

19980829H1-FDIR

## Hurricane Danielle VME

Flight #7 H980829

| <u>Sensor or system</u>      | <u>Number or Name</u> |
|------------------------------|-----------------------|
| INE                          | 1                     |
| Accelerometer                | 1                     |
| Temperature Probe            | 2                     |
| Dew Point Probe              | 1                     |
| Altitude (for vertical wind) | RA-159                |
| Static Pressure              | Rosemount Fuselage    |
| Dynamic Pressure             | Rosemount Fuselage    |
| Time Source                  | Micro 99              |
| Constants File               | CO2989.CON            |

### Notes:

The radar altimeter (RA159) had a spike at takeoff and was replaced by RA232 from 1832:01-1835:26. A dip in RA159 was replaced by RAGPS from 1837:20-1837:30. Several spikes in RA159 were removed and patched throughout the flight (0225:31-0226:00, 0111:01-0112:00 and 0206:01-00206:30). A spike also occurred at landing and was replaced by RA232 (0335:48-0342:00).

Dynamic attack pressure (DAP) and dynamic slip pressure (DBP) had over-exaggerated readings due to possible leak in line during and shortly after times of precipitation. During these times frames, both DAP and DBP were replaced by PQF1 (dynamic pressure) with the appropriate offset. DAP replacements: 2005:53-2141:58 offset (-0.9), 2220:28-2248:03 offset (-0.75), 2350:00-0026:03 offset (-0.9), and 0035:06-0203:48 offset (-0.9). DBP replacements: 2005:50-2011:00 offset (+5.5), 2022:14-2029:38 offset (+5.4), 2035:50-2150:26 offset (+5.3), 2220:00-2341:40 offset (5.0) and 2359:00-0201:15 offset (+5.5).

Total temperature (TT2) had several spikes that were replaced by TT1 or TT3 with offsets: 2059:30-2100:30 offset TT1+0.55, 2120:35-2121:05 offset TT1+0.55, 2230:10-2230:30 offset TT1+0.45, 2326:50-2327:10 offset TT3+2.5, and 0036:48-0037:11 offset TT1+0.55.

Dewpointer #1 (DW1) had a spike due to overheating removed and patched 0325:00-0327:00. DW1 may be erroneous due to sensor freezing 0317:00-0325:00. Dewpoint temperature (DW1) exceeded ambient temperature (AT2) several times due to heavy precipitation.

|                          | <u>Takeoff</u> | <u>Landing</u> |
|--------------------------|----------------|----------------|
| Aircraft static pressure | 1014.9         | 1015.2         |
| Corrected tower pressure | 1015.2         | n/a            |

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

[illegible]

OF

**FIX TYPES**  
(G) - GPS (I) - INS (R) - RADIO (V) - VISUAL (C) - CELESTIAL (D) - DR

**FIX TYPES**  
(G) - GPS (I) - INS (R) - RADIO (V) - VISUAL (C) - CELESTIAL (D) - DR

| SITION | K ERR | INS 2 POSITION | K ERR | MH | VAR<br>+E==> | TH | DR<br>+R==> | TRK | GS | WD | WS | ALT | TAS | NEXT<br>PT | DIST | TIME | ETA | REMARKS |
|--------|-------|----------------|-------|----|--------------|----|-------------|-----|----|----|----|-----|-----|------------|------|------|-----|---------|
| 25.7   | 11.1  | 2602.0         | -22.2 |    |              |    |             |     |    |    |    |     |     |            |      |      |     | LAND    |
| 29     | 48.4  | 8410.9         | +5.4  |    |              |    |             |     |    |    |    |     |     |            |      |      |     | BLOCKED |
|        |       | 9              |       |    |              |    |             |     |    |    |    |     |     |            |      |      |     |         |









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[illegible]

U.S. DEPT. COMM./NORAD/OAO - DATA SECTION WORK FORM NO. 1 OAO WF1 FILE

|                  |                      |                              |
|------------------|----------------------|------------------------------|
| FLT ID: 980829H  | FM: KMCF/KOPF        | TO: KOPF/KOPF                |
| FLT NO: 98-072   | BLK IN: 1459Z/0348Z  | ATA: 1456Z/0348Z             |
| ETD: 1400Z/1830Z | BLK OUT: 1352Z/1828Z | RTD: 1404Z/1835Z             |
| ETE: 1500Z/0400Z | BLK TIME: 10.25 10.4 | FLT TIME: 9.58 10.0          |
| SPONSOR ORG: HRD | PROGRAM:             | PURPOSE: VME. HARR. DANIELLE |

OAO PERSONNEL

|                             |                                  |
|-----------------------------|----------------------------------|
| AC PHILIPPSBOAN, R ✓        | SYS ENG McMillan, J ✓            |
| CP TENNESON, D / Ompao, T ✓ | DATA SYS                         |
| NAV RATHBUN, D -            | RADAR BARR, J ✓                  |
| FE BAST, G / TORREY, R      | BT/ODW SMITH, J ✓                |
| RADIO ROGERS, M ✓           | CLD PHYS                         |
| FD CZ424K, J ✓              | DOPPLER CURRY, J / McFADDEN, J ✓ |

PARTICIPATING SCIENTIST/VISITORS/OAO

| LAST, FIRST NAME | ACTIVITY ON A/C | AFFILIATION         |
|------------------|-----------------|---------------------|
| GAMACHE, J ✓     |                 | HRD                 |
| BLACK, M ✓       |                 | "                   |
| DODGE, P ✓       |                 | "                   |
| WILCOUGHBY ✓     |                 | "                   |
| GALL, B ✓        |                 | NEAR                |
| SMITH, R ✓       |                 | GERMANY U OF MUNICH |
| HARRISON, C ✓    |                 | FOX NEWS            |
| POUTIVS, C ✓     |                 | FOX NEWS            |

PROPOSED/ACTUAL MISSION/REMARKS (RECCO, FIXES, STORM, PENET, NHOP #)  
 1419Z BALANCE DW#1  
 25.5N 71.0W

WX04A DANIELLE 20-22Z FIX  
 TEAL 29 @ 2330Z (JOHN TALBOT) OUT ST. CROIX (SK)  
 TTZ 1 DEGREE WARM  
 10 PENETRATIONS



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

FLT ID: 980829H

TIME OFF: 1404Z/1835Z TIME ON: 1456Z/10341Z

|          | A/C T/O       | WX STN      | A/C LAND | WX STN  |
|----------|---------------|-------------|----------|---------|
| PRESSURE | 1016.0/1014.9 | 31.03/29.98 |          | 30.01/7 |

NO DATA DISPOSITION/DATE/QUALITY

|                     |    |            |
|---------------------|----|------------|
| 1/SEC FLT LVL TAPES | 2  |            |
| FAST FLT LVL TAPES  |    |            |
| RADAR TAPES         |    |            |
| DOPPLER TAPES       |    |            |
| ODW CASSETTES       |    |            |
| HARD COPIES         |    |            |
|                     |    |            |
|                     |    |            |
|                     |    |            |
|                     |    |            |
| AXDT                | 16 |            |
| AXCP                |    |            |
| ODW                 |    |            |
| GPS                 | 24 | 20 km. TIR |

PHOTOGRAPHY

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

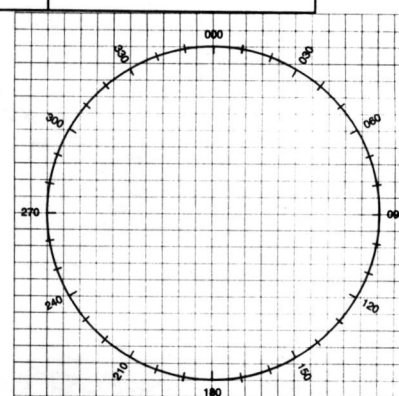
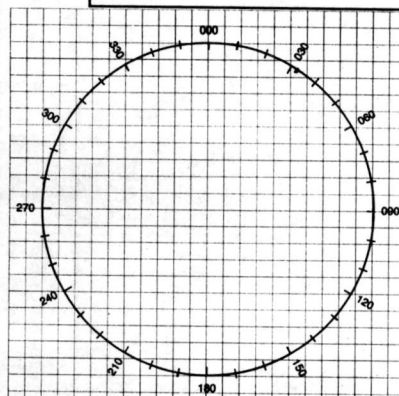
REMARKS

1330 7030

| CLEARANCES |     |     |                           |
|------------|-----|-----|---------------------------|
| FREQ       | ALT | HGD | OTHER                     |
| 7170       |     |     | PAIRS <sup>4</sup> RSW V7 |
| 71W        |     |     | KURIC R901F               |
|            |     |     | 17201.06KCH DANT S        |
|            |     |     | 17111.6 2532471V 100NM    |
|            |     |     | 17111.6 2532471V 100NM    |
|            |     |     | 17162 2522N 7023W         |
|            |     |     | P5TNAUC 310/14            |

MISSION LOG

PAGE \_\_\_\_ OF \_\_\_\_



POSITION REPORT

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

TRANSMIT F  
FREQUENCY  
ANY OF THE

UHF/VOIC  
243.0

MAYDAY,  
THIS IS NC

- POSITION

- HEADING

- AT

- FLIGHT I

- WE ARE

- NATURE

- ASSISTA

- PILOT IN

- WE HAVI

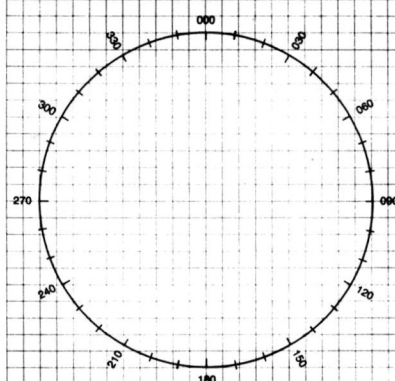
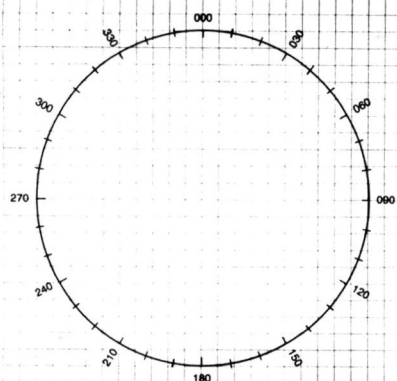
| TIME | FIX TYPE | POSITION         | INS 1 POSITION   | K ERR        | INS 2 POSITION   | K ERR        | MH | VAR<br>+E==> | TH  | DR<br>+R==> | TRK | GS  | WD  | WS | ALT | TAS | NEXT PT | DIST |
|------|----------|------------------|------------------|--------------|------------------|--------------|----|--------------|-----|-------------|-----|-----|-----|----|-----|-----|---------|------|
| 1347 |          |                  |                  |              |                  |              |    |              |     |             |     |     |     |    |     |     |         |      |
| 1352 |          |                  |                  |              |                  |              |    |              |     |             |     |     |     |    |     |     |         |      |
| 1402 |          |                  |                  |              |                  |              |    |              |     |             |     |     |     |    |     |     |         |      |
| 1423 | Fix      | 2658.3<br>8202.8 | 2658.5<br>8202.7 | -0.2<br>+0.1 | 2658.4<br>8202.7 | -0.1<br>+0.1 |    |              | 128 | 2R          | 130 | 260 | 092 | 15 | 16K | 273 |         |      |
| 1456 |          |                  |                  |              |                  |              |    |              |     |             |     |     |     |    |     |     |         |      |
| 1459 |          |                  |                  |              |                  |              |    |              |     |             |     |     |     |    |     |     |         |      |
| 1523 |          |                  |                  |              |                  |              |    |              |     |             |     |     |     |    |     |     |         |      |
| 1533 |          |                  |                  |              |                  |              |    |              |     |             |     |     |     |    |     |     |         |      |
| 1534 |          |                  |                  |              |                  |              |    |              |     |             |     |     |     |    |     |     |         |      |
| 1923 |          | 2558.5<br>7637.5 | 2559.2<br>7636.8 | -0.8<br>+0.7 | 2559.2<br>7637.2 | -0.7<br>+0.3 |    |              |     |             |     |     |     |    |     |     |         |      |
| 2017 |          | 2615<br>7223.5   | 2616.3<br>7222.7 | -1.3<br>+0.8 | 2616.2<br>7223.1 | -1.2<br>+0.4 |    |              | 092 | 1L          | 091 | 281 | 234 | 5  | 17K | 279 |         |      |
| 2043 | Fix      | 2540.6<br>7053.2 | 2542.6<br>7051.7 | -2.0<br>+1.5 | 2542.5<br>7052.5 | -1.9<br>+0.7 |    |              | 117 | 6R          | 118 | 248 | 024 | 27 | 12K | 251 |         |      |
| 2120 | Fix      | 2541.0<br>7058.3 | 2543.1<br>7057.0 | -2.1<br>+1.3 | 2543.1<br>7058.3 | -2.1<br>0    |    |              | 128 | 112         | 117 | 228 | 197 | 41 | 12K | 239 |         |      |
| 2219 | Fix      | 2547.3<br>7104.8 | 2549.8<br>7102.1 | -2.5<br>+2.7 | 2550.3<br>7103.2 | -3.0<br>+1.6 |    |              | 219 | 8L          | 211 | 227 | 286 | 31 | 12K | 238 |         |      |
| 2259 | Fix      | 2547.2<br>7114.1 | 2549.9<br>7112.0 | -2.7<br>+2.1 | 2550.7<br>7114.1 | -3.5<br>0    |    |              | 104 | 14L         | 090 | 246 | 179 | 53 | 12K | 246 |         |      |
| 2337 | Fix      | 2553.8<br>7119.6 | 2556.2<br>7116.3 | -2.4<br>+3.3 | 2558.1<br>7117.0 | -4.3<br>+2.6 |    |              | 189 | 7L          | 182 | 266 | 284 | 33 | 12K | 242 |         |      |
| 0037 | Fix      | 2540.0<br>7116.5 | 2542.0<br>7113.9 | -2.0<br>+2.6 | 2545.0<br>7114.5 | -5.0<br>+2.0 |    |              | 779 | 11L         | 268 | 253 | 017 | 45 | 12K | 243 |         |      |
| 0115 |          | 2601.0<br>7131.2 | 2601.9<br>7126.8 | -0.9<br>+4.4 | 2607.2<br>7128.1 | -6.2<br>+3.1 |    |              | 155 | 10L         | 145 | 251 | 247 | 40 | 12K | 251 |         |      |
| 0147 |          | 2604.2<br>7133.0 | 2605.2<br>7129.0 | -1.0<br>+4.0 | 2611.1<br>7131.2 | -6.9<br>+1.8 |    |              | 248 | 7L          | 241 | 773 | 357 | 32 | 12K | 267 |         |      |
| 0159 |          | 2644.3<br>7211.9 | 2644.9<br>7207.5 | -0.6<br>+4.4 | 2650.8<br>7209.1 | -6.5<br>+2.8 |    |              | 333 | 8L          | 325 | 260 | 060 | 35 | 12K | 249 |         |      |
| 0255 |          | 2555.9<br>7703.5 | 2555.9<br>7659.0 | 0<br>+4.5    | 2604.0<br>7700.7 | -8.1<br>+2.8 |    |              | 204 | 6R          | 206 | 299 | 065 | 53 | 22K | 258 |         |      |
|      |          |                  |                  |              |                  |              |    |              | 274 | 1L          | 273 | 318 | 090 | 12 | 22K | 304 |         |      |

0023 25516 25556

2250 25013

2073 2073

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## 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  
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      | K ERR        | INS 2 POSITION    | K ERR        | MH | VAR<br>+E==> | TH  | DR<br>+R==> | TRK | GS  | WD  | WS | ALT | TAS | NEXT<br>PT | DIST | TIME | ETA | REMARKS                            |
|---------------|--------------|-------------------|--------------|----|--------------|-----|-------------|-----|-----|-----|----|-----|-----|------------|------|------|-----|------------------------------------|
|               |              |                   |              |    |              |     |             |     |     |     |    |     |     |            |      |      |     | ENG START<br>BLOCK OUT<br>TAKE OFF |
| 58.5<br>02.4  | -1.2<br>+1.1 | 26.58.4<br>8207.7 | -1.1<br>+1.1 |    |              | 128 | 2R          | 130 | 260 | 092 | 15 | 16K | 273 |            |      |      |     |                                    |
|               |              |                   |              |    |              |     |             |     |     |     |    |     |     |            |      |      |     | LAND<br>BLOCK OUT<br>TAKE OFF      |
| 59.2<br>36.8  | -1.8<br>+1.7 | 25.59.2<br>7637.2 | -1.7<br>+1.3 |    |              | 092 | 1L          | 091 | 281 | 234 | 5  | 17K | 279 |            |      |      |     |                                    |
| 616.3<br>22.7 | -1.3<br>+1.8 | 26.16.2<br>7723.1 | -1.2<br>+1.4 |    |              | 117 | 6R          | 118 | 248 | 024 | 27 | 12K | 251 |            |      |      |     |                                    |
| 42.6<br>51.7  | -2.0<br>+1.5 | 25.42.5<br>7052.5 | -1.9<br>+1.7 |    |              | 128 | 112         | 117 | 228 | 197 | 41 | 12K | 239 |            |      |      |     | 2544 N<br>7052 W 20                |
| 43.1<br>057.0 | -2.1<br>+1.3 | 25.43.1<br>7059.3 | -2.1<br>0    |    |              | 219 | 8L          | 211 | 227 | 286 | 31 | 12K | 238 |            |      |      |     | 2543 N<br>7101 W                   |
| 44.8<br>07.1  | -2.5<br>+2.2 | 25.50.3<br>7103.2 | -3.0<br>+1.6 |    |              | 101 | 14L         | 000 | 246 | 179 | 53 | 12K | 246 |            |      |      |     | 2545<br>7105                       |
| 49.9<br>17.0  | -2.7<br>+2.1 | 25.50.7<br>7114.1 | -3.5<br>0    |    |              | 189 | 7L          | 182 | 266 | 284 | 33 | 12K | 242 |            |      |      |     |                                    |
| 56.2<br>10.2  | -2.4<br>+3.3 | 25.58.1<br>7117.0 | -4.3<br>+2.6 |    |              | 779 | 1L          | 268 | 253 | 017 | 45 | 12K | 243 |            |      |      |     | 2551 N<br>7119 W                   |
| 47.0<br>12.9  | -2.0<br>+3.6 | 25.45.0<br>7114.5 | -5.0<br>+2.0 |    |              | 155 | 10L         | 145 | 251 | 247 | 40 | 12K | 251 |            |      |      |     |                                    |
| 01.0<br>20.8  | -1.9<br>+4.4 | 26.07.2<br>7125.1 | -6.2<br>+3.1 |    |              | 248 | 7L          | 241 | 273 | 357 | 32 | 12K | 267 |            |      |      |     | 2558<br>7130                       |
| 05.2<br>29.0  | -1.0<br>+4.0 | 26.11.1<br>7131.2 | -6.9<br>+1.8 |    |              | 333 | 8L          | 325 | 260 | 060 | 35 | 12K | 249 |            |      |      |     |                                    |
| 08.0<br>07.0  | -1.6<br>+0.1 | 26.08.2<br>7130.1 | -6.5<br>+2.8 |    |              | 200 | 6R          | 205 | 299 | 065 | 50 | 22K | 258 |            |      |      |     | DROP                               |
| 55.9<br>59.0  | 0<br>+4.5    | 26.04.0<br>7700.7 | -8.1<br>+2.8 |    |              | 274 | 1L          | 273 | 318 | 090 | 12 | 22K | 304 |            |      |      |     |                                    |