



NOAA P-3 N42RF Hurricane Wilma Flight 2



Flight ID: 051022H

<u>Sensor or system</u>	<u>Number or Name</u>
INE	2
Accelerometer	2
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	CO2055.CON

Notes:

There were several time/data gaps during this flight which occurred from 204042Z-204050Z, 234629Z-234650Z, and 234711Z-234720Z.

Data from dewpoint sensor number one from 170001Z-182000Z and from 221900Z-223000Z is erroneous.

The Johnson-Williams Liquid Water Sensor as well as the King Liquid Water Sensor were inoperable throughout the entire flight.

Differential slip pressure from the radome froze-up from 235430Z-005000Z. Data from the dynamic pressure from the radome was replaced with data from the wingtip from 235430Z-005000Z.

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 to dewpoint sensor number two were made from 231201Z-231400Z and from 004201Z-004500Z to bring the relative humidity values below 120%.

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	1009.4 mb	1005.4 mb
Corrected Tower Pressure	1010.2 mb	1007.5 mb

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

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

Flt ID: 051022H	From: Kmcf	To: Kmcf
Flt. No: 06 -003	Blk In: 0057 Z	Time On: 0047 Z
ETD: 1545 Z	Blk Out: 1535 Z	Time Off: 1546 Z
ETE: 9+30	Blk Time: 9+22 (9.4) Hrs	Flt Time: 9+01 (9.0) Hrs
Sponsoring Org: NHC	Program: Recco	Purpose: Wilma

AOC Flight Crew

Aircraft Commander: Kennedy	Data System: McMillan SV
Co-Pilot: Choy	AVAPS: Kerr, B
Navigator: Siegel	System Eng:
Flight Eng: Klippel	A A: Lynch, T
Flight Director: Mageaux, Paris	A A:
Avionics: Olroy, B	Crew Chief:

Participating Scientists / Visitors

Name (Last, First)	Activity on Aircraft	Affiliation
Sprague, Jen	Obs	Noaa Policy
Cochran, Caprice	Media	Media (Fox Atlanta)
Stratford, F	Obs	Macmillan Medical
Camacho, J	Obs	HRD

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

Storm Name: Wilma
 Mission ID: Noaa 1824A Wilma
 Penetration number and time: 2258 8513 IP

Recco Times

2153Z 957m	2173Z 958m
2127 970'	2113 8705
2202Z 957m	2120Z 957m
2131 8658	2120Z 8705W
2131 8658	222041Z 958m
	2120Z 8704W

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Flight ID: 0510221+		Time Off: 1546 Z		Time On: 0047 Z	
	A/C - Takeoff	Wx Station - Takeoff	A/C - Land	Wx Station - Land	
Pressure	1009.4 mb	2983 mb	1005.4 mb	2975 mb	
ATIS	Time	Observation			
Takeoff	1355Z	00000KT P6sm 27/24 A2983 Dkm100 Bkm250			
Land	2355Z	01003KT 75m 5c+030 27/23 A2975			
	Number	Data Disposition / Date / Quality			
Flight Level Tapes					
Radar Tapes					
Cloud Physics Tapes / CDs					
Video Tapes					
Dropsondes	16	Good: 14 Bad: 2 All NAC			
AXBT					
AXCP					
AXCTD					

Remarks:

1800Z Fix: 5, HRD 50.6 kts in belly and a few sondes. 1744Z - Outpoint 1 active, terrible.
 1800Z Intermediate, Alpha 1958 8546
 21.5 86.8 360/4KTS
 10000 PA, we have Mexican clearance.
 Max wind and center drops
 Nona 9 will go out there
 No plan until 1.6Z.
 930ms 105 mile legs

Yinbound BTs 125, 100, 75, 50
 2 Se legs 50+100nm

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

[illegible]

[illegible]

INS PERFORMANCE		INS 1	INS 2
BEGIN ALIGN TIME		1300	1300
ALIGN STATUS (0-5)		0	0
END NAV TIME		0048	0048
START NAV TIME		1518	1528
DELTA T		0420	0420

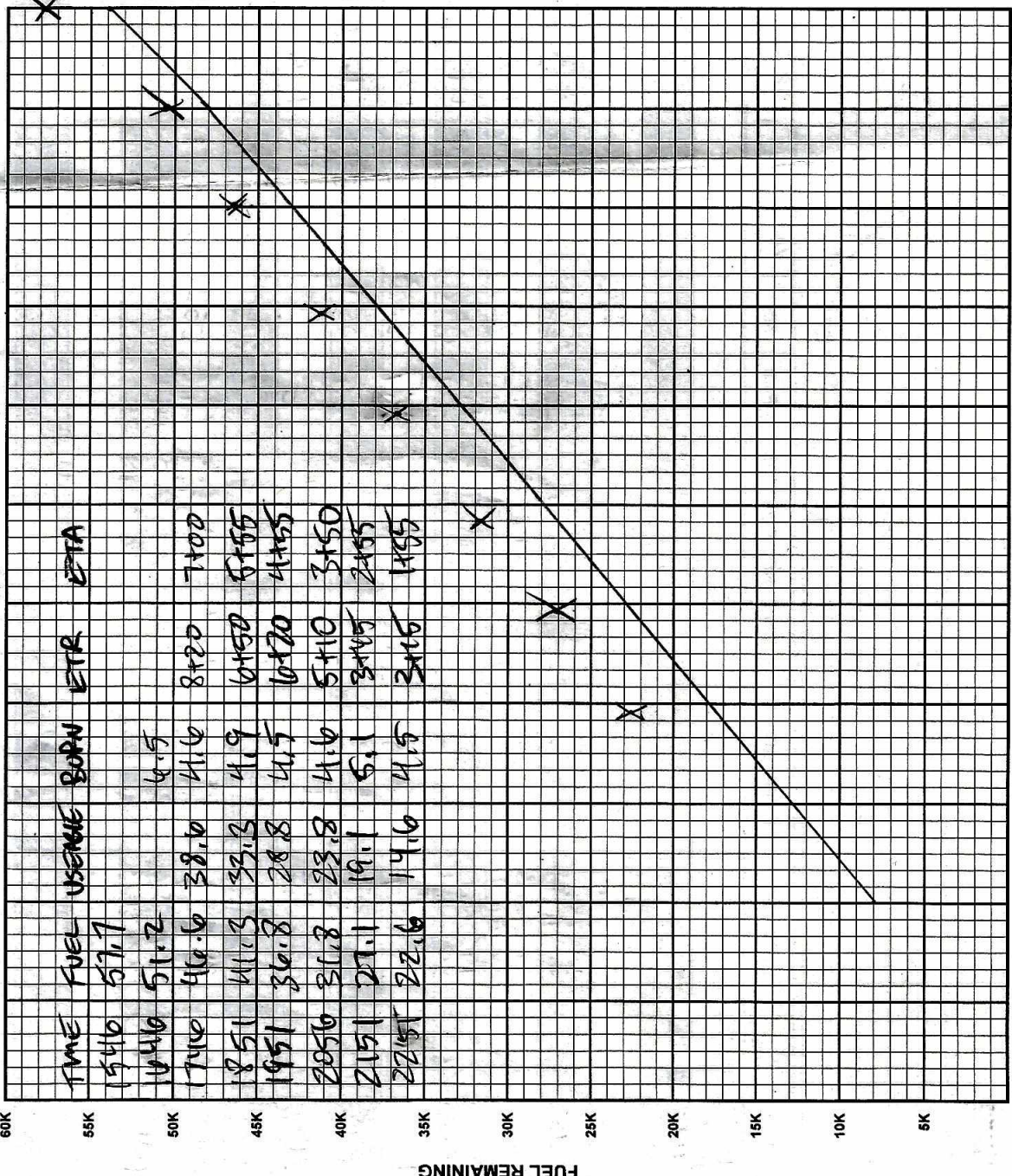
TERMINAL ERRORS		
	INS 1	INS 2
DELTA LAT	+7.3	+4.4
DELTA LON	-1.4	-1.5
RCS	1	1
RADIAL ERROR	8	5

[illegible]

6
40

RANGE CONTROL GRAPH

TIME REMAINING 2750 2800 2850 2900 2950 3000 3050 3100 3150 3200 3250 3300 3350 3400 3450 3500 3550 3600 3650 3700 3750 3800 3850 3900 3950 4000 4050 4100 4150 4200 4250 4300 4350 4400 4450 4500 4550 4600 4650 4700 4750 4800 4850 4900 4950 5000 5050 5100 5150 5200 5250 5300 5350 5400 5450 5500 5550 5600 5650 5700 5750 5800 5850 5900 5950 6000



ENROUTE FUEL	
ENROUTE TIME	9:00
ENROUTE FUEL (6K/5K/4K/RULE)	46.0
RESERVE AT DESTINATION	8.0
REQUIRED RAMP	54.0
ACTUAL RAMP FUEL	57.7

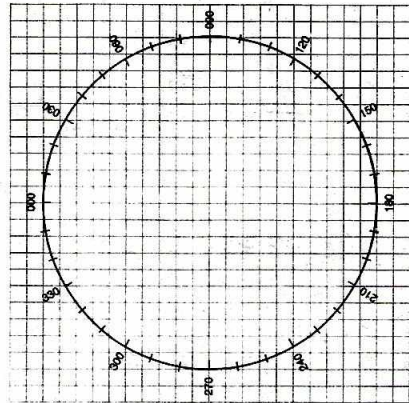
TACTICAL (OFFSTA TO DESTINATION)	
DISTANCE (OFFSTA TO DEST)	
ENROUTE TIME (OFFSTA TO DEST)	
BURN RATE (LB/HR)	4500
ENROUTE FUEL REQUIRED	5500
RESERVE AT DESTINATION	
FUEL AT OFFSTA	

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

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

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

CEX SIGHT	
GMT	
GHA	
CORR	
GHA	
LONGAW	
E	
EXACTLY	
LAT	
BODY	
DEC	
HC/D	
CORR	
HC	
Z	
ZN	



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

PRESS ALT					
10,000	200	250	300	350	
20,000	1.0	1.0	.99	.99	
30,000	.99	.98	.97	.97	
40,000	.97	.96	.95	.94	

TRUE AIRSPEED CROSS-CHECK					
TIME	IAS	PRESS ALT	"F" FACTOR	EAS	ITAS
1611	260	1600	9.5	274	258

DISTANCE REMAINING

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

N42RF AVAPS DropSonde Log

N42RF Project: HURRICANE '05

Flight ID: 051022H

Mission: WILMA

Flight #: 2

System Status: OK

Drop #	Sonde Serial Number	Chn #	Time (Z)	Press. offset	Winds time	Operator Init.	Comments Drop Status	GOOD ☒
1	051926 088	1	1740	0	6	Kerr	Sfws: 32.0 m/s	✓
2	053 416 165	2		0	-	1	NO launch detect	
3	053 416 339	4	1758	0	7		surface press: 957 mb	✓
4	051 926 144	1	1807	0	5		Sfws: 28.0 m/s	✓
5	053 116 270	1	1911	0	20		Sfws: 42.8 m/s	✓
6	051 926 017	4	1921	0	5		Sf press: 956 mb	✓
7	053 156 021	1	1928	0	11	↓	Sfws: 37.8 m/s	✓
8	053 156 037	5	2034	0	8	OLPEN	25.8 @ 15 FT	✓
9	051 926 142	1	2041	0	05		957.6 mb	✓
10	053 166 170	2	2050	0	05			✓
11	053 116 032	5	2145	0	05			✓
12	044 415 237	1	2153	0	05			✓
13	053 116 277	2	2202	0	04			✓
14	053 166 114	1	2255	-0.3	10		NO LAUNCH DET BUT WINDS	
15	053 156 026	2	2302	0	06			✓
16	053 156 003	3	2312	0	08	↓		✓
17								
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