

U.S. DEPT. COMM./NOAA/OAO - DATA SECTION WORK FORM NO.1 OAOWF1 FILE

FLT ID: 960401H	FM: OQU	TO: OQU
FLT NO: 96-009	BLK IN: 0043	ATA: 0040
ETD: 1630	BLK OUT: 1620	ATD: 1628
ETE: 0030	BLK TIME: 8+23/8.4	FLT TIME: 8+12/8.2
SPONSOR ORG: NOAA/AC	PROGRAM: NARE/OZONE	PURPOSE: Aerosols

OAO PERSONNEL

AC KENNEDY ✓	SYS ENG ROLES ✓
CP PLAYER ✓	DATA SYS DELGADO ✓
NAV RATHBUN ✓	RADAR
FE TORRE ✓	BT/ODW
RADIO SAN SOUCI ✓	CLD PHYS
FD WHITE/PARRISH ✓	DOPPLER

PARTICIPATING SCIENTIST/VISITORS/OAO

LAST, FIRST NAME	ACTIVITY ON A/C	AFFILIATION
HUBLER, G	OZONE/AIR CHEM	CU - CIRES
HOLLOWAY, J	↓	↓
RYERSON, T		
SHERIDAN, P		
JOHNSON, T		
KUTER, B		
WERT, B		
WILLIAMS, J/SCHOLM	↓	NOAA/AC
		NOAA/AC
		CU
		NOAA/AC / NY State DSH

PROPOSED/ACTUAL MISSION/REMARKS (RECCO, FIXES, STORM, PENET, NHOP #)

"W" PVD 2350 35 IVC 10 47/40 17005 29.88

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TITLE (MAX 21 CHARACTERS) -- EX HURRICANE PAINE
OZONE FLIGHT 6
YYMMDDL FLT I.D.
960401H
HHMMSS START TIME -99999 DEFAULT TO START OF DATA FOR PRINTOUT ONLY
161701
HHMMSS END TIME 999999 DEFAULT TO END OF DATA FOR PRINTOUT ONLY
004300
HHMMSS TAKE OFF TIME
162801
* NUMBER OF TAPES (I2) ...FOR STANDARD TAPE OUTPUT ONLY
06
* -----LOGICAL UNIT OF INPUT DATA (I1) 5, 8 OR 9 FOR TAPE DRIVE
9
* -----LOGICAL UNIT OF OUTPUT TAPE DRIVE (I1) [FOR STANDARD TAPE ONLY]
9
* -----LOGICAL UNIT OF PRINTER (I1)
6
* -----DATE OF PROGRAM (MMDDY)
06094
* -----STATIC PRESSURE PROBE (I1)
* 1 = PSW (WINGTIP)
* 2 = PSF (CO-PILOT/FUSELAGE)
* 3 = FUTURE USE
2
* -----DYNAMIC PRESSURE PROBE (I1)
* 0 = PQW(WINGTIP)
* 1 = PQF1 (FUSELAGE 1281)
* 2 = PQF2 (FUSELAGE 1221)
* 3 =FUTURE US
1
* -----INE SELECTION (I1)
* 1 = INE 1
* 2 = INE 2
1
* -----ACCELEROMETER (I1) - USUALLY THE SAME AS YOUR INE SELECTION
1
* ----- TOTAL TEMPERATURE PROBE (I1) [1 OR 2]
1
* ----- DEWPONT TEMPERATURE PROBE (I1) [1 OR 2]
1
* -----ALTIMETER OPTION (I1) - FOR VERTICAL WIND COMPUTATION
* 0 = PRESSURE ALTITUDE (OVER LAND)
* 1 = RADAR ALTITUDE APN-159 (OVER WATER)
* 2 = RADAR ALTITUDE APN-232 (OVER WATER)
0
* -----PRINTOUT RATE SECONDS (I2)
30
* -----WINDSPEED/DIRECTION RUNNING AVERAGE TIME, SECONDS (I2)
10 ! FOR STANDARD TAPE OUTPUT ONLY
* -----TIME OPTION (I1)
* 1 = MICRO 29
* 2 = TIME BASED GENERATOR #1
* 3 = TIME BASED GENEATOR #2
1
* -----NAME OF CONSTANTS FILE EX CO3863.CON
CO2962.CON
*****

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OZONE 96 FLT #6

FLIGHT #06 H960401

TYPE OF DATA -----	SENSOR OR OPTION -----
INE	1
Accelerometer	1
Temperature probe	1
Altitude change option (for vertical winds)	PA
Static pressure	Rosemount fuselage
Dynamic pressure	Rosemount fuselage
Time source	Micro 99
Constants file	CO2962.CON

Notes:

There were ten time/data gaps: 1747:23 1747:30 1954:36
1954:40 2202:28 2202:30 2207:48 2207:50 0009:45 0009:50

The pressure altitude ,PA, was utilized for overland flight.

Dewpoint temperature (TD) calculation on standard tape is +0.5 C higher than printout from aircraft due to a -0.5 C offset inadvertantly present onboard the aircraft.

Dewpoint temperature,TD, balanced (heated) at times 2251 and 2305.

Downward spikes in radar altimeter values were generated from overflying land.

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	1013.8mb	1010.2mb
Corrected tower pressure	1015.0mb	mb

Flight Meteorologist: Sean White: (813) 828-3310 ext. 3072

[illegible]

960401H

START

161701

END

00432600

BAD BLKS

1747:23

0009:45

1747:30

0009:50

1954:36

1954:40

2202:28

220701

DW2 for DW1

2202:30

220901

2207:48 Bad Posit

2207:50

INEL w/GPS

180000 +0.3 +0.4

1900 +0.5 +0.4

2000 +0.8 +0.3

2100 +1.2 +0.3

2200 +1.5 +0.2

2300 +1.8 -0.3

0043 +2.2 -0.8

Flight on 1 April 1996

Takeoff: 11:00 EST planned

Time 00:00 (hh:mm) is at the full hour or 15 min increments here from.

From Pt. A, Quonset, head direction of Pt. B
Climb to 10000 ft MSL for calibration
At Pt. B head direction of Pt. C

⇒ On the way to Pt. C via Pt. B we are looking to cross a front

- O Racetrack Profile behind (20 km?) the front at Pt. Fb, 10 kft to < 1000 ft AGL, (reverse direction every 2.5 min) descend at 1000 ft/min
- O Reverse direction, at 1000 ft AGL define point Fa ahead of the front (~20km)
- O Racetrack HC Profile ahead of the front at Pt. Fa (If Pt. Fb is beyond Pt. C do just a simple racetrack profile)
descend to 500 ft AGL, then climb to 2000 ft AGL. 17k
HC samples at 2000 ft, 6000 ft, 10 kft, 17 kft (stay at constant alt. for HC sample)
- O Head direction of Pt. Fb and climb to 25 kft
- O ~~(Can we see dry air, rich in ozone behind the front? This optional!!!)~~
~~Head west for 7.5 min at 25 kft, reverse direction and return to Pt. Fb at 17 kft)~~
- O Racetrack HC Profile behind the front at Pt. ~~Fb~~ (If Pt. Fb is beyond Pt. C do just a simple racetrack profile)
HC samples at 17 kft, 10 kft, 6000 ft, and 2000 ft (stay at constant alt. for HC sample)
42 07.0 80 56.0
- O Head direction of Pt. B and climb to 6000 ft.
- O After crossing the front descend to 2000 ft AGL
- O Head direction of Pt. D
According to HC sample and NOy zeros (Observer calls),
include positive and inverted traffic cones. If we see an interesting layer chose that altitude for the next HC sample.
- O After leaving the New York plume (default after crossing -73 00W) climb to 18 kft for calibration.
- O After calibration, Racetrack Profile at Pt. D, 18 kft to 500 ft AGL, (reverse direction every 2.5 min) descend at 1000 ft/min
- O head direction of Pt. A

Estimated flight Time

Pt. A to Pt. B: 675 km

Pt. B to Pt. C: 224 km

2 HC profiles:

profile over Block Island

Return to Quonset

2*100 min at 220 knots

2*34 min + 2*15 min

140 min includes time to adjust

30 min

10 min

: 200 min

: 100 min

: 140 min

: 30 min

: 10 min

480 min = 8 hr

41.25 74.30

41.21 N

78.13 W

41.57

80.03.9

-6.6/1A

1817

42 03.2

80 15.5

1818 42 04.6 80 17.7

41.20

78.08.7

41 21.4

77 53.7

1918:30

41 21.1

77 35.4

1925:57

2049:17

41 18) 2238 2241 (41 18.8
77 9.0

2255
41 17.7
76 00.1

Pt. A (41 37, -71 25)
Pt. B (41 20, -79 00)
Pt. C (42 30, -81 00)
Pt. B (41 20, -79 00)
Pt. D (41 10, -71 15)
Pt. A (41 37, -71 25)

east of Block Island

Example of Frontal Points

Pt. Fb (42 10, -80 32)
Pt. Fa (41 35, -79 29)

The goal of this mission is to capture a front over the continent and to study the vertical trace gas distribution ahead and behind the front, as well across the front.

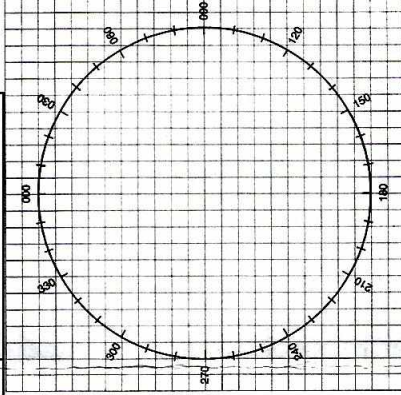
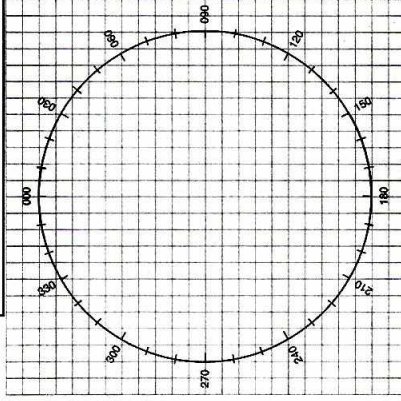
The forecast shows the position of the front at 12z 4/1/96 near Cleveland in a SW to NE direction.

Since it will be hard to predict the exact location of the front in advance, we will have to consult the satellite pictures on the morning of the flight, and more importantly to use simply the observations during the flight to identify the frontal position. We may cross the front already before we reach Pt. B. In this case we will have to adjust the position of Pt. C accordingly.

CLEARANCES			
FREQ	ALT	HDG	OTHER
			KDQU
			09 HARTFORD
			VSB KINGSTON
			134.45

MISSION LOG

PAGE 1 OF 1



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:

UHFVOICE VHFVOICE MFVOICE 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

POSITION REPORT

1. POSITION

2. TIME

3. ALTITUDE

4. NEXT POSITION

5. ETA

6. NEXT POSITION

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
1617																					ENG START
1620																					TAXI
1628																					TAXI
1659	GPS	41139.4	41139.3	+1.1	41138.8	+1.6			239	2R	241	212	202	12	10K	223					
1734	FM1	7351.5	7351.3	+1.2	7351.0	+1.5			205	2R	267	238	138	9	10K	202					
1734		4120.8	4120.6	+1.2	4119.9	+1.9															
1734		7644.0	7643.8	+1.2	7644.5	+1.6															
1800		4120.5	4120.2	+1.3	4119.1	+1.4			307	2R	309	244	164	14	10K	232					
1800		7859.4	7859.0	+1.4	7859.3	+1.1															
1818		4120.7	4120.4	+1.3	4120.3	+1.6			311	0	311	227	308	15	10K	242					
1818		8017.7	8017.3	+1.4	8017.3	+1.4															
1849		4149.3	4148.8	+1.5	4147.6	+1.7			113	7R	120	212	020	27	3.2K	209					
1849		8011.2	8010.7	+1.5	8011.9	+1.7															
1916		4120.3	4119.7	+1.6	4116.9	+3.4			085	3R	088	197	049	15	4K	208					
1916		7817.8	7817.3	+1.5	7818.4	+1.6															
1952		4117.9	4117.1	+1.8	4114.1	+3.8															
1952		7706.7	7706.5	+1.2	7706.8	+1.1															
2034		4128.6	4127.7	+1.9	4124.1	+4.5			282	3R	287	279	214	28	26K	287					
2034		7831.5	7831.3	+1.2	7833.4	+1.9															
2112		4209.7	4208.4	+1.3	4204.7	+5.0															
2112		8055.7	8055.5	+1.2	8056.8	+1.1															
2140		4205.0	4203.8	+1.2	4200.4	+4.6															
2140		8045.0	8044.9	+1.1	8047.6	+2.6															
2154		4203.6	4202.2	+1.4	4158.2	+5.4															
2154		8046.5	8046.3	+1.2	8049.2	+2.7															
2219		4121.3	4119.5	+1.8	4114.4	+6.9			091	5R	099	211	003	16	2K	207					
2219		7858.6	7858.9	+1.3	7861.5	+2.9															
2247		4118.1	4116.3	+1.8	4111.6	+6.5			091	7R	098	207	010	27	5K	212					
2247		7644.2	7644.6	+1.4	7647.2	+3.0			092	0	092	223	283	3	5K	218					
2303		4120.6	4120.8	+1.8	4122.3	+6.3															
2303		7528.1	7528.3	+1.2	7531.8	+3.7			081	1L	080	219	225	4	5K	216					

050/35

