

AESOP Flight

Flight #13 I990719

<u>Sensor or system</u>	<u>Number or Name</u>
INE	2
Accelerometer	2
Temperature Probe	2
Dew Point Probe	2
Altitude (for vertical wind)	Pressure Altitude
Static Pressure	Rosemount Fuselage
Dynamic Pressure	Rosemount Fuselage
Time Source	Micro 99
Constants File	CO3992.CON

Notes:

The radar altimeter (RA159) had a spike at takeoff and was replaced by RA232 from 1552:01-1608:32. Several small spikes in RA159 were removed and patched (1758:40-1759:00, 1807:30-1807:45 and 1810:00-1810:15). A spike also occurred on landing and RA159 was set to zero from 2211:46-2220:00.

Dewpoint (DW2) exceeded ambient temperature (AT2) for a very short period due to precipitation. DW2 appears to be less responsive in such dry conditions 1621:30-1642:30 and 2102:30-2153:00.

	<u>Takeoff</u>	<u>Landing</u>
Aircraft static pressure	1000.6	1017.5
Corrected tower pressure	1022.4	1019.3

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.

Flight Meteorologist: Stan Czyzyk, (813) 828-3310 ext. 3086

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

FLT ID: 990719I	FM: KBNA	TO: KMCF
FLT NO: 99-044	BLK IN: 2220Z	ATA: 2212Z
ETD: 16Z	DLK OUT: 1556Z	ATD: 1606Z
ETE: 2230Z	BLK TIME: 6.24 6.4	FLT TIME: 6.06 6.1
SPONSOR ORG: NOAA/AL	PROGRAM: AESOP	PURPOSE: ATLANTA/MACDILL

OAO PERSONNEL

AC TAGGART, B	SYS ENG LYNCH, T
CP OMARA, T	DATA SYS HORN BROOK, C
NAV RATHBUN, D	RADAR
FE BAST, G / WADE, S	BT/ODW
RADIO ROGERS, M	CLD PHYS
FD CZYZK	DOPPLER MOORE, H

PARTICIPATING SCIENTIST/VISITORS/OAO

LAST, FIRST NAME	ACTIVITY ON A/C	AFFILIATION
HUBLER, G	PI	NOAA-AL
R VERNON, T	SCIENTIST	"
EEIBROCK, E	"	"
JAKOUBEK, R	"	"
HALL, S	"	NCAR
FLOCKE, F	"	"
HOLCOWAY, J	"	NOAA-AL
KUSTER, B	"	"

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

U.S. DEPT. COMM./NOAA/OAO - DATA SECTION WORK FORM NO.2 OAOWF2 F

FLT ID: 990719I TIME OFF: 1606Z TIME ON: 2212Z

	A/C T/O	WX STN	A/C LAND	WX STN
PRESSURE	1000.6	30.19	1017.5	30.10

NO DATA DISPOSITION/DATE/QUALITY

1/SEC FLT LVL TAPES	2	
FAST FLT LVL TAPES		
RADAR TAPES	1	
DOPPLER TAPES		
ODW CASSETTES		
HARD COPIES	1	
AXBT		
AXCP		
ODW		

PHOTOGRAPHY

	FWD	LS	RS	VERT
ON				
OFF				
RATE				

REMARKS

[illegible]

Flight plan : 19 July 1999
Atlanta Urban Study
Transit to Tampa

default climb rate 1500 ft/min

Access to plane : 7:00 am CDT
Preflight : 8:00 am CDT
Pt 0: Nashville (36 07N, 86 41W)
Doors closed:
Takeoff: 11 CDT

Head to Pt. 1 (34 20N, 84 57^{11.5}W) (250 km, 40 min)
On way to Pt. 1 climb to 12 kft, Calibration at 12 kft arrive at Pt. 1 at 1500 ft AGL

Atlanta Urban Pattern (Forecast calls for light winds from the W)
Pt. 1-Pt. 22 (1570 km, ~ 4 hrs 00 min)
Low Level Passes Upwind, Over and Downwind from Atlanta : 11 flight legs in North to South orientation ~14 km apart, 130 km long (~ 20 min)
default Flight Altitude: 3000ft MSL (1500-2000 ft AGL)
Descent and ascent at the begin and the end of the pattern will give PBL height at northern and southern end. Include two profiles out of the PBL to about (7000 ft MSL) at the northern and southern end of the pattern.
==> Collect **34 in-situ HC samples** inside and outside of the urban plume.

Head to Mc Dill Pt. 23 (27 51N, 82 31W) (600km, 85 min)
On way to Pt. 21 climb to max altitude (25 kft) , Calibration in route at constant altitude (15 min)

==> Collect **5 in-situ HC samples** inside and outside of the urban plume.

Straight Flight Time is estimated as ~ 6hrs 05min
Holding for Calibration, Traffic Cones, and Extra Probing of power plant plumes will add extra time.

167
~~212~~

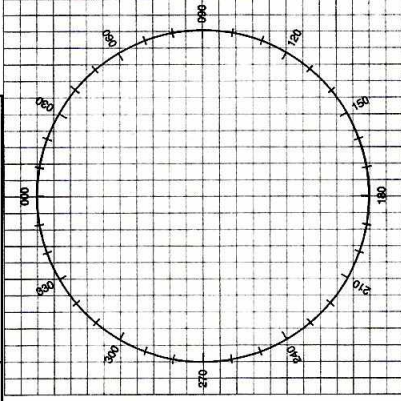
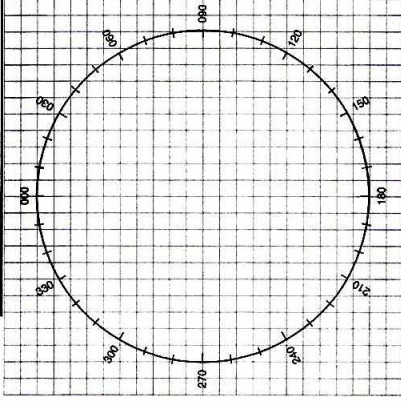
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0	36	7	-86	41	36.12	-86.68
1	34	20	-84	57	34.33	-84.95
2	33	10	-84	57	33.17	-84.95
3	33	10	-84	44	33.17	-84.73
4	34	20	-84	44	34.33	-84.73
5	34	20	-84	35	34.33	-84.58
6	33	10	-84	35	33.17	-84.58
7	33	10	-84	26	33.17	-84.43
8	34	20	-84	26	34.33	-84.43
9	34	20	-84	17	34.33	-84.28
10	33	10	-84	17	33.17	-84.28
11	33	10	-84	8	33.17	-84.13
12	34	20	-84	8	34.33	-84.13
13	34	20	-83	59	34.33	-83.98
14	33	10	-83	59	33.17	-83.98
15	33	10	-83	50	33.17	-83.83
16	34	20	-83	50	34.33	-83.83
17	34	20	-83	41	34.33	-83.68
18	33	10	-83	41	33.17	-83.68
19	33	10	-83	32	33.17	-83.53
20	34	20	-83	32	34.33	-83.53
21	34	20	-83	23	34.33	-83.38
22	33	10	-83	23	33.17	-83.38
23	27	51	-82	31	27.85	-82.52

CLEARANCES

[illegible]

MISSION LOG

PAGE OF



POSITION REPORT

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

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/VOICE	VHF/VOICE	MF/VOICE	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

- HEADING _____ TRUE/MAG _____

- AT _____ KTS TRUE/INDICATED

- FLIGHT LEVEL OR ALTITUDE

- WE ARE A P-3 AIRCRAFT WITH _____ SOULS ON BOARD
NATURE OF ENERGY _____

- NATURE OF EMERGENCY
- ASSISTANCE DESIRED

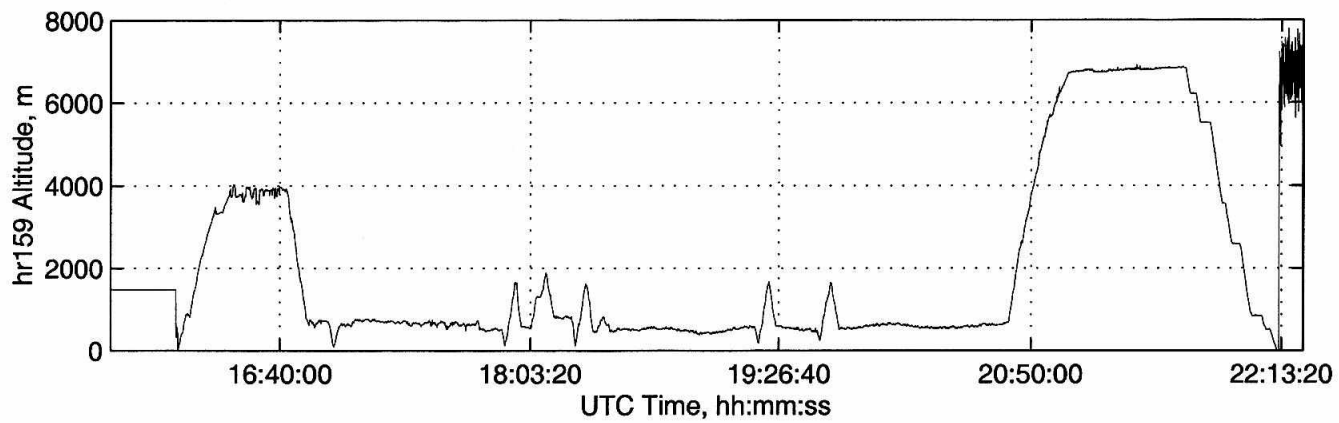
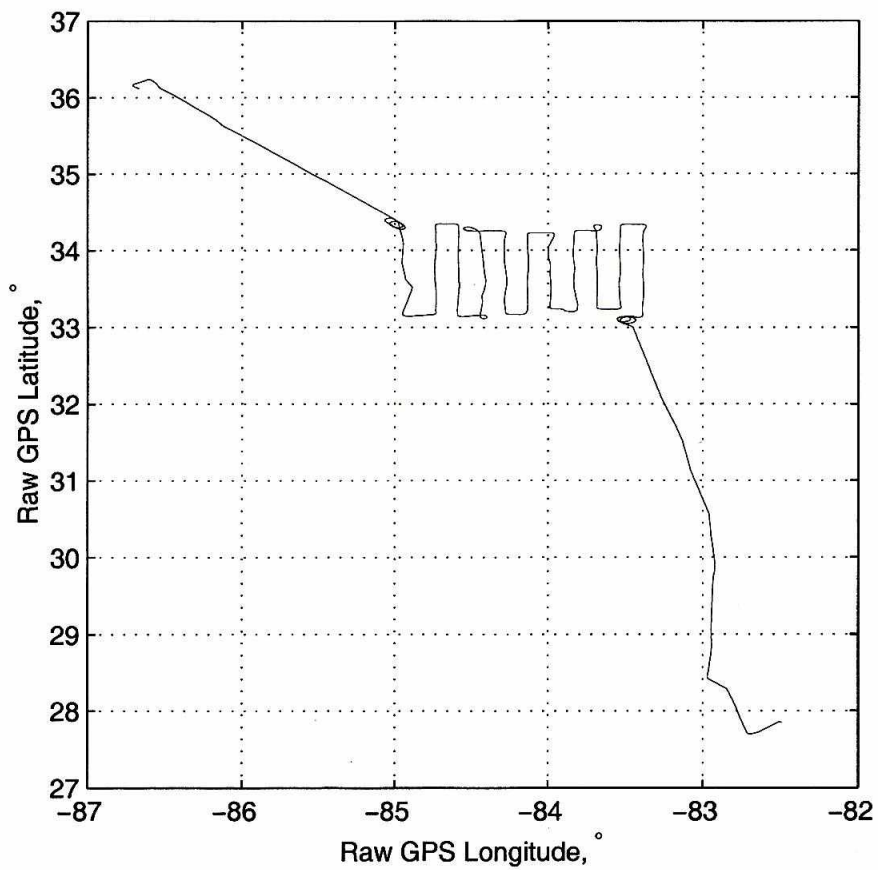
- ASSISTANCE DESIRED
- PILOT INTENTIONS

ENDURANCE REMAINING

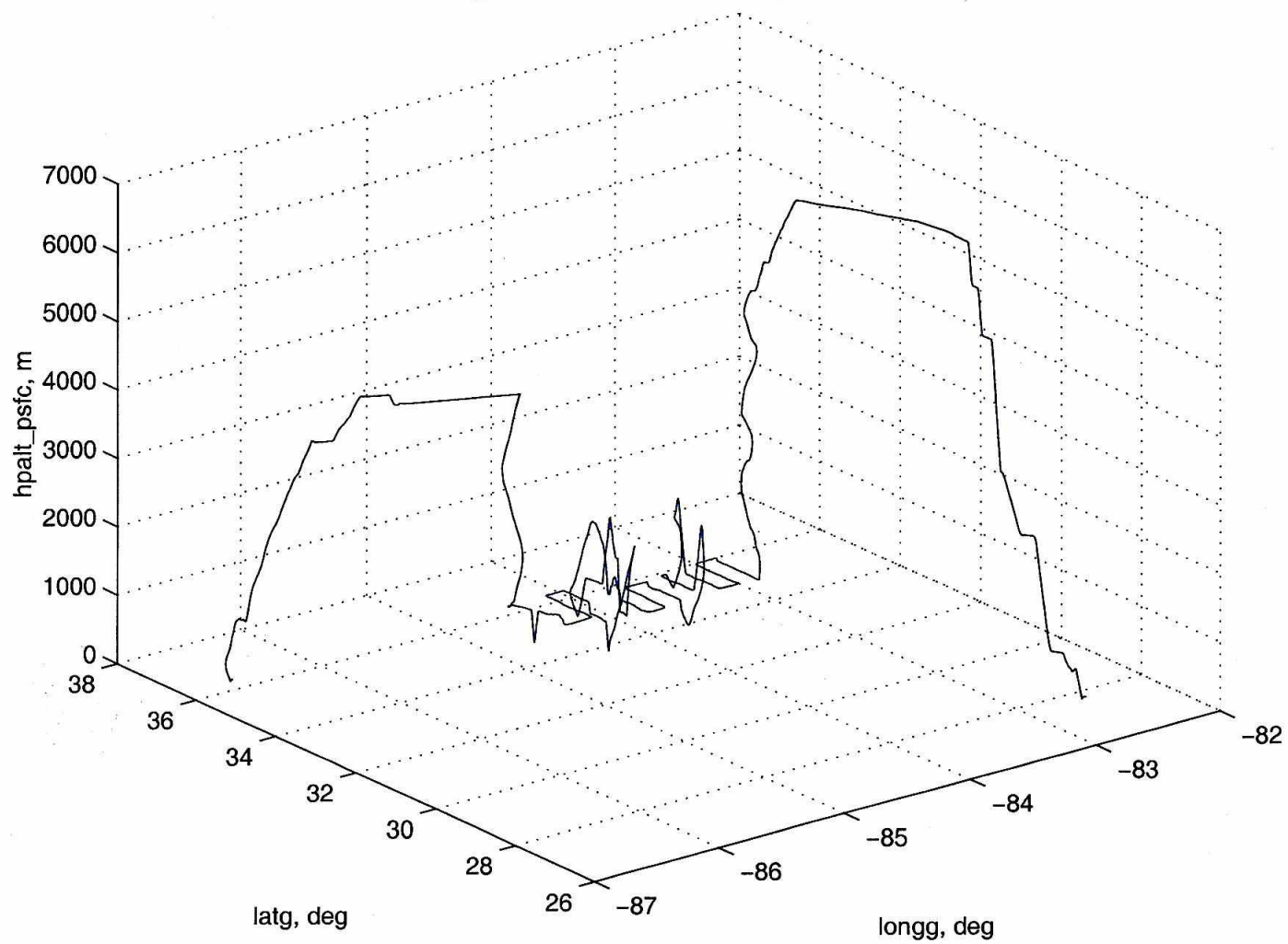
- WE HAVE _____ ENDURANCE REMAINING

[illegible]

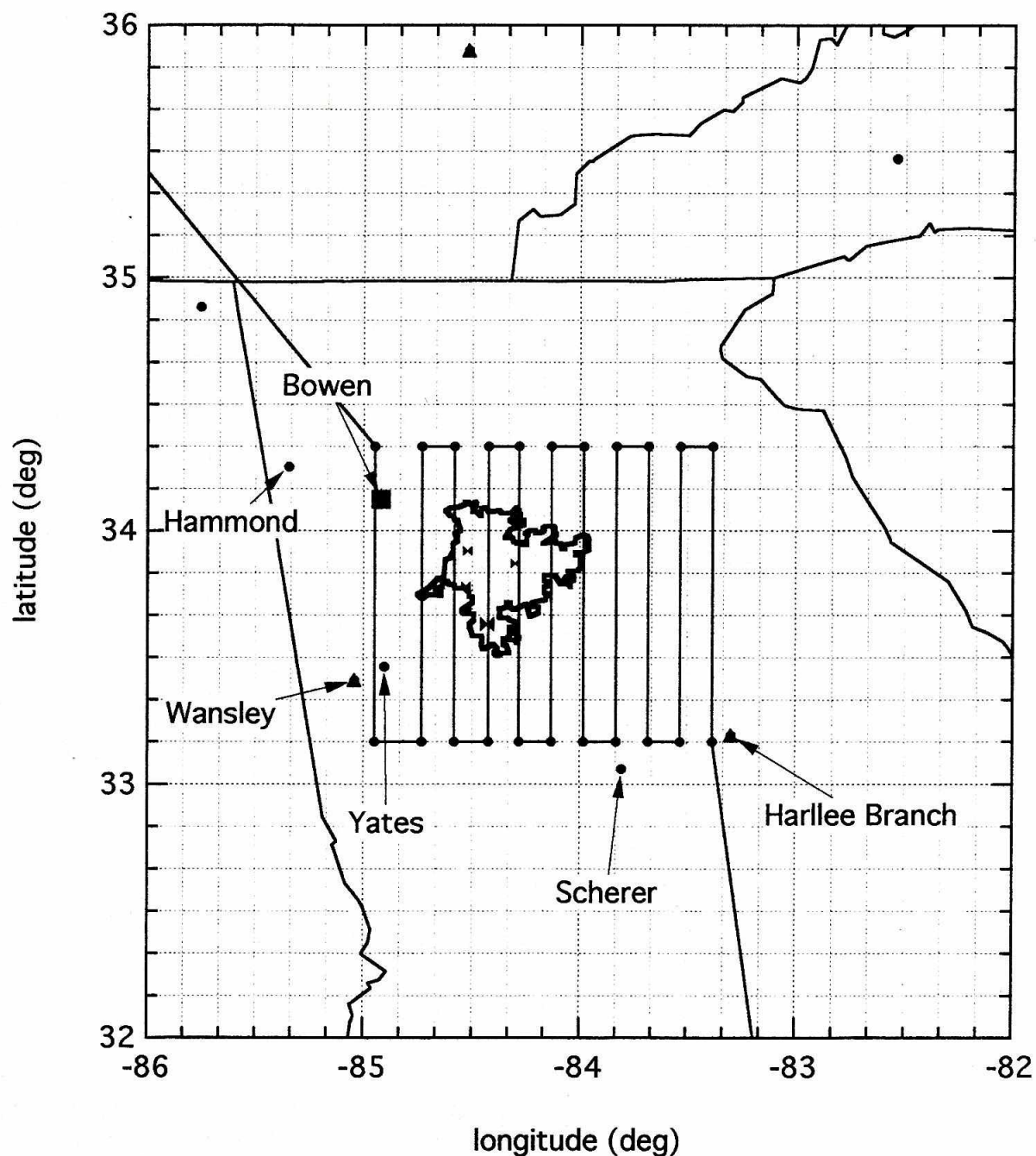
N43RF -- OZONE99 -- 19 July 1999 UTC



OZONE99 990719ls_P 15:43:11-22:20:40 UTC: 3-D FLIGHT TRACK 1/8



19 July 1999, Atlanta Urban Flight Pattern



approximately 1600 km, 4 hrs at 115 m/s

default flight altitude is within the PBL at approximately 1.5 kft - 2 kft AGL (~ 3 kft MSL)

Approach pattern from higher altitude, and climb out of PBL at the end of pattern.

In addition include profiles out of the PBL to about (7 kft MSL) after about 3 W-E flight legs.

The flight legs are 130 km long (~20 min) and are 14 km apart.

19 July 1999
Transit from Nashville to Tampa via Atlanta

