



NOAA P-3 N42RF Atmospheric Rivers IOP 4



Flight ID: 050408H

<u>Sensor or system</u>	<u>Number or Name</u>
INE	1
Accelerometer	1
Temperature Probe	1
Dew Point Probe	1 (General Eastern)
Altitude (for vertical wind)	Radar Altimeter 159
Static Pressure	Rosemount Fuselage
Dynamic Pressure	Rosemount Fuselage 1281
Time Source	Micro 99
Constants File	CO2052.CON

Notes:

There were numerous time/data gaps during this flight. These occurred during the following times, 231742Z-231750Z, 011401Z-011430Z, 013231Z-013240Z, 013731Z-013800Z, 014731Z-014740Z, 014831Z-014840Z, 015001Z-015010Z, 021641Z-021650Z, 032201Z-032220Z, 040611Z-040620Z, 044441Z-044450Z, and 044611Z-044630Z.

Dewpoint sensor number two exhibited rhythmic oscillations throughout the flight.

Spikes in radar altimeter 159 were removed from 023708Z-023916Z and from 045539Z-045541Z. Corrections were also made during the same times for spikes in the data from the following sensors: latitude, longitude, pitch, ground speed in the x and y directions, and heading from inertials 1 and 2.

The differential attack pressure (PDAR) from the nose radome froze-up upon final descent. No edits were made to correct the data. The dynamic pressure from the nose radome (PQR) also froze-up from 001800Z-033600Z. This occurred during a precipitation event. No edits were made to correct the data.

There were numerous times during the flight where the dewpoint temperature exceeded ambient temperature resulting in an 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. No attempts were made to correct the data from dewpoint sensor 1 in order to bring the relative humidity values below 100%.

The King Liquid Water sensor was inoperative throughout the 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	1022.6 mb	1019.7 mb
Corrected Tower Pressure	1020.3 mb	1018.3 mb
Flight Director:	Martin Mayeaux (813) 828-3310 ext. 3086	

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Flt ID: 050408H	From: PHNL	To: PHNL
Flt. No: 05-022	Blk In: 0622 z 22 17	Time On: 0618 z
ETD: 2100 z	Blk Out: 2043 z	Time Off: 2053 z
ETE: 9.00	Blk Time: 9.39 (9.7) Hrs	Flt Time: 9.25 (9.4) Hrs
Sponsoring Org: NSSL	Program: Atmospheric Rivers	Purpose: IOP4

AOC Flight Crew

Aircraft Commander: Strong	Data System: Delgado ✓
Co-Pilot: Choy	AVAPS: Tong
Navigator: Gallagher ✓	System Eng:
Flight Eng: Floyd ✓	A A:
Flight Director: Mayeaux ✓	A A:
Avionics: Rogers ✓	Crew Chief:

Participating Scientists / Visitors

Name (Last, First)	Activity on Aircraft	Affiliation
Kingsmill, D ✓	PI	NSSL
Neale, R ✓	Sci	NSSL
Torres, Paul ✓	Sci	NAVY
Barksdale, Ivory ✓	Sci	NAVY
Fuentes, Tony ✓	Sci	Urb
Ellis, Ryan ✓	Sci	Urb
Unruh, Dale ✓	Sci	Urb

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

Storm Name: 35 miles/drop interval IP Point 21:30Z
 280 KTS - 7.5 minutes 22°07' 160°12'
 260 KTS - 8.0 minutes
 Mission ID: LE Radar difficulties at takeoff
 Penetration number and time TDZ frozen at 2159Z-2204Z
 badme PR frozen due to icing 002429 - unlogged 034652
 Time/data glitch 0445Z-0446Z. on descent TDZ was allowed to place.

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Flight ID: 0504084	Time Off: 2053	Z	Time On: 0615	Z
A/C - Takeoff	Wx Station - Takeoff	A/C - Land	Wx Station - Land	
Pressure	1022.6 mb	303 (1020.3) mb	1019.7 mb	3007 (1019.3) mb
ATIS	Time	Observation		
Takeoff	1953 Z	0701KT 10SMT FEW038 SCT055 28/19 A3013		
Land	0453 Z	06000KT 10SMT FEW026 BKN034 OVC045 24/21 A3007		
	Number	Data Disposition / Date / Quality		
Flight Level Tapes				
Radar Tapes	1			
Cloud Physics Tapes / CDs				
Video Tapes				
Dropsondes	69	Good: 65 Bad: 4		
AXBT				
AXCP				
AXCTD				

Remarks:

Flight ID: 050408H

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Form 413-50

Time	Lat	Long	Trk	Hdg	Wind Dir	Wind Spd	T _a	T _d	Press. Alt	Geo. Alt	Sfc Press.	Press. Sfc	Dyn. Press	Remarks
213030	F.14	Drop			004930		Drop 26	7'5			033200	645		Drop 51
213830		Drop 2			005645		Drop 27	7'5			033845			Drop 52
214630		Drop 3			000415		Drop 28				034530			Drop 53
215430	L	Drop 4	745		011145		Drop 29				035215			Drop 54
220215	e	Drop 5			011815		Drop 30	7'20			035900			Drop 55
221000	g	Drop 6			012515		Drop 31	No detect			040545			Drop 56
221800	1	Drop 7	800		013200		Drop 33	6.45	backed		041230			Drop 57
222600		Drop 8			013845	L	Drop 34				041915			Drop 58
223400		Drop 9			014530	e	Drop 35				042600			Drop 59
224200		Drop 10			015215	g	Drop 36	7'00			043245			Drop 60 → Look for land.
225000	L	Drop 11	Start 7.45		015915	2	Drop 37				043930			Drop 61
225745	e	Drop 12			020615		Drop 38	6.45			044615			Drop 62 Drop 63
230530	g	Drop 13			021300		Drop 39				045300			Drop 64
231315	g	Drop 14			021945	1	Drop 40				045945			Drop 65
232100	1	Drop 15	7.30		022630	g	Drop 41				040630			Drop 66-67
232830		Drop 16			023315	2	Drop 42				041315			Drop 68
233600		Drop 17			024000		Drop 43	7'			042000	05228		Drop 69
234330	L	Drop 18			024700		Drop 44							
235015	e	Drop 19			025400	L	Drop 45							
235745	g	Drop 20			030100	g	Drop 46							
000515	1	Drop 21			030800	2	Drop 47	7.48						
001245		Drop 22			031500		Drop 49							
002015		Drop 23			032030		Drop 50							
002800		Drop 24			032800									
003607		Drop 25												

21'30 174'51 2751 17423 250

1452'5 171'40.4'

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/NOICE	VHF/NOICE	MF/NOICE	HF/CW	MF/CW
243.0	121.5	2182 KHZ	8364 KHZ	500 KHZ

MAYDAY, MAYDAY, MAYDAY
THIS IS NOAA _____, NOAA _____, NOAA _____

- 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 _____

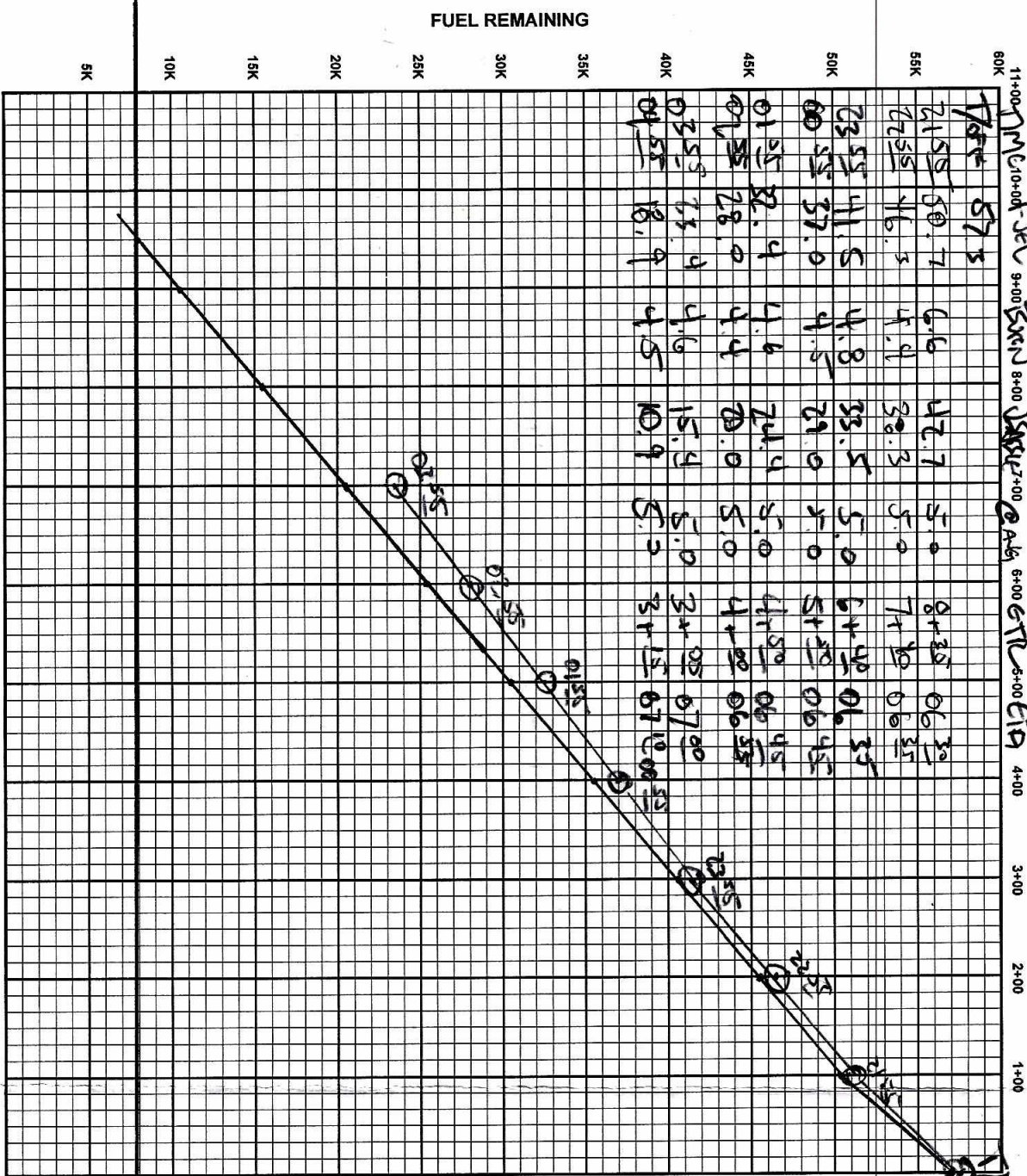
- PILOT INTENTIONS _____

- WE HAVE _____ ENDURANCE REMAINING

[illegible]

RANGE CONTROL GRAPH

TIME REMAINING



DISTANCE REMAINING

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

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

ENROUTE FUEL	
ENROUTE TIME	9+32
ENROUTE FUEL	49.0
RESERVE AT DESTINATION	8.0
REQUIRED RAMP	57.0
ACTUAL RAMP FUEL	57.3

TACTICAL (OFFSTA TO DESTINATION)	
4 ENG 3 ENG	
DISTANCE (OFFSTA TO DEST)	
ENROUTE TIME (OFFSTA TO DEST)	
BURN RATE (LBS/HR)	4500 5500
ENROUTE FUEL REQUIRED	
RESERVE AT DESTINATION	
FUEL AT OFFSTA	

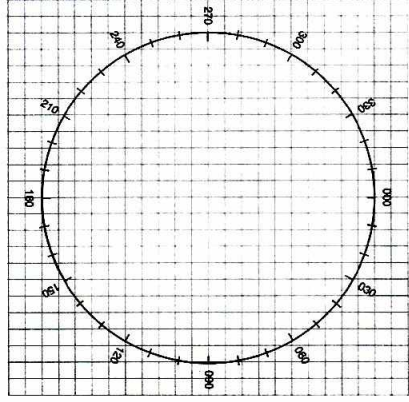
POINT OF SAFE RETURN	
4 ENG 3 ENG	
ETP DISTANCE (TO DEPARTURE)	
ENROUTE TIME (TO DEPARTURE)	
BURN RATE (LBS/HR)	4500 5500
FUEL REQUIRED	
RESERVE AT DEPARTURE	
PSR FUEL	

WIND FACTOR				
PRESS ALT	200	250	300	350
10,000	1.0	1.0	.99	.99
20,000	.99	.98	.97	.97
30,000	.97	.96	.95	.94
40,000	.96	.94	.92	.90

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 +W			
-E			
EXACT LHA			
LAT			
BODY			
DEC			
HC/D			
CORR			
HC			
Z			
ZN			



MISSION PREFLIGHT LOG

NAVIGATOR

AIRCRAFT COMMANDER

FLIGHT DIRECTOR

SCHEDULED / ACTUAL TAKEOFF Z DATE OF TAKEOFF

DESTINATION

MISSION

DATE

TIME

TIME

TIME

TIME

TIME

TIME

TIME

TIME

TIME

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TIME

TIME

WP N LAT / LON

RTE

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NOAA · AOC · SED
N42RF AVAPS DROP LOG

①

Project: GNet/AtRiv '05 Mission:

Flight ID: 050408h

Take Off: _____

Landing: _____

Drop #	Sonde Serial #	Rcvr #	Press Offset	Launch Time	Winds Time	Operator	Comments	Good ?
1	042 815 019	1	—	2130	34	RT		✓
2	042 715 302	5	—	2138	28	1		✓
3	042 815 167	2	—	2146	34			✓
4	042 715 276	1	—	2155	23			✓
5	042 815 072	2	—	2203	16			✓
6	042 715 293	1	-.6	2216	32			✓
7	042 815 021	3	—	2218	16			✓
8	042 715 050	2	.4	2226	16			✓
9	042 815 251	1	.4	2234	18			✓
10	042 815 165	3	.4	2242	18			✓
11	042 815 068	2	.4	2250	28			✓
12	042 825 020	1	.4	2257	18			✓
13	042 715 294	3	.4	2306	18			✓
14	042 815 174	2	.5	2313	27			✓
15	042 815 069	1	.4	2321	18			✓
16	042 815 014	3	.4	2328	26			✓
17	042 815 149	2	—	2336	24			✓
18	042 415 212	1	—	2343	22			✓
19	034 955 002	3	-.5	2349	50			✓
20	042 415 141	2	—	2357	36			✓
21	070 925 087	1	—	0005	26			✓
22	042 715 076	3	—	0013	28			✓
23	042 815 164	2	—	0028	25			✓
24	042 815 157	1	.4	0027	24			✓
25	042 815 065	3	.4	0035	23			✓
26	042 815 151	1	.4	0049	20	MER		✓
27	042 815 238	2	1	0056	12			✓
28	042 815 023	3	+1.3	01:04	52			✓
29	042 815 166	4		01:11	15			✓
30	042 815 160	1		01:18	20			✓

Take Off :

Landing :

[illegible]

Landing : _____

[illegible]