

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

AOCWF1

Flt ID: 03 0903 H	From: TISX	To: TISX
Flt No: 03 - 40	Blk In: 0017z	ATA: 0012z
ETD: 1545z	Blk Out: 1530z	ATD: 1540z
ETE: 9 + 00	Blk Time: 1530z 8.8	Flt Time: 1530z 8.5
Sponsor Org: NOAA / HRD	Program: CBLAST	Purpose: HURR FABIAN

AOC Personnel

AC: KENNEDY, P ✓	Sys Eng: James, M
CP: HALVERSON, H / SILAH, M ✓	Data Sys: McMillen, S ✓
Nav: BRAKOB, D / NEWMAN, C ✓	Radar: PECK, B ✓
FE: TORREY, R / WADE, S ✓	GPS/BT:
FD: FLAHERTY, P / SHEPHERD, T ✓	Cld Phys:
Avionics: RODGERS, M ✓	

Participating Scientists / Visitors / AOC

Name (Last, First)	Activity on Aircraft	Affiliation
CHANG, P	PI	NESDIS
ESTEBAN, D ✓	IWRAP	UMASS
KERR, B ✓	IWRAP	UMASS
MARKS, F ✓	RADAR	HRD
DODGE, P ✓	RADAR	"
ABERSON, S ✓	RADAR	"

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

IP 21 30 64 12

CSIRD LW OUT (BKN WME)

2219 6245

24N 6230

76

FABIAN

PENL 1712

OUT 1735

PEN 21048

OUT 1853

PEN 3 1936

OUT 1943

PEN 4 2006

OUT 2011

RECCO OBS

1555z

1705z 2353

2100z

2120z

PEN 5 2107

OUT 2118

PEN 6 2209

OUT 2216

PEN 7 2243 OUT 2250

Flt ID: 030903H Time Off: 1540Z Time On: 0012Z

	A/C (Take Off)	Wx Station (Take Off)	A/C (Land)	Wx Station (Land)
Pressure	1014.6	29.98	1013.6	29.96

	Number	Data Disposition / Date / Quality
Flt Lvl Tapes	2	
Radar Tapes	1	
Cloud Physics Tapes		
Video Tapes	4	
AXBT	4	(ONE BAD)
AXCP		
AXCTD		
Dropsondes	52	

Video

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

Remarks

NESDIS - 23 SONDES

HRD - 28 SONDES + 4 AXBT'S

NHC - 1 SONDE

NOAA P-3 N42RF

Hurricane Fabian 2003

Fabian Flight #2

Flight ID: 030903H

<u>Sensor or system</u>	<u>Number or Name</u>
Temperature Probe	1
Dew Point Probe	1
INE	2
Accelerometer	2
Altitude (for vertical wind)	RA - 159
Static Pressure	Rosemount Fuselage
Dynamic Pressure	Rosemount Fuselage
Time Source	Micro 99
Constants File	CO2032.CON

Take off: 1540Z

Land: 0012Z

Notes:

RA-232 was substituted for RA-159 from 153701 - 154430 (takeoff), from 175550 - 191900, and from 001224 - 001500 (landing) due to spiking.

There was a few instances when the dewpoint temperature exceeded the ambient temperature resulting in a RH% above 100%. These times were during heavy rain events and were likely due to a wet-bulb effect on the total temperature sensor and/or an artificial warming of the dewpoint sensor as it tried to burn off excess moisture. The J/W liquid water data also reflected these periods. No corrections were made during these events.

All other instruments worked optimally during the flight.

The aircraft INE positions were renavigated 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.

	Takeoff	Landing
Aircraft Static Pressure	1014.6mb	1013.6 mb
Reported Station Pressure	1015.2 mb	1014.6 mb

Flight Director:
Phone #:

Paul Flaherty
(813) 828-3310 ext. 3094

DATE 9/03/03	SCHEDULED RX TIME NA	AIRCRAFT NUMBER N42RF	FLIGHT DIRECTOR FLAHERTY
WX MISSION IDENTIFIER NOAA2 WXIDA FABIAN			OB NUMBER 45
VORTEX DATA MESSAGE			
A	0312245 Z	DATE and TIME of FIX	
B	22 DEG 56 MIN (N) S	LATITUDE of FIX	
	62 DEG 50 MIN (W) E	LONGITUDE of FIX	
C	700 MB 2578 M	MINIMUM HEIGHT of STANDARD LEVEL	
D	NA KT	ESTIMATE of MAXIMUM SURFACE WIND OBSERVED	
E	NA DEG NM	BEARING and RANGE FROM CENTER of MAXIMUM SURFACE WIND	
F	86 DEG 106 KT	MAXIMUM FLIGHT LEVEL WIND NEAR CENTER	
G	346 DEG 14 NM	BEARING and RANGE FROM CENTER OF MAXIMUM FLIGHT LEVEL WIND	
H	939 MB	MINIMUM SEA LEVEL PRESSURE COMPUTED FROM DROPSONDE OR EXTRAPOLATED FROM FLIGHT LEVEL. IF EXTRAPOLATED, CLARIFY IN REMARKS.	
I	14 C 12209 M	MAXIMUM FLIGHT LEVEL TEMP / PRESSURE ALTITUDE OUTSIDE EYE	
J	19 C 12554 M	MAXIMUM FLIGHT LEVEL TEMP / PRESSURE ALTITUDE INSIDE EYE	
K	17 C 1 NA C	DEWPOINT TEMP / SEA SURFACE TEMP INSIDE EYE	
L	OPEN SE	EYE CHARACTER: Closed wall, poorly defined, open SW, etc.	
M	C20	EYE SHAPE/ORIENTATION/DIAMETER: Code eye shape as: C - Circular; CO - Concentric; E - Elliptical. Transmit orientation of the major axis in tens of degrees, i.e., 01-010 to 190; 17 - 170 to 350. Transmit diameter in nautical miles. Examples: C8= Circular eye 8 miles in diameter. E09/15/5=Elliptical eye, major axis 090-270, length of major axis 15 NM, length of minor axis 5 NM. CO8-14=Concentric eye, diameter inner eye 8 NM, outer eye 14 NM.	
N	12345/7	FIX DETERMINED BY / FIX LEVEL. FIX DETERMINED BY: 1-Penetration; 2-Radar; 3-Wind; 4-Pressure; 5-Temperature. FIX LEVEL (Indicate surface center if visible; indicate both surface and flight level centers ONLY when same): 0-Surface; 1-1500 ft; 9-925mb; 8-850mb; 7-700mb; 5-500mb; 4-400mb; 3-300mb; 2-200mb; NA-Other	
O	11 / NM	NAVIGATION FIX ACCURACY / METEOROLOGICAL ACCURACY	
P	REMARKS 		

INSTRUCTIONS: Items A thru G (and H when extrapolated) are transmitted from the aircraft immediately following the fix. The remainder of the message is transmitted as soon as available for scheduled fixes and at the Flight Director's discretion for unscheduled

142 28m NW EYEWALL

2011 2251
6236 127KT

2245

SANDES

CHARG	
4	✓
3	✓
2	✓
2	✓
3	✓
3	✓
3	✓
3	✓
3	✓

HRD

8 ✓

8

3 + AXBT ✓

3. $AX \geq T$ ✓

3 + 2 BT ✓✓

3 + NO sample

28 SUNDES

(4) 3 ABT'S (1 BAD)

1 EYE Prep (NH₄?)

23 SANDS


$$\begin{array}{r} 20 \\ + 2 \\ \hline 32 \end{array}$$
$$\begin{array}{r} 30 \\ 17 \\ \hline 47 \end{array}$$

23
20
~~52~~

NOAA • AOC • SED
N42RF AVAPS DROP LOG

Project : Hurricane '03

Mission : Fabian

Flight ID : 030903h

Take Off : _____

Landing : _____

Drop #	Sonde Serial #	Rcvr #	Press Offset	Launch Time	Winds Time	Operator	Comments	Good ?
1	32 335 270	1		1711	35		Delayed L.D. (14.1sec)	
2	22 615 143	3		1711	35			
3	22 815 132	4		1712	58		Delayed LD (6sec)	
4	22 945 017	2		1712	35			
5	23 235 109	5		1712	48			
6	22 945 059	6		1712	23			
7	22 815 212	7		1712	29			
8	32 335 383	8		1712	11			
9	32 335 277	1		1735	10			
10	23 235 049	2		1736	24			
11	23 235 173	3		1736	63			
12	23 235 108	4		1736	15			
13	22 815 075	5		1736	23			
14	22 918 056	6		1736	26		Delayed L.D. (7sec)	
15	23 235 107	7		1736	51		Delayed LD (10sec)	
16	32 335 276	8		1737	35			
17	22 815 209	1		1821	32			
18	22 815 093	2		1824	35			
19	22 815 061	3		1825	52			
20	22 615 144	1		1847	34		Delayed LD (8sec)	
21	22 945 184	2		1847	32			
22	22 815 094	3		1848	26			
23	23 235 192	4		1852	17			
24	23 235 053	1		1913	43			
25	22 815 052	2		1916	51		Delayed LD (5sec)	
26	22 815 211	3		1920	26			
27	32 335 363	1		1943	23			
28	32 146 069	2		1944	63			
29	32 335 110	3		1944	16			
30	23 235 113	2		2005	48			
31	32 335 319	3		2006	45			
32	32 335 446	1		2011	19			
33	32 146 072	4		2011	32			
34	32 335 323	1		2032	19		Delayed LD (5sec)	

52 drops 23 NESDIS 28 HRD 1 NHC

Drop #	Sonde Serial #	Rcvr #	Press Offset	Launch Time	Winds Time	Operator	Comments	Good ?
35	32 146 074	2		2033		58	Delayed LD (9sec)	
36	32 335 169	3		2035		66	Delayed LD (55sec)	
N 37	23 235 229	2		2105		26		
N 38	22 945 274	3		2105		44	Delayed LD (12sec)	
N 39	32 335 272	1		2106		20		
N 40	23 235 222	4		2118		16		
N 41	22 945 276	2		2118		79		
N 42	30 815 235	3		2119		51		
43	23 235 242	1		2142		44		
44	23 235 085	2		2145		73	Delayed LD (4sec)	
45	23 235 223	3		2150		18		
N 46	32 335 113	2		2208		28		
N 47	32 335 367	1		2209		14		
N 48	32 146 039	3		2209		7		
N 49	32 146 068	2		2215		—		
N 50	32 335 111	3		2216		—		
N 51	32 335 068	4		2215		24		
HC 52	32 335 313	1		2245		74		

Drop Station Operator Notes

DROP LOG CREATED POST MISSION

AVAPS Pre-Flight Check:

- Apply power to computer, AVAPS fan and AVAPS chassis.
- Verify no ER status lights on the four MWG cards.
- Check that the Windows system time is accurate.
- Start AVAPS and run the hardware checks via the Utility function.
- Start Soundings and set the Project Name and Flight ID.
- Perform a prelaunch check using all four channels simultaneously reading one sonde, look for reasonable data and no CRC error status lights, winds data is not expected. All AVAPS chassis status lights should be green.

AVAPS Launch:

- Select a sonde frequency other than the default and away from other sondes or ASDL (401.8 MHZ).
- Enter sonde pressure error offset
- Do not pull the Power Enable Pin during pre-launch setup until after the Umbilical is attached
- Remove The Power Enable Pin at least two minutes prior to launch to allow for the Sonde GPS Oscillator to warm up.
- If prelaunch setup is complete, begin data collection has been selected, and more than 8 minutes remain prior to launch, replace the power enable pin until 4 or 5 minutes prior to launch
- Select "begin data collection" and verify good data (no winds yet though) prior to putting sonde in launch tube
- Unwrap ribbon until it extends 4 to 6 inches beyond the sensor end of the sonde
- Place the sonde in the launch tube, sensor arm up, with the power pin socket facing starboard
- Unwrap an additional 4 to 6 inches of ribbon, then set the free ribbon on top of the sonde

N42RF AVAPS DropSonde Log

N42RF Project: CBCAST Flight ID: 030903H

Mission: FABIAN Flight #: 030903H System Status: _____

Drop #	Sonde Serial Number	Time (Z)	Chn #	Press. offset	Winds time	Operator Init.	Comments Drop Status	BAD ☐	GOOD ☐
17	1	022 815 209	1821	1	47		+ BT BAD		✓
18	2	022 815 093	1824	2	36				✓
19	3	022 815 061	1826	3	50				✓
	4	022 615 144	1847	1					✓
	5	022 945 184	1847	2					✓
	6	022 815 094	1848	3					✓
	7	022 323 5192	1852	4	18				✓
	8	0232 35053	1913	1	50		+ BT		✓
	9	022 815 052	1916		46				✓
	10	022 815 211							✓
	11	032 335 363	1944		41				✓
	12	032 146 069	1944						✓
	13	032 335 110	1944		36				✓
	14	023 235 113							✓
	15	032 335 319							✓
	16	032 335 446							✓
	17								
	18								
	19								
	20								
	21								
	22								
	23								
	24								
	25								
	26								
	27								
	28								
	29								
	30								
	31								
	32								
	33								

130 RDVS

[illegible][illegible]

~~00-69~~ ~~73-80~~

TIME	FIX TYPE	POSITION	INS 1 POSITION	KERR	INS 2 POSITION	KERR	MH	VAR +E=>	TH	DR +R=>	TRK	GS	WD	WS	ALT	TAS	NEXT PT	DIST	TIME	ETA	REMARKS
1622	IN				21-30 IP		BOVY 1711	0600T													
1735	OUT				22-19 IP		BOVY 1736	0600T													
1846	IN						BOVY 1847	2080T													
1852	OUT						BOVY 1853	2080T													
STAIR #1		UPWIND 1913Z																			
1930	IN	8 22-36.3 62-42.7						0900T													
1954	IN	8 22-42.1 62-49.1						1100T													
2010	OUT							0100T													
STAIR #2		DOWNWIND 2031Z						2700T													
2057	IN	8 22-46.6 62-52					BOVY 2103	7800T													
2117	OUT						BOVY 2118	2900T													
STAIR #3		CROSSWIND 2144Z			START			2850T													
2158	IN						BOVY 2209	0900T													
2235	IN	8 22-56.22 62-50.25			939m B 1142kts 28m NW direction			10170T													

02.49 22

212