

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

Flt ID: 040901N	From: TBPB	To: KMcF
Flt. No: 04-93	Blk In: 0141 z	Time On: 0132z
ETD: 1730 z	Blk Out: 1726 z	Time Off: 1739 z
ETE: 8+00	Blk Time: 8+15 (8.3) Hrs	Flt Time: 7+53 (7.9) Hrs
Sponsoring Org: NHC	Program: Hurricane Surveillance	Purpose: Francis

AOC Flight Crew

Aircraft Commander: Finke, M	Data System: Hornbuck, C
Co-Pilot: Poston, F ; Hagen, J	AVAPS:
Navigator:	System Eng: Biogan, D
Flight Eng: Kitson, G	A A:
Flight Director: Mayeaux ; Flaherty	A A:
Avionics: Carpenter, D	Crew Chief:

Participating Scientists / Visitors

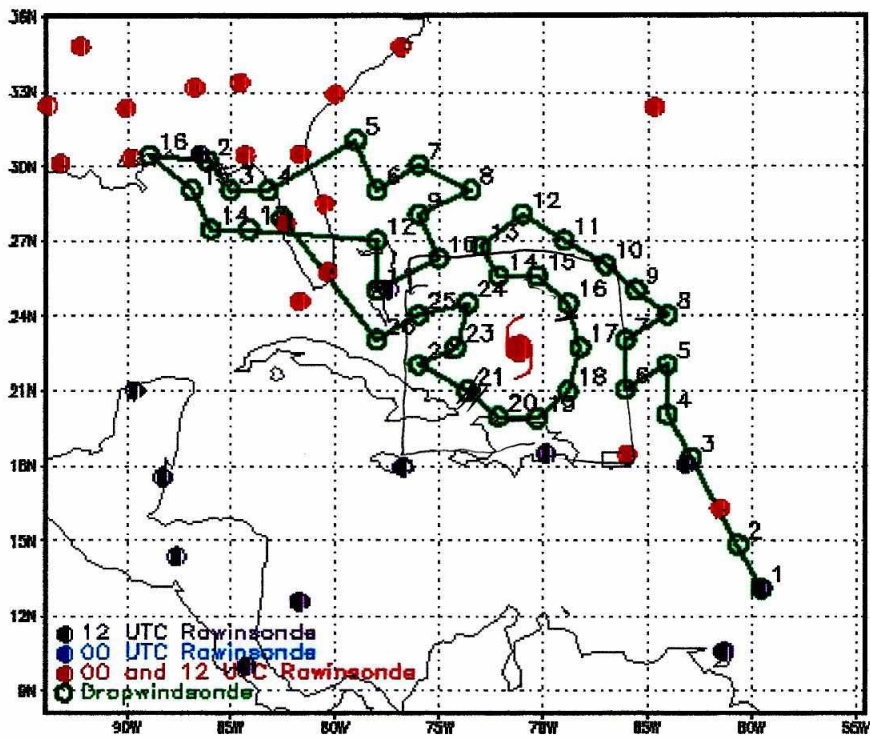
Name (Last, First)	Activity on Aircraft	Affiliation
Black, M	Haps	HRD
Kaplan, J	Haps	HRD

Remarks (Storm Name, Mission ID, Recco Times, Fix Times)	<u>Recco Times</u>	<u>Fix #</u> <u>Fix Time</u>
<u>Storm Name:</u>	Tcal 50 - out track with US.	22:0 70.6
<u>Mission ID:</u>	Fix 15 - 10000 ft - 0000 - in center	"
<u>Penetration number and time</u>	NOAA 43-1500-8000ft	3

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Flight ID: 640901N		Time Off: 1739 Z		Time On: 0132 Z	
A/C - Takeoff		Wx Station - Takeoff		A/C - Land	
Pressure		mb		mb	
1007.2		2994		905.3	
Wx Station - Land		mb		mb	
3004					
ATIS	Time	Observation			
Takeoff	NA Z	13013KTS			
Land	02005Z	02002KT 75m few030 Bkn130 over25025/25 A3004			
	Number	Data Disposition / Date / Quality			
Flight Level Tapes	3				
Radar Tapes					
Cloud Physics Tapes / CDs					
Video Tapes					
Dropsondes	29	Good: 25 Bad: 4			
AXBT					
AXCP					
AXCTD					

Remarks: winds down 201038 No data being collected; Back up at 2028 Z
 All inertials switched to inertial 2, Inertial 1 is down
 0 11
 2030 ~~22.00~~
~~70.49~~
 940
 126kts
 Shut winds off 01101 Z



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2004-08-31-08:40

HURRICANE SYNOPTIC SURVEILLANCE MISSION PLAN: FRANCES

Prepared by the Hurricane Research Division File: current1.ftk

Aircraft: N49RF Altitude: FL410-450 Proposed takeoff: 01/1730Z

DROP LOCATIONS

#	LAT (d m)	LON (d m)	RAD/AZM (nm/dg)	TIME (h:mm)
1	13 04	59 29		0:10
2	14 48	60 37		0:27
3	18 16	62 52		1:00
4	20 00	64 00		1:17
5	22 00	64 00		1:33
6	21 00	66 00		1:50
7	23 00	66 00		2:07
8	24 00	64 00		2:24
9	25 00	65 30		2:37
10	26 00	67 00		2:51
11	27 00	69 00		3:08
12	28 00	71 00		3:25
13	26 45	73 00		3:42
14	25 33	72 08		3:54
15	25 33	70 16		4:08
16	24 28	68 46		4:22
17	22 42	68 12		4:37
18	20 56	68 46		4:52
19	19 51	70 16		5:06
20	19 54	72 08		5:21
21	20 56	73 38		5:35
22	22 00	76 00		5:55
23	22 42	74 12		6:10
24	24 28	73 38		6:25
25	24 00	76 00		6:43
26	23 00	78 00		7:00

2155-2305

425
535- 1:10

**NOAA G-IV N49RF
Hurricane Frances Mission 3
Surveillance Flight**

Flight ID: N040901

<u>Sensor or System</u>	<u>Number or Name</u>
INE (for wind derivation)	VEW_PITR, VNS_PITR
Attack Angle	AKRD2
Slip Angle	SSRD2
Accelerometer	ACINS_PITR
Temperature Probe	AT3
Dew Point Probe	DPLC
Altitude (for vertical wind derivation)	PALT
Static Pressure	PS2C
Dynamic Pressure	QC2C
True Air Speed	TAS2
Constants File	49cal041
Project Directory	406

Notes:

There were three time/data glitches during this flight. These occurred at 1735Z-1800Z, 2010Z-2024Z, and 0058Z-0125Z.

Inertial 1 became inoperative at 2022Z. Therefore, all derived data will be computed using inertial two.

There were three large spikes in Inertial 2 at 1802Z, 2025Z, and 2249Z. These spikes have an impact on the wind data.

Due to a large spike in the right dewpoint sensor at 1807Z, the left dewpoint sensor will be substituted in for DPX and DPXC.

Otherwise, all instruments performed optimally during this mission.

Flight Director:

Martin Mayeaux (813) 828-3310 x 3086

040901N

Ine

AKRD

SSRO

ACINS Z

AT

DPLC

ALT

PS C

QC C

TAS

Missing Data

1735Z - 1800Z

2010Z - 2024Z

0058Z - 0125Z

Large Spikes in INEZ at 2025 and 2249 ^{1802,} ~~1800~~

DPLC was used b/c of a spike in Altcat 1807Z

HURRICANE SYNOPTIC SURVEILLANCE MISSION PLAN: FRANCES

Prepared by the Hurricane Research Division File: current1.ftk

Aircraft: N49RF Altitude: FL410-450 Proposed takeoff: 01/1730Z

TRACK DISTANCE TABLE

#	LAT (d m)	LON (d/m)	RAD/AZM (nm/dg)	LEG (nm)	TOTAL (nm)	TIME (h:mm)
0	BARBADOS			0.	0.	0:00
1	13 04	59 29		0.	0.	0:10
2	14 48	60 37		123.	123.	0:27
3	18 16	62 52		246.	369.	1:00
4	20 00	64 00		122.	491.	1:17
5	22 00	64 00		120.	612.	1:33
6	21 00	66 00		127.	739.	1:50
7	23 00	66 00		120.	859.	2:07
8	24 00	64 00		126.	984.	2:24
9	25 00	65 30		102.	1086.	2:37
10	26 00	67 00		101.	1187.	2:51
11	27 00	69 00		123.	1310.	3:08
12	28 00	71 00		122.	1433.	3:25
13	26 45	73 00		131.	1563.	3:42
14	25 33	72 08		86.	1649.	3:54
15	25 33	70 16		101.	1750.	4:08
16	24 28	68 46		105.	1855.	4:22
17	22 42	68 12		111.	1965.	4:37
18	20 56	68 46		111.	2076.	4:52
19	19 51	70 16		107.	2183.	5:06
20	19 54	72 08		105.	2288.	5:21
21	20 56	73 38		105.	2393.	5:35
22	22 00	76 00		147.	2540.	5:55
23	22 42	74 12		109.	2649.	6:10
24	24 28	73 38		111.	2759.	6:25
25	24 00	76 00		133.	2892.	6:43
26	23 00	78 00		126.	3018.	7:00
27	MACDILL			381.	3399.	8:01

75 miles

-3°

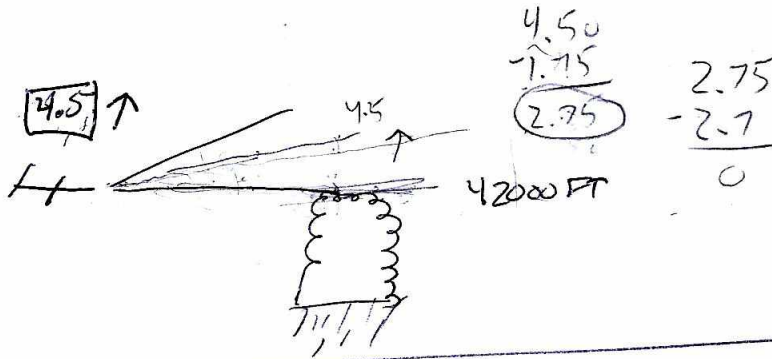
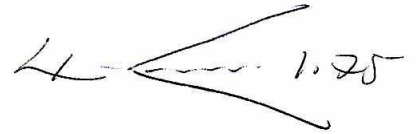
-4.75

2.7

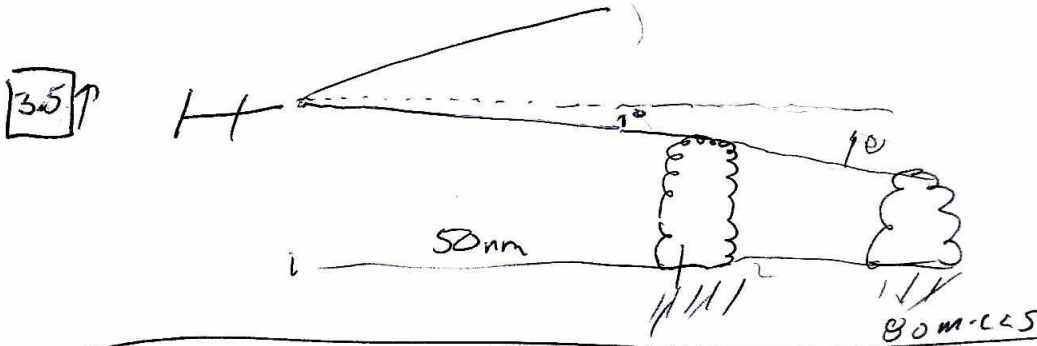
7.45

3 2	75
74.5	75
x 75	75
525	325
525	
555	

Assume ALT SEP = 0 FT



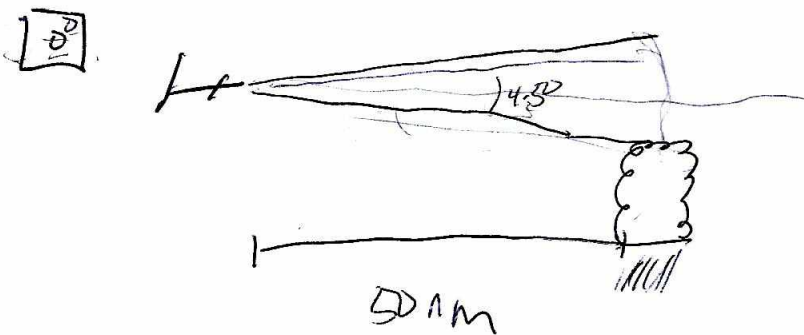
Assume ALT SEP = 5000 FT



$1 \times 50 \times 100 =$

5000 FT ALT SEP

$1 \times 80 \times 100 = 8000 FT SEP$



$4.5 \times 50 \times 100 =$

22,500¹ ALT SEP