

|                   |                    |                                        |
|-------------------|--------------------|----------------------------------------|
| FLT ID: 7950527   | FM: OKC            | TO: OKC                                |
| FLT NO: 95-044    | BLK IN: 0204Z      | ATA: 0158Z                             |
| ETD: 1900Z        | BLK OUT: 2220Z     | RTD: 2226Z                             |
| ETE:              | BLK TIME: 3:44     | FLT TIME: 3:32                         |
| SPONSOR ORG: NSSL | PROGRAM: VORTEX 95 | PURPOSE: PRE-CONVECTIVE NR EMPORIA, KS |

DAO PERSONNEL

|                     |                 |
|---------------------|-----------------|
| AC KENNEDY          | SYS ENG McMILAN |
| CP TENNESEN / OMARA | DATA SYS BARR   |
| NAV STRONG          | RADAR           |
| FE EAST             | BT/ODW          |
| RADIO SANS SUCI     | CLD PHYS        |
| FD D. AMIANO        | DOPPLER         |

PARTICIPATING SCIENTIST/VISITORS/DAO

| LAST, FIRST NAME | ACTIVITY ON A/C | AFFILIATION              |
|------------------|-----------------|--------------------------|
| WATSON           | PI              | NSSC                     |
| ZIEGLER          | ASST. PI        | ↓                        |
| SHEPHERD         | RADAR           |                          |
| OVERPECK         | OBS             | STUDENT (U of CREIGHTON) |
| MARKOWSKI        | OBS             | STUDENT                  |
|                  |                 |                          |
|                  |                 |                          |

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

T/O delayed ~~to~~ til weather developed

Gerber LWC has .057 offset at T/O

DRY LINE WORK OVER EMPORIA

96°34'      95°25'

BIG BUST FOLKS

235000Z Broke off Dry line work to head for cells ESE of position

59-

0202Z

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

FLT ID: I950527

TIME OFF: 2226Z

TIME ON: 0158Z

|          | A/C T/O | WX STN | A/C LAND | WX STN |
|----------|---------|--------|----------|--------|
| PRESSURE | 959.3   |        | 962.6    |        |

NO

DATA DISPOSITION/DATE/QUALITY

1/SEC FLT LVL TAPES

1

FAST FLT LVL TAPES

1

RADAR TAPES

2

DOPPLER TAPES

ODW CASSETTES

HARD COPIES

PMS

AXBT

AXCP

ODW

## PHOTOGRAPHY

|      | FWD | LS | RS | VERT |  |
|------|-----|----|----|------|--|
| ON   |     |    |    |      |  |
| OFF  |     |    |    |      |  |
| RATE |     |    |    |      |  |

REMARKS

## NOAA • AOC • SED Flight Performance Log

22 March 95

Aircraft : N43RF

Project: VORTEX • ARM '95

Mission : VORTEX 95SED Crew: Barr, McMillanFlight ID : 950527IPre-Flight: 1742Take-Off: 22:26:04Landing: 01:58:16

|        | System                            | Pre-Flight     | In-Flight | Post-Flight            |
|--------|-----------------------------------|----------------|-----------|------------------------|
| NAV    | INE #1 1742 Aligned to : 5        | STM ✓          | STM ✓     | +3.9 - .5 2            |
|        | INE #2 1742 Aligned to : 0        | STM ✓          | STM ✓     | -3.8 +3.4 5            |
|        | GPS 1742                          | STM ✓          | STM ✓     | Lat Long GS            |
| RADAR  | Nose                              | JMB            |           |                        |
|        | L/F R/T SN : 124                  | JMB            |           | Mod Switch Off ? ✓ JMB |
|        | Tail R&T SN : 201 / 202           | JMB            |           | Mod Switch Off ? ✓ JMB |
|        | ASAU's & RCU                      | JMB            |           |                        |
|        | MARS Data System                  | JMB (18)       |           | # DATs : 2             |
| PMS    | 2DG-C Ch 1/64: 1                  | JMB            | STM ✓     |                        |
|        | 2DG-P Ch 1/64: 1                  | JMB            | STM ✓     |                        |
|        | FSSP Ref VDC:                     | JMB            | STM ✓     |                        |
|        | SEA Data System 201 / 202         | JMB            | STM ✓     | # DATs : 1             |
| TEMP   | Cal High Cal Low                  | ///            | ///       | Cal High Cal Low       |
|        | Temp #1 +30.6 -30.3               | +25.6          | STM ✓     | +31. -29.9             |
|        | Temp #2 +30.5 -30.4               | +25.3          | STM ✓     | +30.8 -30.0            |
|        | Temp #3 (Starboard)               | +26.2          | STM ✓     |                        |
|        | Dewpoint #1                       | STM ✓          |           |                        |
|        | Dewpoint #2                       | STM ✓          |           |                        |
| PRESS  | Attack Angle (AP/DAP)             | STM ✓          | STM ✓     |                        |
|        | Slip Angle (BP/DBP)               | STM ✓          | STM ✓     |                        |
|        | Differential (PQ1/PQ2/PQ3)        | STM ✓          | STM ✓     |                        |
|        | Absolute (PS1/PS2)                | STM ✓          | STM ✓     |                        |
|        | Radome Transducers                | Plugs Out (?)  |           |                        |
| FLTLVL | Apn-159 SN: 66-024                | JMB            | STM ✓     |                        |
|        | Apn-232 SN: 1699                  | JMB            | STM ✓     |                        |
|        | King Liquid Water                 | N/A            | N/A       |                        |
|        | J&W Liquid Water                  | DL ✓           | STM ✓     |                        |
|        | Down PRT-5 (SST)                  | STM ✓          | STM ✓     |                        |
|        | Side PRT-5 (CO <sup>2</sup> )     | STM ✓          | STM ✓     |                        |
|        | Up PRT-5                          | Open (?) STM ✓ | STM ✓     | Closed ? JMB ✓         |
|        | RAMS Data System                  | STM ✓          | STM ✓     | # DATs : 2             |
| USE    | Exterior Walk Around              | DL ✓           | N/A       |                        |
|        | Video (N) (L) (R) D               | STM ✓          | STM ✓     |                        |
|        | FCU -A-B-C-                       | STM ✓          | STM ✓     |                        |
| USE    | Charge Probe                      | N/A            | N/A       | Accelerometers         |
|        | Gerber Liquid Water               | STM ✓          | STM ✓     | #1 (2 G) :             |
|        | Field Mills (L) (R) U D           | STM ✓          | (2) (4)   | #2 (2.5 G) :           |
|        | ETL Dual-Channel uWave Radiometer | DL             |           | #3 (3 G) :             |
|        | Eppl Radiometers (PSP / PIR)      |                | STM ✓     | #4 (3.5 G) :           |
|        | 2 Meter Repeater / Duplexer       | STM ✓          | STM ✓     |                        |
|        | Cappiccuno Machine                | N/A            | N/A       |                        |

Please Note any Discrepancies

[illegible]



UNITED STATES DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
Rockville, MD 20852-3019

OFFICE OF NOAA CORPS OPERATIONS

Aircraft Operations Center  
P.O. Box 6829  
Tampa, Florida 33608-0829

MEMORANDUM FOR: DR. ROBERT MADDOX, DIRECTOR NSSL

FROM: CAPT George C. Player III, NOAA  
Acting Director, Aircraft Operations Center

SUBJECT: Hazard Duty Flight

The mission flown on AOC aircraft # N43RF on 5/27/95 has been declared hazardous. The following personnel from your laboratory participated in this mission.

WATSON  
ZIEGLER  
SHEPHERD

For purposes of computing allowable hazard duty time, the hazard period during this mission was from 5:30 pm local time on 5/27/95 until 9 pm on 5/27/95.



I 950527

NO DATA GAPS

RENAV INE2

230200, ~~+1.8~~, ~~+1.3~~ -4, .6

000200, ~~+1.5~~, ~~+1.2~~ -2.5, .7

010200, ~~+2.6~~, ~~+1.3~~ -4.7, 1.2 ~~3.9~~

98, 93

020200, ~~3.8~~, ~~-1.6~~ -3.7, 3.3

RA159 fix at T/O

RA159=RA232

W7 clock

0158 - 0202

004130

ISTN

VORTEX95/ARM95  
-----

FLIGHT #22 I950527 (VORTEX, The we can't make up our minds so let's waste big bucks and spoil my Saturday evening flight.)

| TYPE OF DATA<br>-----                          | SENSOR OR OPTION<br>----- |
|------------------------------------------------|---------------------------|
| INE                                            | 2                         |
| Accelerometer                                  | 2                         |
| Temperature probe                              | 1                         |
| Altitude change option<br>(for vertical winds) | PA                        |
| Static pressure                                | Rosemount fuselage        |
| Dynamic pressure                               | Rosemount fuselage        |
| Time source                                    | Micro 99                  |
| Constants file                                 | CO3956.CON                |

Notes:

There were no time/data gaps.

The King Liquid water probe was not operational.

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<br>----- | Landing<br>----- |
|--------------------------|------------------|------------------|
| Aircraft static pressure | 959.3mb          | 962.6mb          |
| Corrected tower pressure | N/A              | N/A              |

Flight Meteorologist: A. Barry Damiano, (813) 828-3310 ext. 3073

I950527

| TIME   | LAT   | LONG | TRK  | HD   | WD  | WS    | PA   | GA   | TD   | TD   | PS | PS    |         |         | PA   |
|--------|-------|------|------|------|-----|-------|------|------|------|------|----|-------|---------|---------|------|
| 222900 | 3522  | 9740 | 4    | 358  | 243 | 29    | 1666 | 1280 | 14.1 | 9.7  | -  | 820.0 | SCT     | CLD     | 61.5 |
| 223400 | 3542  | 9736 | 354  | 342  | 248 | 39    | 3116 | 2836 | 4.7  | -5.8 | -  | 691.2 | SCT     | CLD     | 67.5 |
| 224200 | 3614  | 9745 | 346  | 339  | 260 | 35    | 3124 | 2842 | 2.4  | .1   | -  | 690.2 | TCU     |         | 66.7 |
| 225400 | 3658  | 9727 | 38   | 34   | 254 | 40    | 3115 | 2826 | 2.6  | -2.0 | -  | 689.9 | SCT     | CU      | 68.7 |
| 230000 | 3721  | 9704 | 37   | 34   | 242 | 42    | 3117 | 2799 | 3.2  | -3.7 | -  | 690.9 | SCT     | CU      | 66.5 |
| 230600 | 3742  | 9643 | 37   | 34   | 237 | 46    | 3118 | 2705 | 1.8  | -2.7 | -  | 691.2 | SCT     | CLD     | 67.9 |
| 230900 | DESC  | END  | TO   | 500  | FT  |       |      |      |      |      |    |       |         |         |      |
| 231600 | 3820  | 9636 | 344  | 335  | 235 | 38    | 627  | 180  | 23.4 | 11.5 | -  | 940.9 | CLD     | ARV     | 70.0 |
| 231800 | 3825  | 9627 |      |      | 228 | 34    |      |      | 23.5 | 11.6 | -  | 940.9 | E BOUND | W 570.0 |      |
| 232200 | 3825  | 9607 | 88   | 96   | 216 | 33    | 606  | 165  | 23.3 | 15.0 | -  | 942.6 | E BOUND |         |      |
| 232700 | 3825  | 9543 | 89   | 96   | 212 | 30    | 607  | 206  | 23.7 | 15.2 | -  | 945.1 | E BOUND |         |      |
| 233100 | end   | 500  | ft   | leg  |     |       |      |      |      |      |    |       |         |         |      |
| 233300 | start | 3000 | ft   | leg  | W   | (2.6  | KFT) |      |      |      |    |       |         |         |      |
| 233400 | 3826  | 9531 | 269  | 264  | 222 | 36    | 1195 | 791  | 18.2 | 11.7 | -  | 878.4 | W BOUND |         |      |
| 233800 | 3826  | 9546 | 270  | 265  | 222 | 36    | 1193 | 791  | 17.7 | 12.3 | -  | 878.0 | W BOUND |         |      |
| 234300 | 3826  | 9607 | 269  | 264  | 234 | 33    | 1194 | 800  | 17.9 | 10.3 | -  | 878.2 | W BOUND |         |      |
| 234700 | 3826  | 9623 | 266  | 266  | 253 | 35    | 1193 | 771  | 16.8 | 10.5 | -  | 878.2 | W BOUND |         |      |
| 235000 | end   | 3000 | ft   | leg  |     |       |      |      |      |      |    |       |         |         |      |
| 235800 | 3808  | 9605 | 121  | 131  | 240 | 42    | 3629 | 3320 | -2   | -5.8 | -  | 647.0 | TCU     |         | 61.4 |
| 000400 | 3757  | 9536 | 99   | 109  | 231 | 50    | 3627 | 3326 | -1   | -6.1 | -  | 647.0 | TCU     |         | 64.9 |
| 001000 | 3751  | 9505 | 110  | 119  | 235 | 40    | 2819 | 2505 | 7.3  | -1.3 | -  | 719.0 | TCU     |         | 58.7 |
| 001400 | 3741  | 9451 | 165  | 174  | 234 | 34    | 2388 | 2116 | 9.0  | 3.9  | -  | 757.3 | TCU     |         | 64.0 |
| 001800 | 3727  | 9446 | 199  | 206  | 224 | 45    | 3656 | 3468 | 1.0  | -8.4 | -  | 639.7 | TCU     | LNE     | 62.5 |
| 003340 | 3724  | 9447 | 234  | 231  | 204 | 28    | 470  | 660  | 20.3 | 12.3 | -  | 902.1 | CLD     | LNE     | 68.8 |
| 003730 | 3718  | 9400 | 236  | 232  | 207 | 29    | 470  | 575  | 21.0 | 17.3 | -  | 902.0 | CLD     | LNE     | 64.2 |
| 004100 | 3712  | 9411 | 235  | 232  | 214 | 40    | 473  | 606  | 20.2 | 18.3 | -  | 901.1 | CLD     | LNE     | 71.2 |
| 004300 | 3711  | 9409 | 51   | 56   | 213 | 39    | 468  | 595  | 20.8 | 17.3 | -  | 902.0 | CLD     | LNE     | 70.6 |
| 004600 | 3720  | 9355 | 50   | 55   | 205 | 36    | 472  | 616  | 20.8 | 17.7 | -  | 901.7 | CLD     | LNE     | 69.1 |
| 004830 | 3720  | 9351 | 235  | 231  | 203 | 38    | 470  | 604  | 20.8 | 17.6 | -  | 902.2 | CLD     | LNE     | 72.5 |
| 005120 | 3715  | 9400 | 235  | 231  | 206 | 38    | 471  | 585  | 20.8 | 16.9 | -  | 901.8 | CLD     | LNE     | 68.9 |
| 005240 | end   | old  | line | work | (go | home) |      |      |      |      |    |       |         |         |      |
| 010000 | 3657  | 9418 | 242  | 242  | 234 | 43    | 3134 | 2831 | 5.4  | -8.8 | -  | 691.0 |         |         | 71.3 |
| 011500 | 3630  | 9509 | 235  | 239  | 255 | 41    | 3107 | 2951 | 3.0  | 4.2  | -  | 691.8 | IN      | CLD     | 74.3 |
| 012100 | 3621  | 9530 | 242  | 244  | 245 | 44    | 3124 | 2975 | 4.7  | -6.3 | -  | 689.9 | CLR     |         | 64.0 |
| 012900 | 3609  | 9558 | 241  | 244  | 257 | 34    | 3124 | 2989 | 3.8  | -4.7 | -  | 690.0 | CLR     |         | 74.6 |
| 013900 | 3552  | 9638 | 242  | 244  | 253 | 28    | 3102 | 2876 | 3.3  | 2.0  | -  | 692.3 | CLR     |         | 75.6 |

DATE : 5/27/95  
TO : Chief, AOC Flight Operations  
FROM : Pilot/Flight Director, Aircraft N43RF ON 0204Z BLOCKTIME  
SUBJECT: Hazardous Duty OFF 2220Z 3:44

PURPOSE OF FLIGHT: VORTEX95 PROJECT

Hazardous Duty Pay is required for flight made on 5/27/95  
(DATE)

Request based on FLYING AROUND THUNDERSTORMS

Personnel on board authorized Hazard Pay:

|                   |  |
|-------------------|--|
| <u>BAST</u>       |  |
| <u>DAMIANO</u>    |  |
| <u>BARR</u>       |  |
| <u>MCMILLAN</u>   |  |
| <u>SANS SOUCE</u> |  |
|                   |  |
|                   |  |
|                   |  |
|                   |  |

PILOT/FLIGHT DIRECTOR: A. Barry Damiano

APPROVED: \_\_\_\_\_ DISAPPROVED: \_\_\_\_\_

CHIEF, AOC FLIGHT OPERATIONS: \_\_\_\_\_



| INS PERFORMANCE       |  | INS 1 | INS 2 |
|-----------------------|--|-------|-------|
| BEGIN ALIGN<br>TIME   |  | 1742  | 1742  |
| ALIGN<br>STATUS (0-5) |  | 5     | 0     |
| END NAV<br>TIME       |  | 0205  | 0205  |
| START NAV<br>TIME     |  | 2245  | 2245  |
| DELTA T               |  | 3450  | 3450  |

| TERMINAL ERRORS |       |       |
|-----------------|-------|-------|
|                 | INS 1 | INS 2 |
| DELTA LAT       | +3.9  | -3.8  |
| DELTA LON       | -1.5  | +3.4  |
| RCS             | 2     | 5     |
| RADIAL ERROR    | 4     | 5.    |

[illegible]