



NOAA P-3 N43RF

Hurricane Rita Flight 4



Flight ID: 050923I

<u>Sensor or system</u>	<u>Number or Name</u>
INE	1
Accelerometer	1
Temperature Probe	1
Dew Point Probe	2 (Edgetech)
Altitude (for vertical wind)	Radar Altimeter 159
Static Pressure	Rosemount Fuselage
Dynamic Pressure	Rosemount Fuselage 1281
Time Source	Micro 99
Constants File	CO3051.CON

Notes:

There were several time/data gaps during this flight which occurred from 183509Z-183520Z, 211426Z-211430Z, 220315Z-220320Z, and 231411Z-002110Z. The final time gap was the result of the data system crashing. This resulted in very large spikes in the vertical wind values on either side of the time gap. No corrections were made to eliminate these vertical wind errors.

The difference in values between the dynamic attack pressure from the radome and the fuselage is greater than 20 mb. No corrections were made to the data.

Data from radar altimeter 232 was substituted into radar altimeter 159 from 153101Z-153500Z and from 011331Z-011700Z.

There were numerous times during the flight where the dewpoint temperature exceeded ambient temperature resulting in RH>100%. This was likely due to rain, 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. Edits were made to dewpoint sensor number two during the following times to bring the RH values below 120%; 163641Z-163750Z, 184131Z-184210Z, 184401Z-184430Z, and 200701Z-200740Z.

The King Liquid Water sensor was not operating during this flight.

The aircraft INE positions were re-navigated 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	1014.3 mb	1013.4 mb
Corrected Tower Pressure	1013.9 mb	1013.5 mb

Flight Director: Martin Mayeaux (813) 828-3310 ext. 3086

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

Fit ID: 050923I	From: Kmcf	To: Kmcf
Flt. No: 05 - 064	Blk In: 0125 z	Time On: 0114 z
ETD: 1530 z	Blk Out: 1523 z	Time Off: 1534 z
ETE: 9 + 00	Blk Time: 10 + 02 (10.0) Hrs	Fit Time: 9 + 40 (9.7) Hrs
Sponsoring Org: NHC	Program: Reconnaissance	Purpose: Rita

AOC Flight Crew

Aircraft Commander: Tebest	Data System: Barr
Co-Pilot: Nelson, ?	AVAPS: Tong
Navigator: Siegel, ?	System Eng:
Flight Eng: Rippe, ?	A A:
Flight Director: Mayeaux, Damiano	A A: Whelless, Kristy
Avionics: Sans Souci	Crew Chief:

Participating Scientists / Visitors

Name (Last, First)	Activity on Aircraft	Affiliation
Rogers, R	Sci	HRD
Dunton, J	Sci	HRD
Williams, Jack	Media	AMS
Schroeder, M	Media	Nature Magazine
Vilkom, E	Sci	HRD
Smull	Sci	
Jorgensen	Sci	
Marchok, Tim	Sci	GFDL
Walsh, E	Sci	NASA/NOAA

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

Storm Name: RITA 27.1 91.4 927 mb
 125KT 1143Z

Mission ID: Noaa 3 2318A Rita Drops - Eye + Max winds NE + NW
 OF Center.

Penetration number and time
 18, 21, 00Z Fix
 27.6 92.2 305/9KT 18Z Forecast
 NAL587 - Depart: 1150Z-12-14600K
 N42-15Z - 5000 ft Radar
 700 mb pressure for 43 2115Z data for 2115Z

Recco Times
 From NE Fix to Pass
 Rain - BT Probs
 Eyeball Draft

Fix # Fix Time

1746z 27°45'	930mb 92°5'
1911z 27°58'	930mb 92°28'
2031 28°09'	931mb 92°37'
2150z 28°15'	NA 9233

43-1910z 125kt 2 box Sander
 1 NHC 1 box Rainex 1 hrd box
 1 Rainex Box, 1 mkt box

No Teal 99
 105 mile 1455

42 - First Pass
 E/W 7000 Radar
 9000 PA -
 Trn 5 Radar

(See reverse for additional remarks)

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

Flight ID: 0509232 Time Off: 1534 Z Time On: 0114 Z

	AVC: Takeoff	Wx Station: Takeoff	AVC: Land	Wx Station: Land
Pressure	<u>1014.3</u> mb	<u>2994</u> mb	<u>1013.4</u> mb	<u>2993</u> mb

ATIS	Time	Observation
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Takeoff	<u>NA</u> Z	
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Land	<u>2555Z</u>	<u>080061ct 75m SCT030 Bkn120 28/24 102995</u>
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	Number	Data Disposition / Date / Quality
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Flight Level Tapes		
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Radar Tapes		
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Cloud Physics Tapes / CDs		
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Video Tapes		
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Dropsondes	<u>51</u>	Good: <u>48</u> Bad: <u>3</u> <u>10 NHC 24 Rainex 15 hrd</u>
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		<u>bad 2 rainex 1 hrd</u>
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AXBT	<u>12</u>	
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AXCP		
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AXCTD		
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Remarks:

IP 2850 9048 NEPT
2636 9653 SEPT

Data System Crashed after last fix



MISSION PREFLIGHT LOG
 DESTINATION: KMCF
 MISSION: HOV-1 RITA SPAR/FX
 NAVIGATOR: SIEGEL
 AIRCRAFT COMMANDER: TERREST
 FLIGHT DIRECTOR: DAM/MAY
 SCHEDULED / ACTUAL TAKEOFF Z: 1530 / 1534
 DATE OF TAKEOFF: 23 SEP 09

WP	LAT/LON	RTE	MH	VAR	TH	DR	TRK	GS	WD	WS	ALT	TAS	LEG/TOT DIST	LEG/TOT TIME	PROP ETA	ETA	ATA	REMARKS	
KMCF	27 51.0 82 29.6	9	278	4W	274														
REMS	27 53.0 85 15.5	3/13	291	2W	289														
REDFM	28 58.0 88 42.1		284	0	284														
LEV	29 10.5 90 00.2		240	1E	241														
IP	28 50.0 90 47.5		225	1E	226														
BLOND	27 54.9 83 09.3	1/11																	

INS PERFORMANCE

	INS 1	INS 2
BEGIN ALIGN TIME	1340	1340
ALIGN STATUS (0-5)	0	0
END NAV TIME	0114	0114
START NAV TIME	1508	1508
DELTA T	10+00	12+00

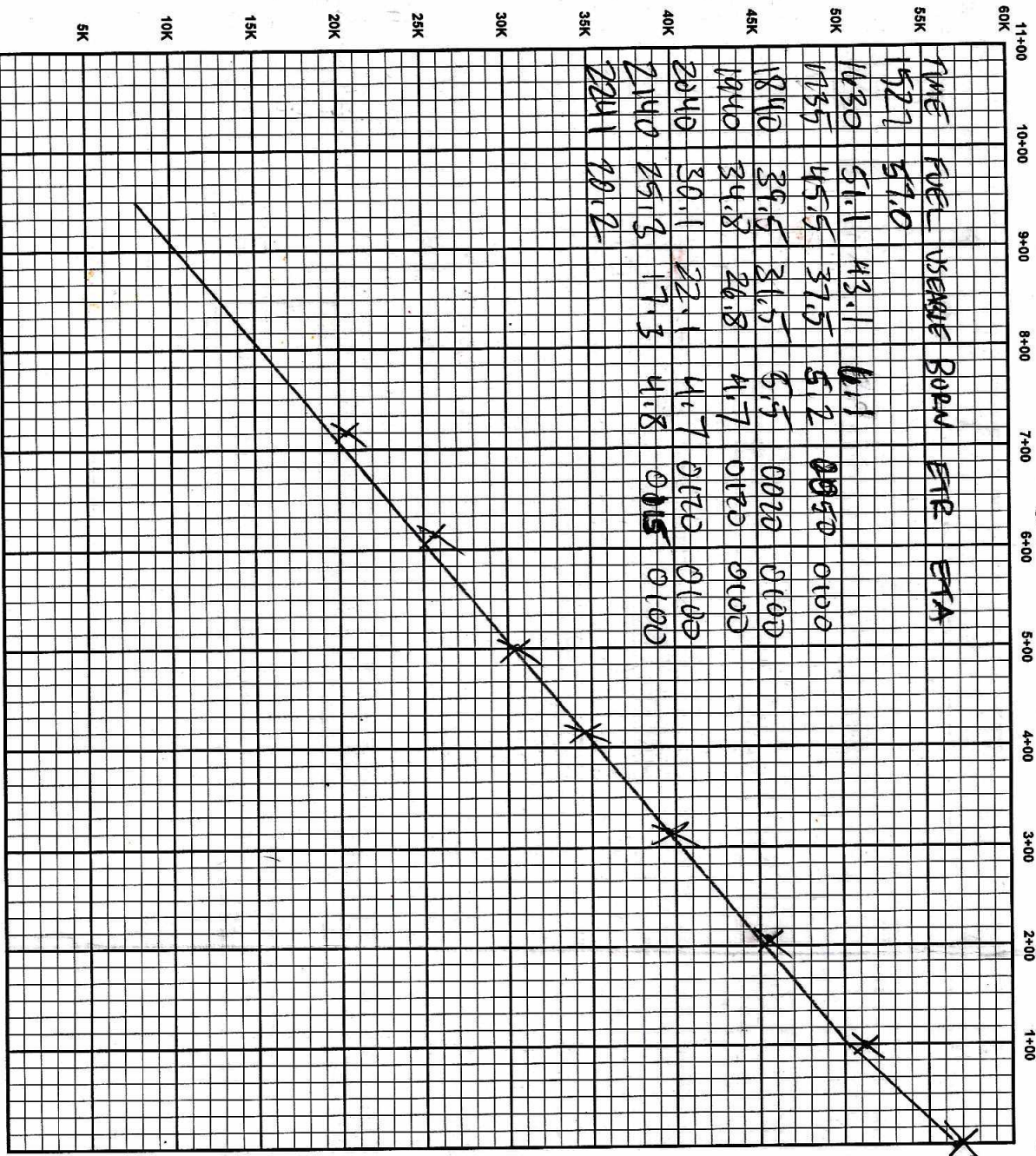
TERMINAL ERRORS

	INS 1	INS 2
DELTA LAT	-7.0	-8.2
DELTA LONG	+5.2	+6.9
RGS	5	5
RADIAL ERROR	9	11

REMARKS
 CAT 2080 11600
 14410 119.9 6601

RANGE CONTROL GRAPH

TIME REMAINING 2000 1940 1840 0735 1630 1527



DISTANCE REMAINING

ETP = .5(TOTAL DISTANCE x OUTBOUND WIND FACTOR)

WINDSPEED	HEADWIND	TAILWIND
10	1.03	.97
20	1.06	.94
30	1.10	.92
40	1.14	.89
50	1.18	.87
60	1.22	.85

ENROUTE FUEL	
ENROUTE TIME	9430
ENROUTE FUEL (615K/45K RULE)	48.5
RESERVE AT DESTINATION	8.0
REQUIRED RAMP	56.5
ACTUAL RAMP FUEL	57.0

TACTICAL (OFFSTA TO DESTINATION)	
DISTANCE (OFFSTA TO DEST)	
ENROUTE TIME (OFFSTA TO DEST)	
BURN RATE (LBS/HR)	4500
ENROUTE FUEL REQUIRED	5500
RESERVE AT DESTINATION	
FUEL AT OFFSTA	

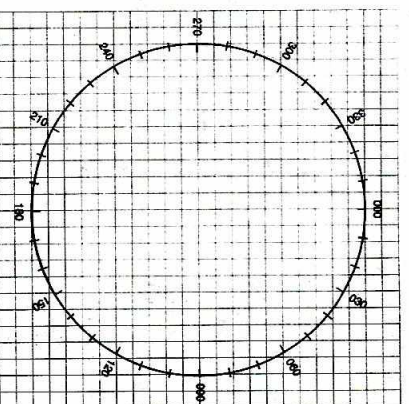
POINT OF SAFE RETURN	
ETP DISTANCE (TO DEPARTURE)	
ENROUTE TIME (TO DEPARTURE)	
BURN RATE (LBS/HR)	4500
FUEL REQUIRED	5500
RESERVE AT DEPARTURE	
PSR FUEL	

40
2.2
18.5

CEX - TRUE BEARING METHOD			
COMPASS TYPE	INS1	INS2	WET
MCH (READING)			
-MTH (SEXTANT)			
CE			
-VAR			
DEV			

CEX - ERB METHOD			
COMPASS TYPE	INS1	INS2	WET
MERB (DIAL 000)			
+ZN			
=MTH			
MCH (READING)			
CE			
-VAR			
=DEV			

CEX SIGHT	
GMT	
GHA	
CORR	
GHA	
LONG WAVE	
EXACT LHA	
LAT	
BODY	
DEC	
HOLD	
CORR	
HC	
Z	
ZN	



TRUE AIRSPEED CROSS-CHECK

TIME	IAS	PRESS ALT	"F" FACTOR	EAS	OAT	TAS	ITAS
1557	220	110			112	279	268

270

NOAA • AOC • SED
N43RF AVAPS DROP LOG

Project : Hurricane '05 / RAINEX

Mission : MURR Rita

Flight ID : 050923i

Take Off : _____

Landing : _____

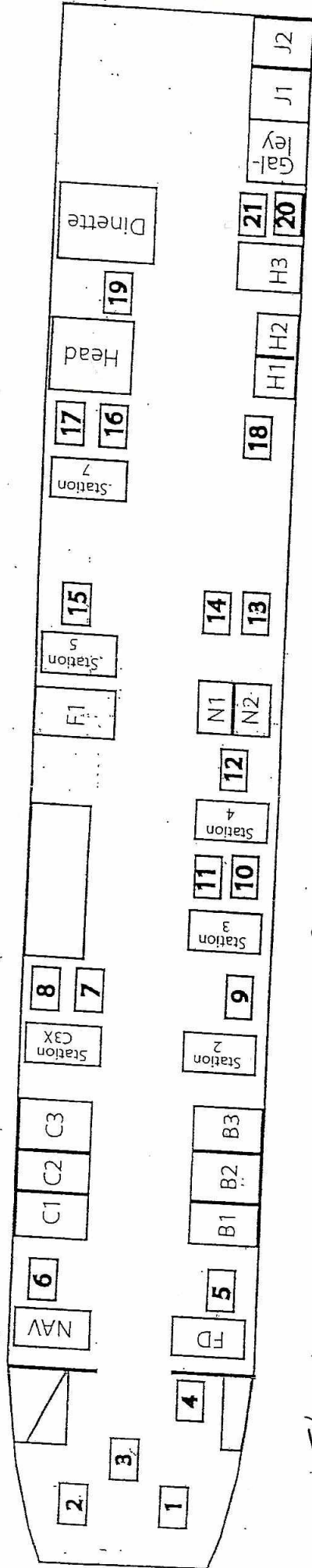
Flt Dir : MM

Launcher S/N: _____

	Drop #	Sonde Serial #	Rcvr #	Press Offset	Launch Time	Winds Time	Operator	Comments	Good ?
RX	1	053 166 166	1	.9	1738	-	RT		✓
RX	2	044 535 230	2	0	1730	-		NO 2 D	✓
RX	3	044 535 081	3	.5	1740	-			✓
nbc	4	053 156 029	4	0	1741	-		RAINX INVENTORY	✓
nbc	5	044 535 561	1	0	1746	-		RAINX INVENTORY	✓
RX	6	053 166 175	2	.5	1749	-			✓
RX	7	053 166 169	3	.5	1749	-			✓
RX	8	044 535 560	4	.5	1754	-			✓
RX	9	053 166 177	1	0	1800	-			✓
hrd	10	012 225 090	2	0	1806	15			✓
hrd	11	011 245 475	3	0	1814	32			✓
hrd	12	012 225 087	4	0	1819	24			✓
hrd	13	012 225 046	1	0	1825	28			✓
hrd	14	012 025 111	2	0	1832	28			✓
hrd	15	011 245 475	3	0	1836	20			✓
hrd	16	012 025 072	4	0	1844	65		Late winds	✓
hrd	17	011 115 129	1	-1.5	1850	24			✓
RX	18	053 116 276	3	0	1858	-			✓
RX	19	053 156 022	4	0	1859	-			✓
RX	20	053 156 048	1	.5	1902	-			✓
RX	21	053 116 271	2	0	1908	-			✓
nbc	22	044 535 559	3	0	1911	-		RAINX INV	✓
nbc	23	053 156 023	4	0	1915	-		RAINX INV	✓
RX	24	044 535 565	1	0	1916	-			✓
hrd	25	012 225 015	1	0	1936	48			✓
RX	26	053 116 027	1	0	2019	-			✓
RX	27	044 535 010	2	0	2020	-			✓
RX	28	053 156 015	3	0	2028	-			✓
nbc	29	053 156 042	4	0	2031	-		RAINX INV	✓
nbc	30	053 116 019	1	0	2036	-			✓
RX	31	053 156 039	2	0	2037	-			✓
RX	32	053 156 027	3	0	2039	-			✓
RX	33	053 156 047	4	0	2042	-			✓

NOAA AIRCRAFT OPERATIONS CENTER

Flight ID 6509237



1. Tebeest PILOT
2. Nelson COPILOT
3. Klippel FLIGHT ENGINEER
4. Small STATION 1
5. Mayeaux FLIGHT DIRECTOR
6. Siegel NAVIGATOR
7. Royce, R STATION C3X
8. Damiano STATION C3X
9. Unknown, E STATION 2
10. Jorgensen STATION 3
11. Dunon, J STATION 3
12. Bair STATION 4
13. Williams PROJECT SEAT
14. Schroff, M PROJECT SEAT
15. Tony STATION 5
16. Marchok STATION 7
17. Walsh STATION 7
18. Sans Souci STATION 7
19. Wheless STATION 8
20. _____ DINETTE
21. _____ GALLEY