



# NOAA P-3 N43RF

## Tropical Storm Ophelia Flight Two



### Flight ID: 050909I

#### 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 (Edgetech)  
Radar Altimeter 159  
Rosemount Fuselage  
Rosemount Fuselage 1281  
Micro 99  
CO3051.CON

#### Notes:

There were no time data/gaps during this flight.

Data from radar altimeter 232 was substituted in place of radar altimeter 159 from 104001Z-104515Z and from 191201Z-191500Z.

The difference in values between the dynamic attack pressure from the radome and the fuselage is greater than 20 mb. No corrections were made to the data.

There were numerous times during the flight where the dewpoint temperature exceeded ambient temperature resulting in RH>100%. This was likely due to rain, a wet-bulb effect on the total temperature sensor, and/or an artificial warming of the dewpoint sensor as it tried to burn off excess moisture. Edits to dewpoint sensor number two were made between 104940Z-105225Z to bring the relative humidity values below 120%.

The King Liquid Water sensor was not operating during this flight.

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.

|                          | <b>Takeoff</b> | <b>Landing</b> |
|--------------------------|----------------|----------------|
| Aircraft Static Pressure | 1011.2 mb      | 1011.5 mb      |
| Corrected Tower Pressure | 1010.2 mb      | 1009.5 mb      |

Flight Director: Martin Mayeaux (813) 828-3310 ext. 3086

**U.S. Dep't. of Commerce / NMAO / NOAA / Aircraft Operations Center**

|                         |                                 |                                 |
|-------------------------|---------------------------------|---------------------------------|
| FLT ID: 050909I         | From: Kncf                      | To: Kncf                        |
| Flt No: 05-054          | In: 1919 Z                      | On: 1912 Z                      |
| ETD: 1030 Z             | Out: 1029                       | Off: 1043                       |
| ETE: 9+00               | Blk Time: 8 + 50 (8.8) Hrs      | Flt Time: 8 + 29 (8.5) Hrs      |
| Sponsoring Org: NHC/HRO | Program: Recco Ophelia / Rainex | Purpose: Recco/IBS and Research |

**AOC Flight Crew**

|                                    |                    |
|------------------------------------|--------------------|
| Aircraft Commander: Tebeest        | Data System: Lynch |
| Co-Pilot: Silah ' Chay             | AVAPS: Tong        |
| Navigator: Siegel                  | System Engineer:   |
| Flight Eng: Floyd ' Klippel        | AA:                |
| Flight Director: Damiano ' Mayeaux | AA:                |
| Avionics: Sans Souci               | Crew Chief:        |

**Participating Scientists / Visitors**

| Name (Last, First) | Activity on Aircraft | Affiliation |
|--------------------|----------------------|-------------|
| Small, B           | PI                   | UW          |
| Alberson, S        | Sci                  | OLS HRO     |
| Dodge, P           | Sci                  | OLS HRO     |
| Rogers, R          | Sci                  | OLS HRO     |
| Walsh, E           | Sci                  | OLS         |
| Cory Kappenhagen   | Media                | ABC Orlando |
| Steve Barrett      | Media                | ABC Orlando |
|                    |                      |             |
|                    |                      |             |

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

Storm Name: Ophelia

Mission ID: N0993 0916A Ophelia

Down Radiometer shutter not opened at 1117Z

Recco Times: 3066 3030 7790 3031 1032

Fix # 3059 3024 7912

Fix Time 3001 304 79 29.9 79.6 29.4 79.5 28.9 79.0

2006 730 Begin Rainex 1430Z End Rainex 1615Z (See reverse for additional remarks) Begin Rainex 1709Z

**U.S. DEPT OF COMMERCE / NMAO / NOAA / AIRCRAFT OPERATIONS CENTER**

|                 |                                         |                      |               |                   |
|-----------------|-----------------------------------------|----------------------|---------------|-------------------|
| FLT ID: 050909Z | TIME OFF: 1043                          | Z                    | TIME ON: 1912 | Z                 |
|                 | A/C - Takeoff                           | WX Station - Takeoff | A/C - Land    | WX Station - Land |
| Pressure        | 2986                                    | 1010.2               | 2981.5        | 1009.5            |
| ATIS - Takeoff  | 0955Z 32014G14 KT 7sm RNDSD 28/22 A2986 |                      |               |                   |
| ATIS - Land     | 1755 23010G16KT 16sm 30/24 A2986        |                      |               |                   |

| Data Source               | Number | Data Disposition / Date / Quality                |
|---------------------------|--------|--------------------------------------------------|
| Flight Level Tapes        |        |                                                  |
| Radar Tapes               |        |                                                  |
| Cloud Physics Tapes / Cds |        |                                                  |
| Video Tapes               |        |                                                  |
|                           |        |                                                  |
| Dropsondes                | 31     | Good: 31 Bad: 0 Total: 31 10 NHC 1 Aoc 20 Rainex |
| AXBT                      | 4      |                                                  |
| AXCP                      |        |                                                  |
| AXCTD                     |        |                                                  |
| SONOBUOY                  |        |                                                  |

**REMARKS:**

Plan: 2741 8029  
 NHC - 9, 12Z, 15Z, 18Z. (29.0 79.2) Stationary or drifting NE. 5:59Z 990 mb  
 Strongest Fl Winds 66 Kts. Sfc. 56 Kts. 850 mb/5000 ft. Drops in the fixes and Max wind  
 areas. No Drops on turn points. Navy P3 12Z-21Z. 105 mile legs - Some restriction in SW.  
 Start out in SW quadrant. 0732Z (29.02 79.15N) 991 mb SE 57KT open SE Elliptical 04/10/30  
 Drift N

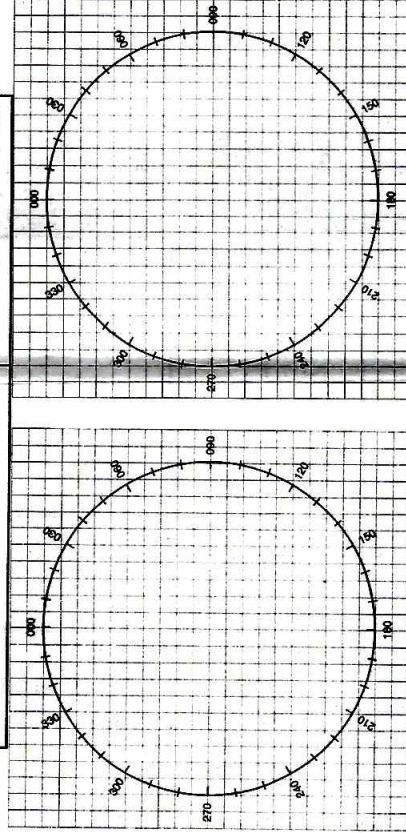
Rainex:  
 10000 ft

Aoc Sndes, 58 Kyg Fuel  
 Rainex Sndes, 4 Bts, Aoc Sndes, NHC Sndes  
 10 Sndes 10 1 Box

Rainex Drops - all Turns  
 BT - Radiometer winds  
 NHC Drops Rain eye  
 Aoc - Downwind.

Down

**PAGE 1 OF 2**

[illegible]

# 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**

**- POSITION** \_\_\_\_\_ **N / S**

|                  |                 |
|------------------|-----------------|
| <b>- HEADING</b> | <b>TRUE/MAG</b> |
|------------------|-----------------|

- AT \_\_\_\_\_ KTS TRUE/INDICATED

- FLIGHT LEVEL OR ALTITUDE -

-WE ARE A P-3 AIRCRAFT WITH 18 SOULS ON BOARD

**- NATURE OF EMERGENCY ASSISTANCE DECIDED**

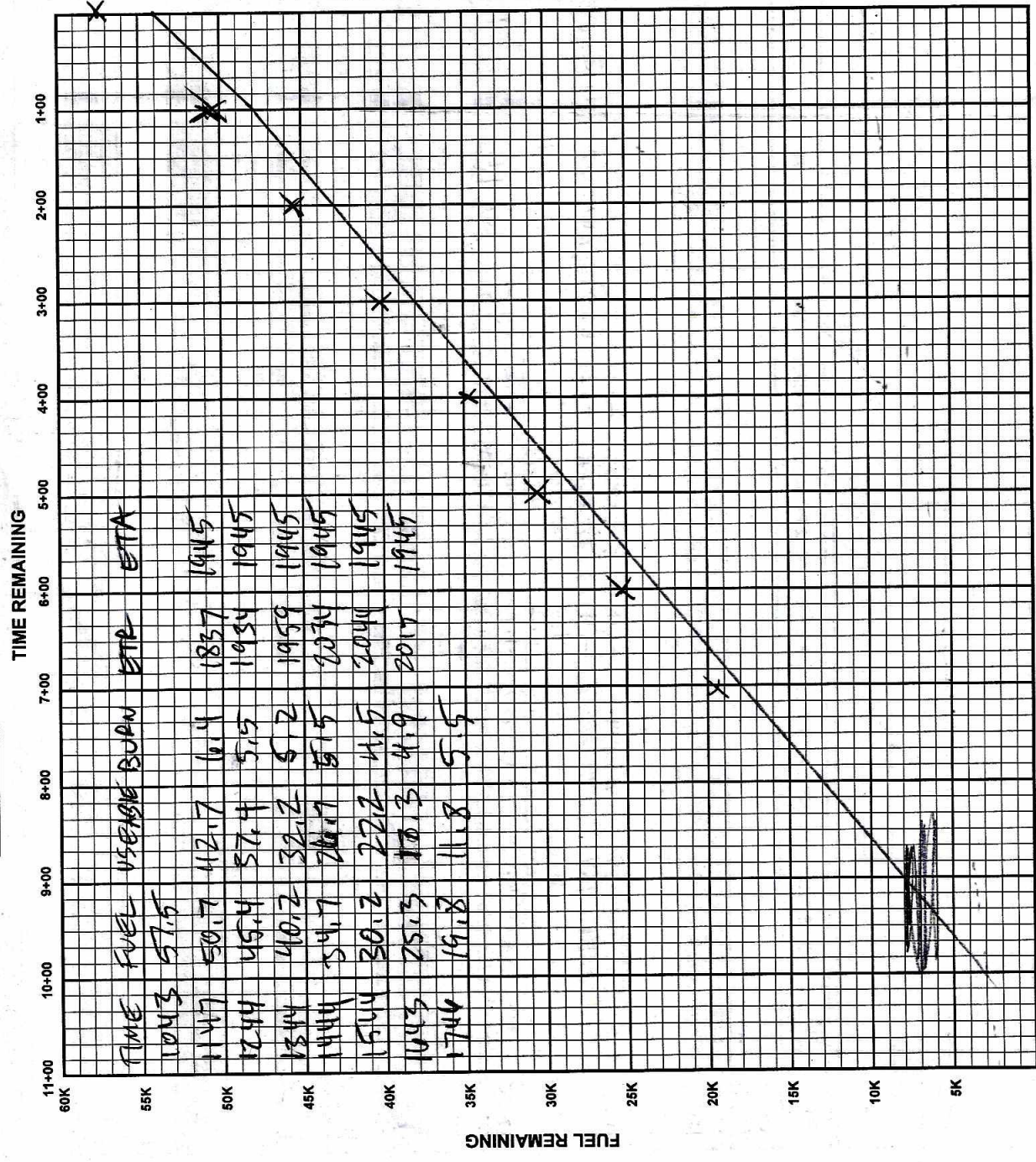
- ASSISTANCE DESIREE
- PILOT INTENTIONS

**ENDURANCE REMAINING**

[illegible]

29.7  
79.4

RANGE CONTROL GRAPH



1715  
1415  
1945  
-1415  
1835

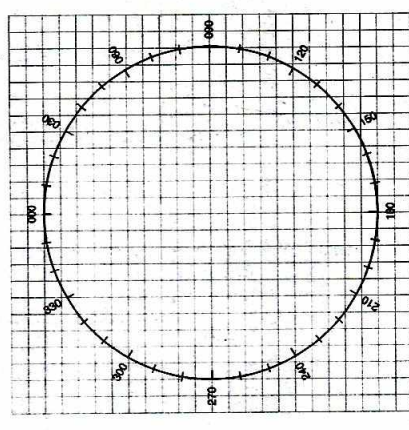
| ENROUTE FUEL                      |      |
|-----------------------------------|------|
| ENROUTE TIME                      | 9400 |
| ENROUTE FUEL<br>(6K/3K/4.5K/RULE) | 46.0 |
| RESERVE AT<br>DESTINATION         | 8.0  |
| REQUIRED<br>RAMP                  | 54.0 |
| ACTUAL RAMP<br>FUEL               | 57.5 |

| CEX - TRUE BEARING METHOD |      |      |     |  | CEX SIGHT    |  |
|---------------------------|------|------|-----|--|--------------|--|
| COMPASS TYPE              | INS1 | INS2 | WET |  | GMT          |  |
| MCH (READING)             |      |      |     |  | GHA          |  |
| MTH (SEXTANT)             |      |      |     |  | CORR         |  |
| CE                        |      |      |     |  | GHA          |  |
| -VAR                      |      |      |     |  | LONG +W<br>E |  |
| DEV                       |      |      |     |  | EXACT CHA    |  |
|                           |      |      |     |  | LAT          |  |
|                           |      |      |     |  | BODY         |  |
|                           |      |      |     |  | DEC          |  |
|                           |      |      |     |  | HC/D         |  |
|                           |      |      |     |  | CORR         |  |
|                           |      |      |     |  | HC           |  |
|                           |      |      |     |  | Z            |  |
|                           |      |      |     |  | ZN           |  |

| TACTICAL (OFFSETA TO DESTINATION) |      |      |  |
|-----------------------------------|------|------|--|
| DISTANCE<br>(OFFSETA TO DEST)     |      |      |  |
| ENROUTE TIME<br>(OFFSETA TO DEST) |      |      |  |
| BURN RATE<br>(LBS/HR)             | 4500 | 5500 |  |
| ENROUTE FUEL<br>REQUIRED          |      |      |  |
| RESERVE AT<br>DESTINATION         |      |      |  |
| FUEL AT<br>OFFSETA                |      |      |  |

| CEX - ERB METHOD |      |      |     |  |
|------------------|------|------|-----|--|
| COMPASS TYPE     | INS1 | INS2 | WET |  |
| MERB (DIAL 000)  |      |      |     |  |
| +ZN              |      |      |     |  |
| = MTH            |      |      |     |  |
| MCH (READING)    |      |      |     |  |
| CE               |      |      |     |  |
| -VAR             |      |      |     |  |
| = DEV            |      |      |     |  |

| POINT OF SAFE RETURN           |      |      |
|--------------------------------|------|------|
| ETP DISTANCE<br>(TO DEPARTURE) |      |      |
| ENROUTE TIME<br>(TO DEPARTURE) |      |      |
| BURN RATE<br>(LBS/HR)          | 4500 | 5500 |
| FUEL<br>REQUIRED               |      |      |
| RESERVE AT<br>DEPARTURE        |      |      |
| PSR FUEL                       |      |      |



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

| PRESS ALT |     |     |     |     |  |
|-----------|-----|-----|-----|-----|--|
| 10,000    | 1.0 | 1.0 | .99 | .99 |  |
| 20,000    | .99 | .98 | .97 | .97 |  |
| 30,000    | .97 | .96 | .95 | .94 |  |
| 40,000    | .96 | .94 | .92 | .90 |  |

| TRUE AIRSPEED CROSS-CHECK |     |              |               |     |     |      |
|---------------------------|-----|--------------|---------------|-----|-----|------|
| TIME                      | IAS | PRESS<br>ALT | "F"<br>FACTOR | EAS | OAT | ITAS |
| 1054                      | 211 | 090          |               | +19 | 248 | 242  |

DISTANCE REMAINING

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

| SCHEDULED / ACTUAL TAKEOFF Z |  | DATE OF TAKEOFF |
|------------------------------|--|-----------------|
|                              |  |                 |

[illegible]

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

[illegible]

NOAA • AOC • SED  
N43RF AVAPS DROP LOG

Project : Hurricane '05 / RAINEX

Mission : HVLP OPHILEA

Flight ID : 050909i

Take Off : \_\_\_\_\_

Landing : \_\_\_\_\_

Flt Dir : \_\_\_\_\_

Launcher S/N: \_\_\_\_\_

| Drop # | Sonde Serial # | Rcvr # | Press Offset | Launch Time | Winds Time | Operator | Comments                  | Good ? |
|--------|----------------|--------|--------------|-------------|------------|----------|---------------------------|--------|
| 1      | 002 638 073    | 1      | 0            | 1112        | 29         | RT       | Rainex                    | ✓      |
| 2      | 051 926 080    | 1      | 0            | 1135        | 10         |          | RMS nhc                   | ✓      |
| 3      | 051 946 027    | 2      | 0            | 1448        | 8          |          | CENTER nhc                | ✓      |
| 4      | 044 533 101    | 3      | 0            | 1159        | 0          |          | RMS nhc                   | ✓      |
| 5      | 043 625 186    | 4      | 0            | 1217        | 0          |          | CORNER Rainex             | ✓      |
| 6      | 002 615 331    | 1      | 0            | 1237        | 62         |          | late winds                | AOC ✓  |
| 7      | 051 926 070    | 1      | 0            | 1257        | 0          |          | CORNER Rainex             | ✓      |
| 8      | 043 625 123    | 2      | 0            | 1317        | 0          |          | RMS nhc                   | ✓      |
| 9      | 044 535 111    | 3      | 0            | 1326        | 8          |          | CENTER nhc                | ✓      |
| 10     | 051 926 313    | 4      | 0            | 1328        | 0          |          | RMS <sup>nhc</sup> Rainex | ✓      |
| 11     | 051 926 256    | 1      | 0            | 1354        | 0          |          | CORNER Rainex             | ✓      |
| 12     | 051 926 293    | 4      | 0            | 1421        | 0          |          | RMS                       | ✓      |
| 13     | 051 926 074    | 2      | 0            | 1428        | 0          |          | CENTER nhc                | ✓      |
| 14     | 051 926 075    | 3      | 0            | 1449        | 0          |          | RMS Rainex                | ✓      |
| 15     | 044 535 103    | 4      | .5           | 1459        | 0          |          | Rainex                    | ✓      |
| 16     | 044 535 069    | 1      | .5           | 1504        | 0          |          | Rainex                    | ✓      |
| 17     | 044 535 117    | 2      | .4           | 1512        | 0          |          | Rainex                    | ✓      |
| 18     | 043 845 002    | 3      | 0            | 1541        | 0          |          | Rainex                    | ✓      |
| 19     | 051 926 254    | 4      | 0            | 1546        | 0          |          | Rainex                    | ✓      |
| 20     | 051 926 090    | 1      | 0            | 1552        | 0          |          | Rainex                    | ✓      |
| 21     | 051 926 175    | 2      | 0            | 1559        | 0          |          | Rainex                    | ✓      |
| 22     | 053 116 131    | 1      | .9           | 1645        | 0          |          | nhc                       | ✓      |
| 23     | 053 116 284    | 2      | 0            | 1659        | 0          |          | Rainex nhc                | ✓      |
| 24     | 053 116 244    | 3      | .8           | 1709        | 0          |          | Rainex                    | ✓      |
| 25     | 053 116 243    | 4      | 0            | 1716        | 0          |          | Rainex                    | ✓      |
| 26     | 053 116 069    | 1      | 0            | 1719        | 0          |          | Rainex                    | ✓      |
| 27     | 053 116 026    | 2      | 0            | 1728        | 0          |          | Rainex                    | ✓      |
| 28     | 053 116 029    | 3      | .5           | 1739        | 0          |          | Rainex                    | ✓      |
| 29     | 053 116 104    | 4      | .8           | 1749        | 0          |          | Rainex                    | ✓      |
| 30     | 053 116 067    | 1      | 0            | 1754        | 0          |          | Rainex                    | ✓      |
| 31     | 051 926 293    | 1      | 0            | 1711        | 0          |          |                           | ✓      |

1412Z  
NHC  
1412Z  
Rainex

1412Z Drop  
Rainex  
1412Z  
drop nhc

NHC 9 RAINX 21 - Looks like RT mis-appropriated RAINX sondes  
AOC 1

| 050909I       | TIME     | LAT       | LON    | PS                | SP   | TA   | TD    | TK |
|---------------|----------|-----------|--------|-------------------|------|------|-------|----|
| RA            | WD       | WS        | WZ     | Comment           |      |      |       |    |
| 095751        | 27.50.94 | -82.29.58 | 1010.3 | 1018.7            | 25.6 | 19.7 | 345.9 |    |
| 73.0          | 146.4    | 1.5       | -.1    | test              |      |      |       |    |
| 104357        | 27.52.20 | -82.29.76 | 994.2  | 2773.1            | 24.2 | 20.6 | 66.2  |    |
| 9976.0        | 324.5    | 7.5       | -.6    | takeoff           |      |      |       |    |
| 111247        | 27.47.88 | -80.22.20 | 846.0  | 1006.9            | 18.7 | 16.4 | 42.4  |    |
| 1527.0        | 302.3    | 9.6       | .2     | rainex drop 1     |      |      |       |    |
| 113539        | 28.55.92 | -79.19.74 | 842.0  | 998.5             | 18.6 | 19.1 | 29.9  |    |
| 1496.0        | 305.3    | 28.5      | -.1    | nhc drop 2 bt     |      |      |       |    |
| 115011        | 29.22.92 | -79. 2.22 | 829.8  | 989.0             | 20.0 | 18.9 | 44.9  |    |
| 1548.0        | 108.3    | 18.9      | .8     | nhc center drop 3 |      |      |       |    |
| 115916        | 29.47.46 | -78.34.08 | 839.5  | 999.7             | 18.6 | 19.1 | 45.2  |    |
| 1533.0        | 149.2    | 18.8      | .5     | nhc drop 4 bt     |      |      |       |    |
| 121711        | 30.18.30 | -77.26.82 | 847.3  | 1006.3            | 19.2 | 15.9 | 26.2  |    |
| 1510.0        | 164.3    | 16.3      | -.1    | rainex drop 5     |      |      |       |    |
| 123708        | 30.29.82 | -78.54.72 | 846.9  | 1004.5            | 18.8 | 17.5 | 269.5 |    |
| 1497.0        | 71.7     | 17.3      | .0     | aoc drop 6        |      |      |       |    |
| 125730        | 30.27.06 | -80.29.16 | 846.5  | 1007.3            | 18.6 | 16.2 | 135.1 |    |
| 1524.0        | 36.5     | 18.0      | -.4    | rainex drop 7     |      |      |       |    |
| 131735        | 29.47.88 | -79.13.98 | 840.4  | 998.0             | 20.0 | 18.0 | 117.3 |    |
| 1515.0        | 22.4     | 23.9      | -1.1   | nhc drop 8 bt     |      |      |       |    |
| 132628        | 29.20.34 | -78.53.52 | 831.1  | 982.3             | 21.4 | 19.2 | 180.8 |    |
| 1481.0        | 326.0    | .9        | -.3    | nhc center drop 9 |      |      |       |    |
| 132817        | 29.14.94 | -78.48.60 | 830.4  | 986.4             | 20.2 | 20.9 | 132.3 |    |
| 1521.0        | 239.1    | 27.7      | .5     | nhc drop 10 bt    |      |      |       |    |
| 135415        | 28. 9.72 | -77.28.80 | 846.8  | 1006.9            | 19.7 | 16.2 | .2    |    |
| 1524.0        | 226.1    | 20.5      | .2     | rainex drop 11    |      |      |       |    |
| 141125        | 29.23.76 | -77.31.86 | 846.6  | 1004.3            | 18.7 | 18.7 | 270.0 |    |
| 1500.0        | 198.8    | 23.9      | -.5    | rainex drop 12    |      |      |       |    |
| pmw 142118    | 29.27.60 | -78.13.56 | 839.4  | 998.4             | 18.5 | 19.1 | 278.8 |    |
| 1522.0        | 191.2    | 28.5      | 1.8    | nhc drop 13       |      |      |       |    |
| Center 142818 | 29.28.68 | -78.43.50 | 827.0  | 983.9             | 21.2 | 18.9 | 259.7 |    |
| 1539.0        | 225.3    | .8        | -.3    | nhc drop 14       |      |      |       |    |
| 144930        | 30.27.42 | -79. 4.68 | 697.8  | 1000.9            | 11.3 | 9.9  | 232.0 |    |
| 3134.0        | 54.4     | 15.1      | -1.0   | rainex drop 15    |      |      |       |    |
| 145815        | 29.53.88 | -79.24.00 | 697.5  | 999.9             | 10.5 | 10.6 | 167.6 |    |
| 3120.0        | 31.6     | 20.2      | .4     | rainex drop 16    |      |      |       |    |
| 150429        | 29.27.66 | -79.32.76 | 695.8  | 1000.9            | 10.6 | 8.2  | 169.4 |    |
| 3150.0        | 338.5    | 26.8      | -.8    | rainex drop 17    |      |      |       |    |
| 151252        | 29. 6.96 | -79. 1.68 | 695.1  | 998.5             | 11.2 | 7.1  | 314.8 |    |
| 3141.0        | 292.0    | 25.0      | .8     | rainex drop 18    |      |      |       |    |
| 154124        | 30.15.06 | -79.12.84 | 695.4  | 1001.1            | 9.7  | 10.4 | 218.6 |    |
| 3149.0        | 31.8     | 20.8      | .2     | rainex drop 19    |      |      |       |    |
| 154650        | 29.52.32 | -79.25.92 | 698.3  | 1001.5            | 9.7  | 10.3 | 173.0 |    |
| 3116.0        | .3       | 25.1      | .0     | rainex drop 20    |      |      |       |    |
| 155220        | 29.25.68 | -79.19.14 | 696.1  | 999.8             | 11.1 | 7.9  | 137.8 |    |
| 3141.0        | 328.8    | 28.0      | -.8    | rainex drop 21    |      |      |       |    |
| 155948        | 29. 6.12 | -78.57.00 | 696.7  | 1000.6            | 9.9  | 8.9  | 348.3 |    |
| 3129.0        | 281.7    | 24.5      | 1.1    | rainex drop 22    |      |      |       |    |
| 164041        | 30.58.50 | -79.54.90 | 846.6  | 1006.9            | 19.5 | 15.7 | 135.4 |    |
| 1523.0        | 31.2     | 18.3      | -.5    | nhc drop 23       |      |      |       |    |
| 165924        | 30.17.34 | -78.47.10 | 841.4  | 999.5             | 18.1 | 18.8 | 131.8 |    |
| 1509.0        | 43.7     | 28.8      | .0     | nhc drop 24       |      |      |       |    |
| 171619        | 29.33.90 | -78.27.54 | 832.5  | 988.7             | 21.0 | 17.8 | 180.5 |    |
| 1521.0        | 231.5    | 30.2      | .6     | rainex drop 25    |      |      |       |    |
| 171932        | 29.24.06 | -78.30.24 | 742.7  | 994.3             | 12.9 | 12.3 | 211.5 |    |
| 2533.0        | 252.2    | 36.2      | 3.1    | rainex drop 26    |      |      |       |    |
| 172841        | 29.26.64 | -79. 0.66 | 697.0  | 995.6             | 12.2 | 8.0  | 305.2 |    |
| 3103.0        | 290.0    | 31.0      | -1.9   | rainex drop 27    |      |      |       |    |
| 173849        | 29.52.62 | -79.16.44 | 697.0  | 1000.8            | 9.4  | 7.5  | 19.6  |    |

|        |          |      |           |                 |                         |      |      |       |
|--------|----------|------|-----------|-----------------|-------------------------|------|------|-------|
| 3119.0 | 333.5    | 33.3 | -.2       | rainex drop 28  |                         |      |      |       |
| 174118 | 30.      | 0.42 | -79.12.30 | 697.1           | 1000.7                  | 9.1  | 8.4  | 30.1  |
| 3114.0 | 344.1    | 32.4 | -1.2      | one rainex drop | somewhere b/w 26 and 28 |      |      |       |
| 174950 | 30.25.38 |      | -78.54.36 | 695.9           | 1001.2                  | 9.1  | 9.0  | 57.8  |
| 3135.0 | 16.7     | 26.7 | .7        | rainex drop 30  |                         |      |      |       |
| 175426 | 30.14.82 |      | -78.41.28 | 695.3           | 995.6                   | 11.4 | 11.7 | 181.1 |
| 3121.0 | 68.6     | 22.6 | -.0       | rainex drop 31  |                         |      |      |       |
| 183128 | 29.26.28 |      | -80.53.34 | 694.9           | 1008.0                  | 9.0  | 7.9  | 244.5 |
| 3206.0 | 8.6      | 18.9 | .0        |                 |                         |      |      |       |

