6:35
18	18 00	86 30		6:54
19	23 00	85 15		7:38
20	25 30	84 00		8:00

2007Z

1843Z OB 1 out
1905Z OB 2 out

NOT LOST

Missing buoy with cad
is onboard N43RF

813-828-2350

Base ops called at
1857Z to relay N43RF
message.

LAT 18° small swirl
1006 mb

036 and 2025

(10.45)

40-39

(15)
027

30.08

50 min

10430

0230Z

=====

HURRICANE SYNOPTIC SURVEILLANCE MISSION PLAN: XXXX/SYNOPTIC

Prepared by the Hurricane Research Division at 02:40:44 PM on 10/01/99.
File: 991002np.ftkAircraft: N49RF Altitude: FL410-450 Proposed takeoff: 02/1730Z
=====

TRACK DISTANCE TABLE

#	LAT (d m)	LON (d/m)	RAD/AZM (nm/dg)	LEG (nm)	TOTAL (nm)	TIME (h:mm)
0	MACDILL			0.	0.	0:00
1	27 00	86 00		193.	193.	0:36
2	27 00	93 30		402.	594.	1:31
3	19 15	96 06		487.	1082.	2:37
4	19 09	96 11		8.	1089.	2:38
5	15 47	96 16		203.	1292.	3:05
6	15 30	96 15		17.	1309.	3:08
7	15 00	94 00		134.	1443.	3:26
8	13 30	90 30		223.	1665.	3:56
9	14 15	92 23		119.	1784.	4:12
10	14 48	92 23		33.	1817.	4:17
11	18 00	92 49		194.	2011.	4:43
12	19 00	92 45		60.	2071.	4:51
13	24 00	91 00		316.	2387.	5:34
14	24 00	88 00		165.	2552.	5:56
15	20 00	85 15		285.	2837.	6:35
16	18 00	86 30		140.	2977.	6:54
17	20 00	85 15		140.	3117.	7:13
18	23 00	85 15		180.	3297.	7:38
19	25 30	84 00		165.	3462.	8:00
20	MACDILL			162.	3624.	8:32

NOAA/AOC/SED N49RF Flight Performance log

N49RF Project: HV28 99 Project No. 430 Flight No. 18 Flight ID: 991002N
 SED Crew: SARPENTER, Goldstein, Smith Mission: Blab
 Pre-Flight: 1635 Z Take-Off: 1736 Z Landing: 0231 Z

SYSTEM			Pre-Flight Check	In-Flight	Post-Flight Check
N A V	IRS #1		DWC		
	IRS #2				
	IRS #3				
	GPS Honeywell #1				
	GPS Honeywell #2				
	GPS Collins				Off? ☒
Nose Radar -Collins			DWC		Off? ☒
T E M P		Time	Temp °C		
	Temp #1	17:15	35.3		
	Temp #2		35.6		
	Temp #3		34.0		
	Temp #4		38.70		
	DP Left		20.9		
	DP Right		21.5		
P R E S S	Attack Angle (ADCAOA)		DWC		
	Slip Angle (BPx/DxPx)				
	Differential (PQ1/PQ2)				
	Absolute (PS1/PS2)			144.6 / 146.9	
	Check Radome Press. Lines ☐		Date:		
S Y S T E M S	DOWN PRT-5 ⇨ Open? ☐		Not USED		Closed? ☐
	MADS (WINDS/DISCWIN)		DWC		# DATs: 2
	MADS Printer ⇨ Paper? ☒		JAS		Printer Power off? ☒
	MADS Cal. Date:		QC time: 17:12:41		QC time: 0234
	WINDS ⇨ NET BCAST ☒		DWC		
	HAPS System / Time set? ☒		JAS		# Msg: 20 # Fail: 5
	AVAPS System				
	K2 Printer ⇨ Paper? ☐				Printer Power off? ☒
	Exterior Walk Around ☒		JAS		
	Inspect DropSonde Chute Bolts		DWC		
M I S C	Satcom (Flight Phone) ☒		ABD		Off CB? ☐
	Call COMSAT? ☐ (*292#)				
	FCU/UPS/CB		CB's Checked? ☒ DWC		UPS off? ☐
	AVAPS Sondes		# On Board: 44	# Dropped: 23	# Good: 22
	AXBT		# On Board: _____	# Dropped: _____	# Good: _____
	APN-232 Altimeter		DWC		
	Modem Power On? ☒		DWC		

1	DAT Tape #1	On: 1730	Type: V-60	Off: 1744
2	DAT Tape #2	On: 1747	Type: V-60	Off: 0241
Comments: <u>HAD to restart @ 17:44 to correct date + time</u>				

NOAA/AOC/SED N49RF Flight Performance log

N49RF Project: Hurr 99 Project No. 430 Flight No. 19 Flight ID: 991003N
 SED Crew: CARPENTER, Goldstein, Smith Mission: B1.6
 Pre-Flight: 1630 Z Take-Off: 1723 Z Landing: 0205 Z

SYSTEM				Pre-Flight Check	In-Flight	Post-Flight Check	
NAV	IRS #1			✓			
	IRS #2			✓			
	IRS #3			✓			
	GPS Honeywell #1			✓ JAS			
	GPS Honeywell #2			✓ JAS			
	GPS Collins			✓ JAS		Off? ☒	
Nose Radar -Collins						Off? ☒	
TEMP		Time	Temp °C			Time	Temp °C
	Temp #1	16:43	32.0	JAS ✓		02:14	27.2
	Temp #2		31.3	JAS ✓			27.1
	Temp #3		30.7	JAS ✓			26.4
	Temp #4		32.5	JAS ✓			27.8
	DP Left		20.7	JAS ✓	Cal. Time:	02:15	22.3
	DP Right	✓	21.9	JAS ✓	Cal. Time:		22.9
PERS	Attack Angle (ADCAOA)			3.2 JAS ✓			
	Slip Angle (BPx/DxPx)			JAS ✓			
	Differential (PQ1/PQ2)			JAS ✓			
	Absolute (PS1/PS2)			1019.5 / 1019.3 JAS ✓			
	Check Radome Press. Lines ☐			Date: 9/8/99 JAS ✓			
SYSTEMS	DOWN PRT-5 ⇨ Open? ☐			Not USED		Closed? ☐	
	MADS (WINDS/DISCWIN)			✓ JAS		# DATs: 1	
	MADS Printer ⇨ Paper? ☒			JAS ✓		Printer Power off? ☐	
	MADS Cal. Date: 8/26/99			QC time: 1638		QC time: 0208	
	WINDS ⇨ NET BCAST ☒			JAS			
	HAPS System / Time set? ☒			JAS		# Msg.: # Fail:	
	AVAPS System			ASS			
	K2 Printer ⇨ Paper? ☒			JAS		Printer Power off? ☐	
MISSION	Exterior Walk Around ☒			DWC			
	Inspect DropSonde Chute Bolts			DWC			
	Satcom (Flight Phone) ☒			DWC		Off CB? ☒	
	Call COMSAT? ☒ (*292#)			DWC			
	FCU/UPS/CB			CB's Checked? ☒ DWC		UPS off? ☐	
	AVAPS Sondes			# On Board: ~ 53	# Dropped: 35	# Good: 35	
	AXBT			# On Board:	# Dropped:	# Good:	
	APN-232 Altimeter			JAS			
	Modem Power On? ☒			DWC			

1	DAT Tape #1	On: 1635	Type: 4mm-DL 60M	Off: 0210
2	DAT Tape #2	On:	Type:	Off:
Comments: CH #1 AVAPS MWG SUSPECT				