

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

Flt ID: 2011102641	From: KMCF	To: KMCF
Flt. No: -	Blk In: 1841 z	Time On: 1833 z
ETD: 08Z	Blk Out: 1146 z	Time Off: 1156 z
ETE: +	Blk Time: + 6.9 Hrs	Flt Time: 6 + 37 (6.6) Hrs
Sponsoring Org: EMC/NHC	Program: TDR	Purpose: RINA

AOC Flight Crew

(15)

Aircraft Commander: Nelson	Data System: Lynch, T
Co-Pilot: Sweeney, Martin	AVAPS: Warnecke
Navigator: Kidder,	System Eng:
Flight Eng: Klippel, Darby	AA:
Flight Director: Parrish, Williams	AA:
Avionics: Carpenter	Crew Chief:

Participating Scientists / Visitors

Name (Last, First)	Activity on Aircraft	Affiliation
Marks, Frank	Sci	HRD
Abersen, Sim	PI	HRD
Vukicevic, Tomislav	Sci	HRD
Stewart, Stacey	Sci	HRD, S

Remarks (Storm Name, Mission ID, Recco Times, Fix Times)

Storm Name: RINA

Mission ID: NOAA2 #18A

0718A
AL18

hy

Recco Times

Fix # Fix Time

1 1443
2 1553

2 PENNIES

(See reverse for additional remarks)

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

Flight ID: 20111026H1 Time Off: 1156 Time On:

A/C - Takeoff

Wx Station - Takeoff

A/C - Land

Wx Station - Land

Pressure

1017.9

30.06

1015.4

30.05

Number

Data Disposition / Date / Quality

Flight Level Tapes

Radar Tapes

Cloud Physics Tapes / CDs

Video Tapes

Dropsondes

17

Good:

Bad:

AXBT

16

AXCP

AXCTD

Remarks:

Power went out on taxi 1153z

+10 delayed 4 hrs EDC #3 (not fixed)

ATIS T/O 1155z 03007 105m few070 16/16 3006

Hydramet. gov. bz / 46

VOM AF

0707z

17 31

85 03

7AM

17.6 85.3



N42RF Error Summary Hurricane RINA EMC/NHC 26 Oct 2011



Flight ID: 20111026H1

<u>Sensor or system</u>	<u>Variable Name</u>
Inertial (for wind derivation)	ine1
Accelerometer	acc1
Temperature Probe	tt1
Dew Point Probe	tdm2X
Altitude (for vertical wind)	alti1
Static Pressure	psf
Dynamic Pressure	pqf1
Constants file	/acdata/adc/2011/42_11v5.adc
Flight Directory	/acdata/2011/MET/20111026H1

<u>Local Met Data:</u>	<u>Takeoff (1156Z)</u>	<u>Landing (1833Z)</u>
Aircraft Static Pressure	1017.8 mb	1017.4 mb
Tower Pressure	1017.5 mb	1017.1 mb

Notes

Flight delayed 4 hours due to #3EDC failure.

Dewpointer #2 performed best overall, however it displayed erroneous data from 140708Z – 141150Z, during which time period tdm3 was directly substituted and 173531Z – 182239Z, where tdm1 was directly substituted. Tdm2X is default.

There were periods where the dewpoint temperature exceeded the ambient temperature in the storm environment, resulting in RH values > 100%. This was likely due to heavy rain and/or an artificial warming of the dewpoint sensor as it tried to burn off excess moisture. Corrections were not made to the data.

TT2, total temp #2 spiked downward erroneously from 131909Z – 132401Z. TT1 is default.

Psf and psw were within 0.5mb of station pressure on takeoff and landing.

\

All other instruments appeared to work optimally.

17 Dropsondes launched
10 AXBTS launched
2 pennies

Flight Director: Jessica Williams/Jack Parrish
Phone #: (813) 828-3310 ext. 3140

N42RF AVAPS DROP LOG

Lead Tech: Joe Bosko

Project: Hurricane 2011

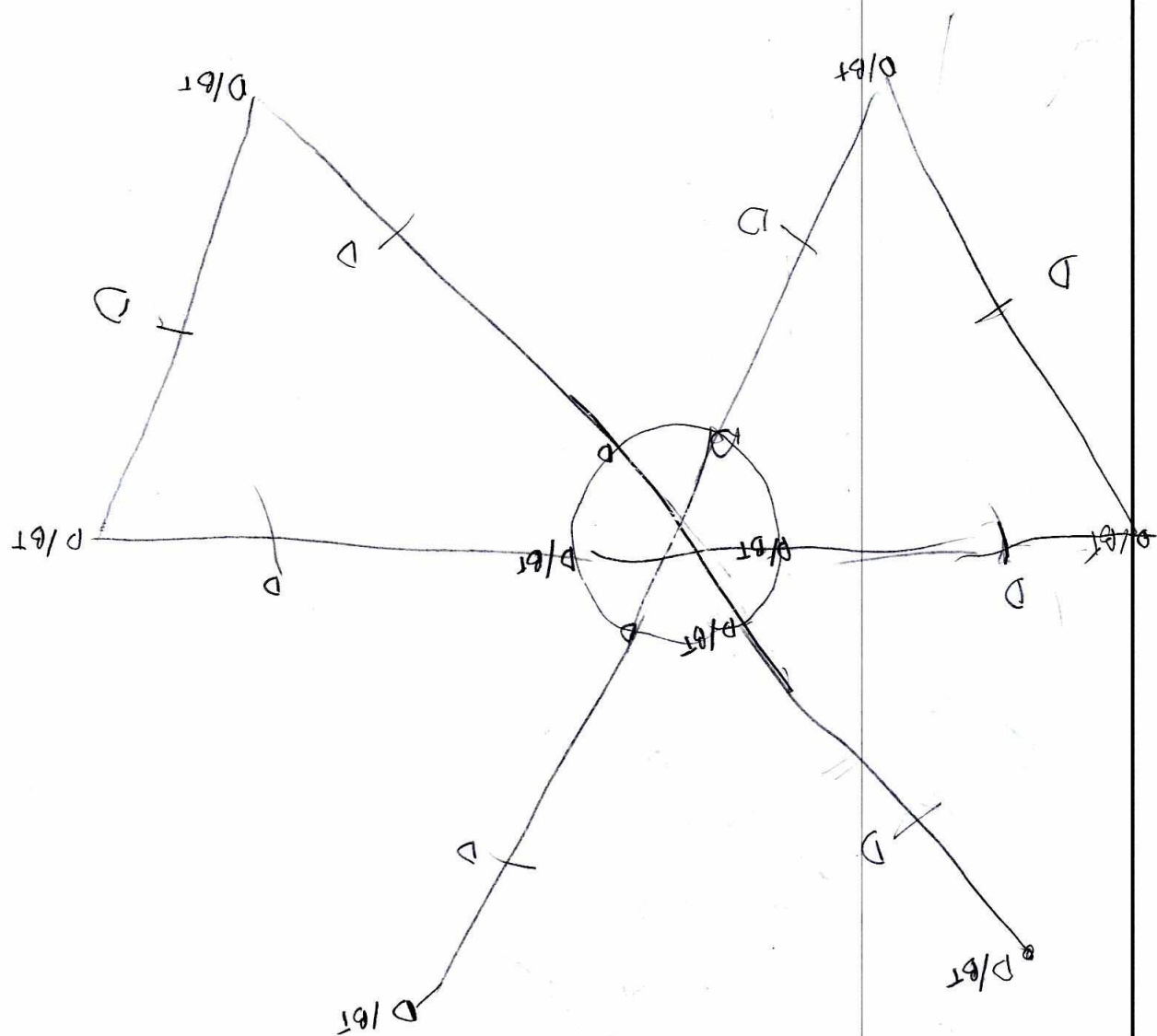
Mission: Hurricane RinaFlight ID: 2011026H1

Take Off: _____

Landing: _____

Flt Dir: William

Drop #	Sonde Serial #	Rcvr #	Press Offset	Launch Time	Operator	Charge \$\$ To	Comments	Good ?
BT 1 ✓	103 825 143	1	.8	1421	DWC	HRD	OK	✓
2 ✓	103 825 141	2	0	1430				✓
BT 3 ✓	104 145 032	1	0	1434				✓
4 ✓	104 145 025	2	0	1443				✓
BT 5 ✓	103 855 137	3	0	1450				✓
6 ✓	103 855 130	1	0	1454				✓
BT 7 ✓	103 825 187	2	0	1504			Fast fall	✓
8 ✓	103 825 192	3	0	1509			Fast fall	✓
9 ✓	103 855 107	1	0	1512			Late winds	✓
BT 10 ✓	103 815 380	1	.6	1517	TBW	HRD	OK	✓
11 ✓	103 815 139	2	0	1532				✓
BT 12 ✓	103 855 145	3	.7	1540				✓
13 ✓	103 815 180	1	0	1545				✓
BT 14 ✓	103 855 131	2	0	1553				✓
15 ✓	103 855 091	3	1.0	1555				✓
BT 16 ✓	103 855 132	1	.8	1605				✓
BT 17 ✓	103 815 229	2	0	1613				
18								
19								
20								
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31								
32								
33								



2

DATE <u>26 Oct 11</u>		SCHEDULED FIX TIME	AIRCRAFT NUMBER <u>42</u>	ARWO
WX MISSION IDENTIFICATION			STORM NUMBER IDENTIFIER	
OB				
VORTEX DATA MESSAGE				
A	<u>26 / 1553</u>	DATE AND TIME OF FIX		
B	<u>17 DEG 53 MIN N S</u>	LATITUDE OF VORTEX FIX		
	<u>85 DEG 35 MIN E W</u>	LONGITUDE OF VORTEX FIX		
C	<u>NA</u>	MINIMUM HEIGHT AT STANDARD LEVEL		
D	<u>50</u> <u>kt</u>	ESTIMATE OF MAXIMUM SURFACE WIND OBSERVED		
E	<u>125 / 18</u> NM	BEARING AND RANGE FROM CENTER OF MAXIMUM SURFACE WIND		
F	<u>191 / 65</u> ft	MAXIMUM FLIGHT LEVEL WIND NEAR CENTER		
G	<u>126 / 15</u> NM	BEARING AND RANGE FROM CENTER OF MAXIMUM FLIGHT LEVEL WIND		
H	<u>982</u> <u>mb</u>	MINIMUM SEA LEVEL PRESSURE COMPUTED FROM DROPSONDE OR EXTRAPOLATED FROM FLIGHT LEVEL. IF EXTRAPOLATED, CLARIFY IN REMARKS.		
I	<u>14 / 2443</u> m	MAXIMUM FLIGHT LEVEL TEMP/PRESSURE ALTITUDE OUTSIDE EYE		
J	<u>26 / 2445</u> m	MAXIMUM FLIGHT LEVEL TEMP/PRESSURE ALTITUDE INSIDE EYE		
K	<u>8 / NA</u>	DEWPOINT TEMP/SEA SURFACE TEMP INSIDE EYE		
L	<u>POORLY DEF</u>	EYE CHARACTER: Closed wall, poorly defined, open SW, etc.		
M	<u>NA</u>	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	<u>12345 / NA</u>	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	<u>1 / 1</u>	NAVIGATION FIX ACCURACY/METEOROLOGICAL ACCURACY		
P	REMARKS MAX FL WIND <u>81</u> <u>KT</u> <u>NE</u> QUAD <u>1440</u> <u>Z</u> MAX OUTBOUND FL WIND <u>78</u> <u>KT</u> <u>NW</u> QUAD <u>1556</u> <u>Z</u> 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 5-4. Vortex Data Message Worksheet

700 mb
950
KLFH
SKH (1)

DATE <u>26 Oct 11</u>		SCHEDULED FIX TIME	AIRCRAFT NUMBER <u>42</u>	ARWO
WX MISSION IDENTIFICATION			STORM NUMBER IDENTIFIER	
VORTEX DATA MESSAGE				
A	<u>26 / 1443</u>		DATE AND TIME OF FIX	
B	<u>17 DEG 48 MIN N S</u>		LATITUDE OF VORTEX FIX	
	<u>85 DEG 26 MIN E W</u>		LONGITUDE OF VORTEX FIX	
C	<u>NA</u>		MINIMUM HEIGHT AT STANDARD LEVEL	
D	<u>61 kt</u>		ESTIMATE OF MAXIMUM SURFACE WIND OBSERVED <u>INBND</u>	
E	<u>71 ° / 7 nm</u>		BEARING AND RANGE FROM CENTER OF MAXIMUM SURFACE WIND	
F	<u>160 ° / 81 kt</u>		MAXIMUM FLIGHT LEVEL WIND NEAR CENTER <u>INBND</u>	
G	<u>68 ° / 9 nm</u>		BEARING AND RANGE FROM CENTER OF MAXIMUM FLIGHT LEVEL WIND	
H	<u>982 mb</u>		MINIMUM SEA LEVEL PRESSURE COMPUTED FROM DROPSONDE OR EXTRAPOLATED FROM FLIGHT LEVEL. IF EXTRAPOLATED, CLARIFY IN REMARKS.	
I	<u>12 C / 2441 m</u>		MAXIMUM FLIGHT LEVEL TEMP/PRESSURE ALTITUDE OUTSIDE EYE	
J	<u>18 C / 2426 m</u>		MAXIMUM FLIGHT LEVEL TEMP/PRESSURE ALTITUDE INSIDE EYE	
K	<u>14 / NA</u>		DEWPOINT TEMP/SEA SURFACE TEMP INSIDE EYE	
L	<u>POORLY DEFINED</u>		EYE CHARACTER: Closed wall, poorly defined, open SW, etc.	
M	<u>NA</u>		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	<u>12345 / NA</u>		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	<u>1 / 1</u>		NAVIGATION FIX ACCURACY/METEOROLOGICAL ACCURACY	
P	REMARKS <u>MAX FL WIND 81 KT NE QUAD 1440Z</u> Z - <u>emission</u> <u>MAX OUTBOUND FL WIND</u> KT <u>QUAD</u> Z - <u>if > inbnd</u> <u>SLP EXTRAP FROM (Below 1500 FT/ 925 MB/ 850 MB/ DROPSONDE)</u> <u>SFC CNTR</u> / NM FROM FL CNTR <u>MAX FL TEMP C</u> / NM FROM FL CNTR <u>SURFACE WIND OBSERVED VISUALLY</u>			
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.				

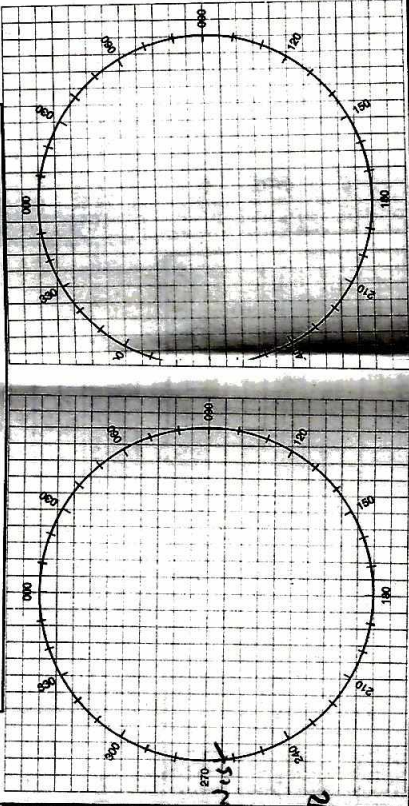
Figure 5-4. Vortex Data Message Worksheet

5-61621-B5

11396 6547

CLEARANCES			
FREQ	ALT	HDG	OTHER
			W168
			W174 A/B Cold Down
As F. 100'	0808 100' NR		
118.8	1447 500k	0700 0+15	
		3 Passes NW - SE	
13222	08065	SE Side 100' South, West	
		7400m Light Air Route	
		114W44 Coruna, CANCON	
		MIDAMS - HAVANA - CEN AMER	
		TOTAL 71 304.8	

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 2182 KHZ MF/VOICE 2182 KHZ HF/CW 243.0 MF/CW 500 KHZ
MAYDAY, MAYDAY, MAYDAY
THIS IS NOAA 43, NOAA 43, NOAA 43
- 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	KERR	INS 2 POSITION	KERR	VAR +E=>	TH	TRK	GS	WD	WS	ALT	TAS	NEXT PT	DIST	TIME	ETA	REMARKS
1145	TAXI		039/19 27.54 8217	0	27.54 8217	0	SW	305	215	233	074	16	7116	231	0865				
1156	T10																		
1200	III																		
1245	C	DUE 080000																	
1300	Δ																		
1303	C	HOUSTON																	
1409	C	NY RADIO																	
1414	C	NY RADIO																	
1443	C	132.4																	
1446	Δ																		
1447	Δ	17.48 8520.3																	
1504	Δ																		
1553	Δ	17.54 8535.1																	
1629	Δ																		

1815 8548

EXTYPES
(G) - GPS (I) - INS (R) - RADIO (V) - VISUAL (C) - CELESTIAL (D) - DR

MISSION LOG										PAGE ____ OF ____											
TIME	FIX TYPE	POSITION	INS 1 POSITION	K ERR	INS 2 POSITION	K ERR	MH	VAR +E==>	TH	DR +R==>	TRK	GS	WD	WS	ALT	TAS	NEXT PT	DIST	TIME	ETA	REMARKS
1758	C	V In Lester																			
1750	(C)	0436 08538	0436 08538	4 46	0436 08538	0															
1736	SOUNDK	1447																			
1749	C	01516	01516	882																	
1751		133.9 CULVY	133.9		30.06																
1824		L RND	K NCF																		