

U.S. Dep't. of Commerce / NMAO / NOAA / Aircraft Operations Center

FLT ID: 20121016H1	From: KMCF	To: KMCF
FLT #:	Blk In: 0441 Z	Lnd Time: 0431 Z
ETD: Z	Blk Out: 1813 Z	T/O Time: 1827 Z
ETE: 10	Total Blk: 10.5	Total Flt: 10.1
Sponsoring Org: NHC	Program: RECCO	Purpose: RAFAEL

AOC Flight Crew

Aircraft Commander: Nelson	Data System: Lynch, T
Co-Pilot: Sweeney, Kibbey	Avaps: Peck
Navigator: Kidder, I	System Engineer: Greene, J
Flight Eng: Klippel, Heystek	AA:
Flt Director: Parrish, Williams	AA:
Avionics: Newnam	Crew Chief:

Participating Scientists, Visitors, & Add'l Aircrew on back. 12 # of people listed on back:

	A/C - Takeoff	Wx Station - Takeoff	A/C - Land	Wx Station - Land
Pressure				

ATIS - Takeoff 09 31007 105m ar 3022 A2984

ATIS - Land

Data Source	Number	Data Disposition / Date / Quality	
Flight Level Tapes			
Radar Tapes			
Dropsondes	13	Good: 13	Bad: Sent: 13
AXBT	6		

List other data sources on back in Remarks section. Recco Times: Fix # Fix Time

Storm Name: RAFAEL	4 PENNIES	2260Z 971mb
Mission ID: 0917A AL172012		2323Z 973mb
		0019Z 973mb
		0040Z 973mb

1809  
 R1 01915Z  
 R2 202  
 R3 2030Z  
 R4 212





**N42RF ERROR SUMMARY**  
**HUR RAFAEL, KMCF-KMCF**  
**16 Oct 2012**



**Flight ID: 20121016H1**

<u>Sensor or system</u>	<u>Number or Name</u>
Inertial Selected (for wind derivation)	INE 1
Accelerometer	AccZfilterI-GPS.1
Temperature Probe	TTM.1
Dew Point Probe	TDM.2
Static Pressure	PSM.2
Dynamic Pressure	PQM.2
Altitude (for vertical wind)	AltI-GPS.1
Flight Directory	acdata/MET/2012/20121016H1
Constants File	20121016H1/AAMPSCore/core/n42.xml

Local Met Data:	<u>Takeoff (1827Z)</u>	<u>Landing (0431Z)</u>
Aircraft Static Pressure (PSM.2)	1013.3 mb	1009.6 mb
Tower Pressure (corrected)	1012.1 mb	1011.4 mb

Notes:

There was a data gap from 00:00:07Z – 00:00:51Z.

The Edgetech dewpoint, TDM.2, performed best and was used as default. However, both TDM.1 and 2 spiked on descent into landing, from 04:24:57Z to 04:26:30Z. Dew point values intermittently exceeded ambient temperature values during portions of flight where the aircraft was in precipitation, causing RH values greater than 100%.

The Novatel Alt, Lat and Lon (GPS.3) had one data spike at 00:32:50Z. The blended inertial-GPS solution Alt, Lat and Lon (I-GPS.1) is the default position source.

SPECIAL NOTE!!! The variable names GSZ\_DPJ, ASZ\_DPJ and WSZ\_DPJ in the netCDF file represent vertical ground speeds, vertical air speeds and vertical wind speeds, respectively, computed using Dave Jorgensen's vertical wind algorithm. It is recommended that these values be used for vertical wind analysis.

All other AOC instruments worked properly.

There were 13 GPS dropsondes (13 sent) and 6 AXBT's released from the aircraft. There were 4 hurricane penetrations.

*Flight Director:*  
*Phone #:*

*Jess Williams / Jack Parrish*  
*(813) 828-3310 ext. 3140/3077*



30 06  
61 46

DATE	SCHEDULED FIX TIME	AIRCRAFT NUMBER	ARWO
WX MISSION IDENTIFICATION		STORM NUMBER IDENTIFIER	
VORTEX DATA MESSAGE			OB
A	16 / 23 28Z	DATE AND TIME OF FIX	
B	DEG MIN N S	LATITUDE OF VORTEX FIX	
	DEG MIN E W	LONGITUDE OF VORTEX FIX	
C	GA	MINIMUM HEIGHT AT STANDARD LEVEL	
D	3T	ESTIMATE OF MAXIMUM SURFACE WIND OBSERVED	
E	/	BEARING AND RANGE FROM CENTER OF MAXIMUM SURFACE WIND	
F	WS	MAXIMUM FLIGHT LEVEL WIND NEAR CENTER	
G		BEARING AND RANGE FROM CENTER OF MAXIMUM FLIGHT LEVEL WIND	
H		MINIMUM SEA LEVEL PRESSURE COMPUTED FROM DROPSONDE OR EXTRAPOLATED FROM FLIGHT LEVEL. IF <u>EXTRAPOLATED</u> , CLARIFY IN REMARKS.	
I	/ PA	MAXIMUM FLIGHT LEVEL TEMP/PRESSURE ALTITUDE OUTSIDE EYE	
J	/ PA	MAXIMUM FLIGHT LEVEL TEMP/PRESSURE ALTITUDE INSIDE EYE	
K	/ (NA)	DEWPOINT TEMP/SEA SURFACE TEMP INSIDE EYE	
L		EYE CHARACTER: Closed wall, poorly defined, open SW, etc.	
M	C CO - E / /	EYE SHAPE/ORIENTATION/DIAMETER. CODE EYE SHAPE AS: C -Circular; CO - Concentric; E - Elliptical. TRANSMIT ORIENTATION OF MAJOR AXIS IN TENS OF DEGREE (i.e., 01-010 to 190; 17-170 to 350). TRANSMIT DIAMETER IN NAUTICAL MILES. Examples: C8 - Circular eye 8 miles in diameter. EO9/15/5 - Elliptical eye, major axis 090-270, length of major axis 15 NM, length of minor axis 5NM. CO8-14 - Concentric eye, diameter inner eye 8 NM, outer eye 14 NM.	
N		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 - 1500ft; 9-925mb; 8 - 850 mb; 7 - 700 mb; 5 - 500 mb; 4 - 400 mb; 3 - 300 mb; 2 - 200 mb; NA - Other.	
O		NAVIGATION FIX ACCURACY/METEOROLOGICAL ACCURACY	
P	REMARKS MAX FL WIND _____ KT _____ QUAD _____ Z MAX OUTBOUND FL WIND _____ KT _____ QUAD _____ Z SLP EXTRAP FROM (Below 1500 FT/ 925 MB/ 850 MB/ DROPSONDE) SFC CNTR _____ NM FROM FL CNTR MAX FL TEMP _____ C _____ NM FROM FL CNTR SURFACE WIND OBSERVED VISUALLY		
INSTRUCTIONS: Items A through 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.			

Figure 5-3. Vortex Data Message Worksheet

31 43  
62 55

973  
06L @ 10m/s

can't send VDM while  
inband for another  
VDM

07 969.8 82 06 62 08

DATE	SCHEDULED FIX TIME	AIRCRAFT NUMBER	ARWO
WX MISSION IDENTIFICATION		STORM NUMBER IDENTIFIER	
VORTEX DATA MESSAGE			OB
A	16 / 2200Z	DATE AND TIME OF FIX	
B	30 DEG 12 MIN N S	LATITUDE OF VORTEX FIX	
	63 DEG 35 MIN E W	LONGITUDE OF VORTEX FIX	
C	760 / 29116A	MINIMUM-HEIGHT AT STANDARD LEVEL	
D	57	ESTIMATE OF MAXIMUM SURFACE WIND OBSERVED	
E	831 / 20	BEARING AND RANGE FROM CENTER OF MAXIMUM SURFACE WIND	
F	WS	MAXIMUM FLIGHT LEVEL WIND NEAR CENTER	
G		BEARING AND RANGE FROM CENTER OF MAXIMUM FLIGHT LEVEL WIND	
H	971	MINIMUM SEA LEVEL PRESSURE COMPUTED FROM DROPSONDE OR EXTRAPOLATED FROM FLIGHT LEVEL. IF <u>EXTRAPOLATED</u> , CLARIFY IN REMARKS.	
I	/ PA	MAXIMUM FLIGHT LEVEL TEMP/PRESSURE ALTITUDE OUTSIDE EYE	
J	/ PA	MAXIMUM FLIGHT LEVEL TEMP/PRESSURE ALTITUDE INSIDE EYE	
K	/ (WS)	DEWPOINT TEMP/SEA SURFACE TEMP INSIDE EYE	
L	OPEN NE	EYE CHARACTER: Closed wall, poorly defined, open SW, etc.	
M	C 50 CO - E 1 1	EYE SHAPE/ORIENTATION/DIAMETER. CODE EYE SHAPE AS: C -Circular; CO - Concentric; E - Elliptical. TRANSMIT ORIENTATION OF MAJOR AXIS IN TENS OF DEGREE (i.e., 01-010 to 190; 17-170 to 350). TRANSMIT DIAMETER IN NAUTICAL MILES. Examples: C8 - Circular eye 8 miles in diameter. EO9/15/5 - Elliptical eye, major axis 090-270, length of major axis 15 NM, length of minor axis 5NM. CO8-14 - Concentric eye, diameter inner eye 8 NM, outer eye 14 NM.	
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INSTRUCTIONS: Items A through 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.			

Figure 5-3. Vortex Data Message Worksheet

57 2147

SPIRA NE  
band BSW







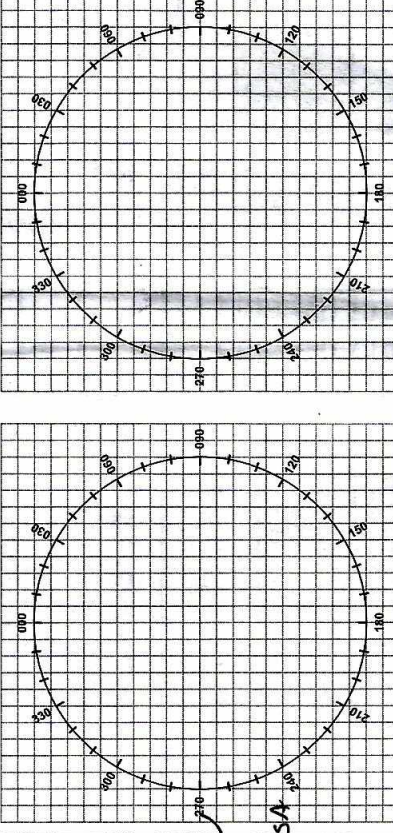




29.5 64.4 182 010/10 128.5 VHF 30 6330 1945

FREQ	ALT	HDG	POSITION	OTHER
6577			E 0906	3rd Floor Rm 04
5550		128	NY 11330	Boys HF New Cell
8918			NOAA 5A	
11350			10100	
			2700	IP 3+20
			W497A,B	1404 Rm CLR 1584
			HF	NO TALK
			FMS INST CRACK, KCHS, NERM, MISA	
			SOB 12	119.9
			COF As Filed	680/1600 7433
			TX W3018	

MISSION LOG PAGE 1 OF 1



POSITION REPORT	
1. POSITION	
2. TIME	
3. ALTITUDE	
4. NEXT POSITION	
5. ETA	
6. NEXT POSITION	

**EMERGENCY MESSAGE**  
 TRANSMIT THE FOLLOWING MESSAGE TO ANY AGENCY ON THE AIR-GROUND FREQUENCY IN USE. IF UNABLE TO ESTABLISH COMMS, ATTEMPT CONTACT ON ANY OF THE FOLLOWING EMERGENCY FREQUENCIES:  
 UHF/VOICE VHF/VOICE MF/VOICE HF/CW MF/CW  
 243.0 121.5 2182 KHZ 8364 KHZ 500 KHZ  
 MAYDAY, MAYDAY, MAYDAY  
 THIS IS NOAA 47, NOAA 47, NOAA 47  
 - POSITION \_\_\_\_\_ N/S \_\_\_\_\_ E/W AT \_\_\_\_\_ Z  
 - HEADING \_\_\_\_\_ TRUE/MAG  
 - AT \_\_\_\_\_ KTS TRUE/INDICATED  
 - FLIGHT LEVEL OR ALTITUDE \_\_\_\_\_  
 - WE ARE A P-3 AIRCRAFT WITH \_\_\_\_\_ SOULS ON BOARD  
 - NATURE OF EMERGENCY \_\_\_\_\_  
 - ASSISTANCE DESIRED \_\_\_\_\_  
 - PILOT INTENTIONS \_\_\_\_\_  
 - WE HAVE \_\_\_\_\_ ENDURANCE REMAINING

TIME	FIX TYPE	POSITION	INS 1 POSITION	K ERR	INS 2 POSITION	K ERR	VAR +E=>	TH	DR +R=>	TRK	GS	WD	WS	ALT	TAS	NEXT PT	DIST	TIME	ETA	REMARKS
1809	STRF																			
1813	TAKE	RAW 116																		
1826	T/O	RAW 04	7415																	
1833	Δ	090/10 7153	0152	0	27.53	0				107	344	270	30	713K	232	COF	79	+18		
1841	C	Hurtress	8407	0	8107	0		129												
1845	C	CALL	7433																	
1936	POSIX	NY 128.5	128.5																	
1938	Δ	MISS SNDB	SHEIK																	
2006	Δ	7633	7633																	
2010	Δ	4754	070 19	-1	29.54	0		095	1R	096	312	271	30	7170	282	SUPIL	507			
2011	C	FL170	2150	+2	070 19	+2		102		101	314	268	27	7170	286	SKEIL				
2017	C	SHEIK	TONY																	
2019	Δ	4754	2956	-2	29.54	0														
2019	C	128.5	NY	+1	6633	0														
2025	C	FL LEVEL	FL 100																	
2201	Q	305A																		
2215	Δ	3138	3142	-4	21.40	-3														
		0625	6340	+3	06240	+2		048		046	256	146	77	101K						INS 2 UPDATE

631 468 1427 631 468 1496 5



