



NOAA P-3 N42RF
NEAQS 2004
Flight 16 040811H



Flight ID: H040811

Sensor or system

INE

Accelerometer

Temperature Probe

Dew Point Probe

Altitude (for vertical wind)

Static Pressure

Dynamic Pressure

Time Source

Constants File

Number or Name

2

2

1

2 (Edge Tech)

Pressure Altitude (RA-159)

Rosemount Fuselage

Rosemount Fuselage

Micro 99

CO2042.CON

Local Met Data:

2004.08.11 0300 UTC

Wind N/A Visibility N/A Sky conditions N/A Temperature N/A Dew Point N/A
Relative Humidity N/A Pressure (altimeter) N/A ob N/A

Notes:

There was one time/data glitch during this flight which occurred between 043121Z and 043140Z.

During descent from 052201Z to 052400Z, dewpoint sensor number two acted irrationally and was corrected with respect to dewpoint sensor number three.

Radar Altimeter 159 was replaced with Radar Altimeter 232 from 025901Z-030400Z and from 104730Z-105100Z.

Flight Director:

Marty Mayeaux

Phone #:

(813) 828-3310 ext. 3086



NOAA P-3 N42RF
NEAQS 2004 Flight #16
KPSM - KPSM



Flight ID: H040811

<u>Sensor or system</u>	<u>Number or Name</u>
Inertial + Accelerometer Data	2
Temperature Probe	1
Dew Point Probe	2
Altitude (for vertical wind)	Pressure Altitude
Radar Altitude	RA-159
Static and Dynamic Pressure	Rosemount Fuselage
Time Source	Micro 99
Constants File	CO2042.CON

Notes:

There was a time/data gaps from 043121-40Z. Be aware of data spikes as a result of this data gap.

RA-232 was substituted for RA-159 during the following times: 025901-030400Z (take off), and 104730-105100Z (landing) due to spiking.

TDM3 (dew pointer 3) was used in place of TDM 2 from 052201-052400Z due to spiking.

There may have been instances when the dew point temperature exceeded the ambient temperature resulting in a RH% above 100%. These times were during heavy precipitation events and were likely due to a wet-bulb effect on the total temperature sensor, and/or an artificial warming of the dew point sensor as it tried to burn off excess moisture. These periods are typically reflected in the J/W liquid water data. No corrections were made during these events unless noted above.

All other instruments worked optimally during the flight.

The aircraft INE positions were re-navigated with respect to GPS.

Due to AOC equipment/printer failure, the last step of our Quality Control process (visual QC) was not able to be performed. While other measures were taken to ensure there were no problems with the data, questions concerning questionable data should be brought to the attention of the Flight Director ASAP.

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.

Flight Director: Contact Martin Mayeaux or Paul Flaherty
Phone #: (813) 828-3310 ext. 3086 or 3094

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

Flt ID: 040816H	From: KPSM 180	To: KPSM 180
Flt. No: 04-0371	Blk In: 1055 z	Time On: 1049 z 1051
ETD: 0300 z	Blk Out: 0249 z	Time Off: 0301 z 0259
ETE: 8 + 15	Blk Time: 8 + 06 8.1 Hrs	Flt Time: 7 + 48 7.8 Hrs
Sponsoring Org: NOAA / A.L.	Program: NEAQS	Purpose: ^{Top 16} AIR QUALITY RESEARCH

AOC Flight Crew

Aircraft Commander: Kennedy, P	Data System: McMillen, S
Co-Pilot: Choy, B	AVAPS:
Navigator: Brakel, D / Gallagher, T	System Eng: Brakel, B
Flight Eng: Bast, G	AA:
Flight Director: Flaherty, B Brakel, D	AA:
Avionics: Rodgers, M	Crew Chief:

Participating Scientists / Visitors

Name (Last, First)	Activity on Aircraft	Affiliation
RYERSON, T	Principal Investigator	NOAA AERONOMY LAB
TANNER, D	SCIENTIST	"
MIDDLEBROOK, A	"	"
SMITH, J	"	"
NELSON, D	"	"
DUBÉ, B	"	"

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

Mission ID:

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

Flight ID: 04811H Time Off: 0301 Z Time On: 1049 Z

	A/C - Takeoff	Wx Station - Takeoff	A/C - Land	Wx Station - Land
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Pressure	<u> </u> mb	<u> </u> mb	<u> </u> mb	<u> </u> mb
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ATIS	Time	Observation	
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Takeoff	Z		
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Land	Z		
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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		Good: Bad:	
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AXBT			
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AXCP			
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AXCTD			
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Remarks:

[illegible]

MISSION PREFLIGHT LOG

NAVIGATOR

AIRCRAFT COMMANDER

FLIGHT DIRECTOR

SCHEDULED / ACTUAL TAKEOFF Z DATE OF TAKEOFF

WP

1 LAT / LON

2

3

4

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MISSION

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VAR

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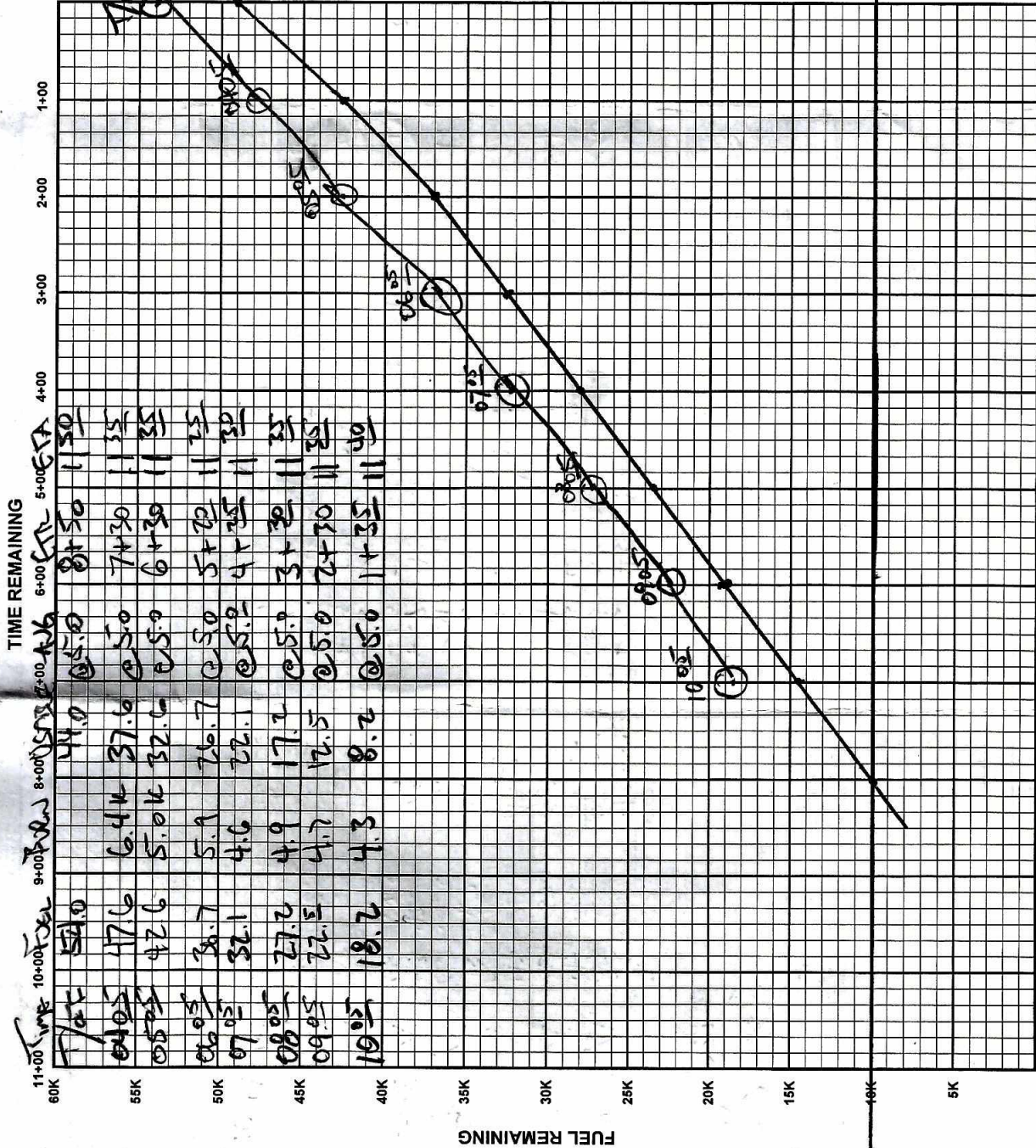
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1239

RANGE CONTROL GRAPH



ENROUTE FUEL	
ENROUTE TIME	8+05
ENROUTE FUEL (6K 5K 4K RULE)	59.0K
RESERVE AT DESTINATION	19.0K
REQUIRED RAMP	49.0K
ACTUAL RAMP FUEL	54.0K

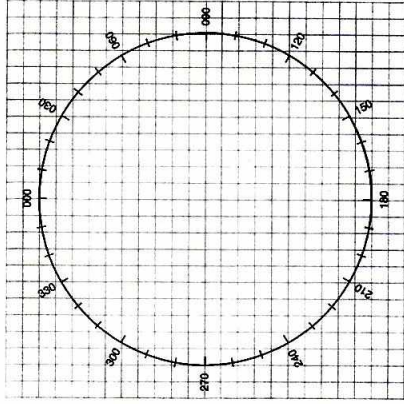
TACTICAL (OFFSTA TO DESTINATION)	
DISTANCE (OFFSTA TO DEST)	
ENROUTE TIME (OFFSTA TO DEST)	
BURN RATE (LBS/HR)	4500
ENROUTE FUEL	5500
REQUIRED RESERVE AT DESTINATION	
FUEL AT OFFSTA	

POINT OF SAFE RETURN	
ETP DISTANCE (TO DEPARTURE)	
ENROUTE TIME (TO DEPARTURE)	
BURN RATE (LBS/HR)	4500
FUEL	5500
REQUIRED 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	
LONG +W -E	
EXACT LHA	
LAT	
BODY	
DEC	
HC/D	
CORR	
HC	
Z	
ZN	



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

PRESS ALT	
10,000	1.0
20,000	.99
30,000	.97
40,000	.96
50,000	.95
60,000	.94
70,000	.93
80,000	.92
90,000	.91
100,000	.90

TRUE AIRSPEED CROSS-CHECK						
TIME	IAS	PRESS ALT	"F" FACTOR	EAS	OAT	ITAS
0325	205	7500	1.0	205	15	232
						236

DISTANCE REMAINING

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

EMERGENCY MESSAGE

TRANSMIT THE FOLLOWING MESSAGE TO ANY CARRIER 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 3000 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

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

- POSITION _____ N / _____

- 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

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

1. POSITION

2. TIME

3. ALTITUDE

4. NEXT POSITION

5. ETA

6. NEXT POSITION

The top diagram shows a circular distribution with 12 categories. The observations are distributed as follows:

Category	Observations
1	83.3
2	83.3
3	83.3
4	83.3
5	83.3
6	83.3
7	83.3
8	83.3
9	83.3
10	83.3
11	83.3
12	83.3

The bottom diagram shows a circular distribution with 12 categories. The observations are distributed as follows:

Category	Observations
1	83.3
2	83.3
3	83.3
4	83.3
5	83.3
6	83.3
7	83.3
8	83.3
9	83.3
10	83.3
11	83.3
12	83.3

[illegible]

OTHER

The top diagram shows a circular distribution with 12 categories. The observations are distributed as follows:

Category	Observations
1	83.3
2	83.3
3	83.3
4	83.3
5	83.3
6	83.3
7	83.3
8	83.3
9	83.3
10	83.3
11	83.3
12	83.3

The bottom diagram shows a circular distribution with 12 categories. The observations are distributed as follows:

Category	Observations
1	83.3
2	83.3
3	83.3
4	83.3
5	83.3
6	83.3
7	83.3
8	83.3
9	83.3
10	83.3
11	83.3
12	83.3

[illegible]