

FLT ID: N970527	FM: KMCF	TO: KMCF
FLT NO: 97-59	BLK IN: 1923Z	ATA: 1916Z
ETD:	BLK OUT: 1653Z	RTD: 1712Z
ETE:	BLK TIME: 2:30	FLT TIME: 2:04
SPONSOR ORG: NHC/AOC	PROGRAM: HURRICANE SURVEILLANCE	PURPOSE: MISSION SUBSYSTEMS TEST FET

DAO PERSONNEL

AC PLAYER	SYS ENG GOLDSTEIN
CP MAXSON	DATA SYS PRADAS-BERGUES
NAV	RADAR
FE	BT/ODW SMITH
RADIO	CLD PHYS
FD DAMIANO ✓	DOPPLER

PARTICIPATING SCIENTIST/VISITORS/DAO

LAST, FIRST NAME	ACTIVITY ON A/C	AFFILIATION
SURGE	OBS	NHC
FRANKLIN	HAPS	NKD
GRIFFIN	HAPS	NKD
McCANN	OBS	AOC
WHITE ✓	PM	AOC
McFADDEN	??	AOC
H. OIST		

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

~~20.99~~ 29.99 31°C at 17Z 21 DPT 1700Z
ONLY DPRC is available... no DPLC

1801Z MADS LOCKED UP... RESTART MADS

U.S. DEPT. COMM./NOAA/OAO - DATA SECTION WORK FORM NO.2 OAOWF2 FILE

FLT ID: 970527N TIME OFF: 1712Z TIME ON: 1916Z

	A/C T/O	WX STN	A/C LAND	WX STN
PRESSURE	1014.6 1015.3	29.99/1015.6	1012.9 1013.9	29.98/1015.2

NO DATA DISPOSITION/DATE/QUALITY

1/SEC FLT LVL TAPES

FAST FLT LVL TAPES

RADAR TAPES

DOPPLER TAPES

ODW CASSETTES

HARD COPIES

AXBT

AXCP

GRS

3

PHOTOGRAPHY

	FWD	LS	RS	VERT
ON				
OFF				
RATE				

REMARKS

2101

N970527

5.50

TIME	LAT	LONG	TRK	HD	WD	WS	TA	TD	PA	LA	PS	SP			PR
171800	27°48'	81°04'	130	130	15	5	.9	-8.5	3800	4021	624	—	ABV CLD		68.7
172420	27°57'	81°27'	70	66	338	9.5	-20.1	-31.8	7018	7349	405.7	—	ABV CLD		153.6
173820	28°33'	79°37'	70	67	358	9.2	-63.6	-52.3	12548	12973	176.1	—	ABV CLD		93.5
174700	28°54'	78°30'	70	67	23	7	-64.4	-46	12556	12965	175.8		DROP	1800 SPL	
174708	28°54'	78°30'	70	67	25	7	-64.4	-46	12556	12965	175.9		DROP		
174718	28°54'	78°30'	70	67	23	8	-64.3	-46	12556	12968	175.9		DROP	1801 SPL	
175600	28°02'	77°51'	147	144	32	9	-63.9	-50.7	12542	12970	176.3	—	ABV CLD		88.5
180600	JUST ABV CLD														
181800	25°52'	76°37'	296	295	304	15.2	-66.3	-55.2	12986	13418	163.6	—	ABV CLD		900.0
183000	26°23'	78°09'	289	289	297	19	-69.3	-57.8	13121	13648	166.1	—	ABV CLD		95.1
184300	26°51'	79°48'	287	286	294	18	-67.3	-55.3	13117	13580	160.2	—	CLR		95.3
185100	start descent to MAC DEL														

G4 Pre-Hurricane Surveillance Test Flight

Flight #01 N970527 (Overfly buoy 41010)

DATA TYPE

SENSOR or OPTION

INE	VEW_PITR
Accelerometer	ACINS_PITR
Temperature Probe	AT1
Altitude (for vertical wind)	PALT
Static Pressure	PS1M
Dynamic Pressure	QC1M
Dewpoint Probe	DPRC

Notes:

This tape goes from take-off til 181031Z due to a MADS glitch.

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.

Only one dewpoint sensor (DPRC) was operating for this flight. At 173010Z dewpoint temperature became warmer than ambient temperature and remained that way for the duration of the flight.

Dropsonde data and event switch information ARE NOT on the tape.

Downward spikes in radar altimeter data are a result of overflying land.

	<u>Takeoff</u>	<u>Landing</u>
Aircraft static pressure	1015.0mb	1013.4mb
Corrected tower pressure	1015.3mb	1014.9mb

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

To: A. Barry Damiano@AOC1
From: Sean R. White@AOC1
Originated by: Sean R. White@AOC1
Cc:
Bcc:
Subject: fwd: G-IV flight of 23 May
Attachment:
Date: 5/19/97 7:36 AM

Original text

From: Sean R. White@AOC1@NOAA, on 5/15/97 2:04 PM:
To: Bob W. Maxson@AOC4@NOAA, George C. Player@AOC@NOAA, Mark S.
Finke@AOC3@NOAA
Cc: Jim D. McFadden@AOC1@NOAA

The major mission systems check flight, approx 2.5 hours, scheduled for Friday the 23rd of May has as one major requirement the deployment of several GPS-dropwindsondes. I am providing this information early so that prior arrangements or notifications to the FAA or for airspace restrictions can be worked out, including the dropping of these sondes. It has been requested that 3 sondes be deployed at the same time at the same location. The requested location is over an operational bouy in the Gulf or Atlantic Basins. The closest bouys now operational are:

42036	28.51N	84.51W
42039	28.78N	86.04W
41009	28.50N	80.18W
41010	28.90N	78.50W

The 2.5 hour flight is requested to allow for the deployment of dropwindsones and remain over the ocean for at least 30 minutes to an hour afterwards in case any of the sondes or our transmissions are not accomplished. Ideally, after the drops we would continue in transit to a particular intersection and return while remaining within a 2.5 hour flight.

To: <a.barry.damiano@noaa.gov>
From: James Franklin <james@aoml.noaa.gov>
Cc:
Bcc:
Subject: G-IV test flight on 5/27 (fwd)
Attachment:
Date: 5/30/97 11:16 AM

Following is my report on dropsonde-related aspects of the G-IV test flight on 27 May:

Three sondes were released in rapid succession over the buoy 41010 at about 18Z on the 27th. Drops 1 and 2 were generally good, although there was a 150 mb gap in the data from drop 1. There were almost no winds from drop 3, and those that were there were no good. Given the sample size and recent history of good performance from the sondes, I don't attach any particular significance to these problems.

Data accuracy appears to be consistent with what we have seen in the past. Winds from drop 1 and 2 agreed with each other to within 0.5 m/s at all times, and mostly within 0.2 m/s. The sondes were all about 2 mb higher than the buoy, but a review of the buoy data over the past month indicates that the buoy pressure is too low. I believe the sondes. Use of the AOC baseline pressure correction seemed to help drop 1.

Five messages were transmitted via SATCOM to NCEP (the three drops, plus a duplicate of OB 2 plus a test "correction" to OB 2. All messages were received at NCEP. At NCEP, problems in their duplicate message checker caused OBs 1 and 3 to be rejected for model ingest because the positions and times of the three drops were all the same. Although this is not a situation that will occur on an operational flight, the problem is being addressed by Jeff Ator, who wrote the dropsonde decoder. In addition, the corrected OB 2 message, although properly formatted, did not replace the original OB 2 in the model data base. This is also being addressed by Jeff. All the transmissions were disseminated on the NWS Family of Services and received on our Zephyr PC at AOML.

A minor bug in the HAPS SATCOM software was discovered. This bug made it slightly inconvenient to transmit the corrected TEMP-DROP message and has been fixed on our ground system. Joe Griffin will need to ftp a new version of the SATCOM software to the HAPS on the jet.

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NOAA/AOC/SED Flight Performance log - N49RF

N49RF Project: Hurricane 97 Project No. 405 Flight No. 25 Flight ID: 970527N
 SED Crew: JCPB, Goldstein, Smith, Damiano, White Mission: Test flight (sys check)
 Pre-Flight: 1530 Take-Off: 1711 Landing: 1916Z

SYSTEM			Pre-Flight	In-Flight	Post-Flight	
N A V	IRS #1	✓	JCPB			
	IRS #2	✓	JCPB			
	IRS #3	✓	JCPB			
	GPS Honeywell #1	✓	JCPB			
	GPS Honeywell #2	✓	JCPB			
	GPS Collins	✓	JCPB			
Nose Radar Collins		✓	✓ JCPB		Off? ☐	
T E M P	Time	Temp °C			Time	Temp °C
	Temp #1	31.8°	✓ JCPB		1924	31.7
	Temp #2	30.7°	✓ JCPB			31.18
	Temp #3	32.1°	✓ JCPB			31.6
	Temp #4	32.3°	✓ JCPB			34.6
	DP Left	N/A	N/A	Cal. Time: <u>0</u>		N/A
	DP Right	21.3	✓ JCPB	Cal. Time: <u>1721</u>		20.7
P R E S S	Attack Angle (ADCAOA)	✓ JCPB				
	Slip Angle (BP/DBP)	✓ JCPB				
	Differential (PQ1/PQ2)	✓ JCPB				
	Absolute (PS1/PS2)	✓ JCPB				
	Check Radome Press. Lines	✓ JCPB				
S Y S	DOWN PRT-5 ⇌ Open? ☒	JCPB			Closed? ☐	
	MADS (WINDS/DISCWIN)	✓ JCPB			# DATs:	
	MADS Printer ⇌ Paper? ☒	✓ JCPB 1706Z				
	MADS Cal. Date: 970527	QC time:			QC time:	
	WINDS ⇌ NET BCAST ☒	✓ JCPB				
M S	HAPS System	✓ JCPB			# Msg.:	# Attempts:
	AVAPS System (time set)	✓ JAS				
	AVAPS Printer ⇌ Paper? ☒	✓ JCPB				
	Exterior Walk Around	✓ JCPB				
	Inspect DropSonde Chute Bolts	✓ JCPB				
	Satcom (Flight Phone)				Off CB? ☐	
M I S C	FCU/UPS/CB	CB's Checked? ☒ JCPB			UPS off? ☐	
	AVAPS Sondes	#On Board: <u>6</u>	#Dropped:		#Good:	
	AXBT	#On Board: <u>0</u>	#Dropped:		#Good:	
	APN-232	✓ JCPB				
	Check Modem On					

1	DAT Tape #1	On: <u>1702Z</u>	Off: <u>1810Z</u>
2	DAT Tape #2	On: <u>1815Z</u>	Off: <u>1925Z</u>
Comments: TT2 need cal. const. DAPI @ 1736 ~50.0 mbar Sys (MADS) Locked @ 1806 TpsGps: Dropped 1510 interrupt. Satcom & flightphone switched around			

N49RF Hurricane 97 AVAPS DropSonde Log

N49RF Project: Hurricane 97

Flight ID: 970527N

Mission/Flight: Surv Test

System Status: OK

[illegible]