



**NOAA GIV N49RF**  
***Hurricane Dean***  
***August 19, 2007***



**Flight ID: N070819**

Sensor or system

INE (for wind derivation)  
Attack Angle  
Slip Angle  
Accelerometer  
Temperature Probe  
Dew Point Probe  
Altitude (for vertical wind derivation)  
Static Pressure  
Dynamic Pressure  
True Air Speed  
Constants File  
Project Directory

Number or Name

VEW\_PITR,VNS\_PITR  
AKRD1  
SSRD1  
ACINS\_PITR  
AT3  
DPRC  
PALT  
PS2M  
QC2M  
TAS2  
49cal071  
/proj/706

| Local Met Data:            | <u>Takeoff (1727Z)</u> | <u>Landing (0134Z)</u> |
|----------------------------|------------------------|------------------------|
| Aircraft Static Pressure   | 1018.0 mb              | 1016.6 mb              |
| Tower Pressure (corrected) | 1018.4 mb              | 1017.4 mb              |

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Notes:

Data Gap: 201903Z – 202318Z

Data missing because of crashes to the MADS data system.

Spikes occur in all selected inertial data at the end of both data gaps.

At end of flight during taxi PALT deviated from a constant of about -28m at landing to +650m just before the data system was QC'd where PALT then went back down to -28m.

Just before taxi and up until takeoff HGM232 radar altitude spiked up to 20,000m for 30mins. During takeoff HGM232 had several downward spikes from 175124Z – 181232Z. Immediately upon landing the HGM232 gives a constant value of 20,000m.

At beginning of the flight AKRD2 had more data spikes than AKRD1. At the end of the flight AKRD1 had more data spikes than AKRD2.

Both inertial track variables (TKAT) stayed at a constant 274° for the whole flight.

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Flight Director:  
Phone #:

LTJG Jackie Almeida  
(813) 828-3310 ext. 3075

**U.S. Dept. of Commerce / NMAO / NOAA / Aircraft Operations Center**

|                                 |                                              |                                             |
|---------------------------------|----------------------------------------------|---------------------------------------------|
| Flt ID: <b>N490819</b>          | From: <b>KMCF</b>                            | To: <b>KMCF</b>                             |
| Flt No: <b>07-073</b>           | Blk In: <b>0144 Z</b>                        | Time On: <b>0134 Z</b>                      |
| ETD: <b>1730 Z</b>              | Blk Out: <b>1716 Z</b>                       | Time Off: <b>1727 Z</b>                     |
| ETE: <b>+ 8hrs 16min</b>        | Blk Time: <b>8hrs 28min</b> <b>(8.5)</b> Hrs | Flt Time: <b>8hrs 7min</b> <b>(8.1)</b> Hrs |
| Sponsoring Org: <b>NOAA-NHC</b> | Program: <b>Hurricane Surveillance</b>       | Purpose: <b>Invest Hurr Dean</b>            |

**AOC Flight Crew**

|                                                |                               |
|------------------------------------------------|-------------------------------|
| Aircraft Commander: <b>Finn, M</b>             | Data System: <b>Rogers, M</b> |
| Co-Pilot: <b>Odell, W</b>                      | AVAPS: <b>Rasco, C</b>        |
| Navigator: <b>/</b>                            | System Eng: <b>/</b>          |
| Flight Eng: <b>/</b>                           | A A: <b>Defeo, G</b>          |
| Flight Director: <b>Almeida, J, Damiano, B</b> | A A: <b>/</b>                 |
| Avionics: <b>/</b>                             | Crew Chief: <b>/</b>          |

**Participating Scientists / Visitors**

| Name (Last, First) | Activity on Aircraft | Affiliation |
|--------------------|----------------------|-------------|
| Duganrut, Jim      | observer             | NOAA - AOC  |
|                    |                      |             |
|                    |                      |             |
|                    |                      |             |
|                    |                      |             |
|                    |                      |             |
|                    |                      |             |
|                    |                      |             |
|                    |                      |             |
|                    |                      |             |

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

Recco Times

Fix #   Fix Time

Storm Name: **Dean**

Mission ID: **1004 A**

penetration number and time

data system down 201650  
data system up 2024

U.S. Dept. of Commerce / NMAO / NOAA / Aircraft Operations Center

|                           |                  |                                         |  |                        |                  |
|---------------------------|------------------|-----------------------------------------|--|------------------------|------------------|
| Flight ID: <b>N070819</b> |                  | Time Off: <b>1727</b> Z                 |  | Time On: <b>0134</b> Z |                  |
| A/C: Takeoff              |                  | Wx Station: Takeoff                     |  | A/C: Land              |                  |
| Wx Station: Land          |                  |                                         |  |                        |                  |
| Pressure                  | <b>1018.0</b> mb | <b>1018.4</b> mb                        |  | mb                     | <b>1017.4</b> mb |
| ARTS                      | Time             | Observation                             |  |                        |                  |
| Takeoff                   | <b>1255Z</b>     | <b>08008k+ 10SM SKC 28/24 3009</b>      |  |                        |                  |
| Land                      | <b>0155Z</b>     | <b>10010k+ 10SM CLR 29/24 30.06</b>     |  |                        |                  |
|                           | Number           | Data Disposition / Date / Quality       |  |                        |                  |
| Flight Level Tapes        |                  |                                         |  |                        |                  |
| Radar Tapes               |                  |                                         |  |                        |                  |
| Cloud Physics Tapes / CDs |                  |                                         |  |                        |                  |
| Video Tapes               |                  |                                         |  |                        |                  |
| Dropsondes                |                  | <b>33</b> Good: <b>33</b> Bad: <b>0</b> |  |                        |                  |
| XBT                       |                  |                                         |  |                        |                  |
| XCP                       |                  |                                         |  |                        |                  |
| XCTD                      |                  |                                         |  |                        |                  |
| Remarks:                  |                  |                                         |  |                        |                  |

data system down 201650  
 data system up 2024

# N49RF AOC GPS Dropwindsonde Log

Flight ID N070819

Flight Director Jackie Almeida

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Mission ID 1004A Storm Dean

*splash*

| Drop# | Chromat#<br>SWAB ID | Time<br>(UTC) | Lat<br>(°N) | Lon<br>(°W) | Sfc<br>Prs mb | WX<br>Cond. | Comments | OB # | SatComm<br>Failures | Sent<br>Time |
|-------|---------------------|---------------|-------------|-------------|---------------|-------------|----------|------|---------------------|--------------|
| 1     | 053626165           | 183050        | 23°55.7     | 078°3.4     | 1015.2        |             |          |      |                     |              |
| 2     | 053626165           | 183050        | 23°55.7     | 078°3.4     | 1015.2        |             |          |      |                     |              |
| 3     | 053626165           | 183050        | 23°55.7     | 078°3.4     | 1015.2        |             |          |      |                     |              |
| 4     | 053626163           | 185504        | 22°54.7     | 076°24.7    | 1013.8        |             |          |      |                     |              |
| 5     | 053626163           | 185504        | 22°54.7     | 076°24.7    | 1013.8        |             |          |      |                     |              |
| 6     | 053626163           | 190719        | 20°1.4      | 073°50.5    | 1010.3        |             |          |      |                     |              |
| 7     | 053626163           | 192747        | 18°20.3     | 074°48.6    | 1007.6        |             |          |      |                     |              |
| 8     | 054046051           | 194838        | 15°56.9     | 075°57.1    | 1002.6        |             |          |      |                     |              |
| 9     | 054046051           | 200820        | 15°56.9     | 075°57.1    | 1002.6        |             |          |      |                     |              |
| 10    | 053626166           | 201132        | 15°56.9     | 075°57.1    | 1002.6        |             |          |      |                     |              |
| 11    | 053626166           | 201132        | 15°56.9     | 075°57.1    | 1002.6        |             |          |      |                     |              |
| 12    | 053626172           | 203149        | 15°23.7     | 078°28.3    | 1004.5        |             |          |      |                     |              |
| 13    | 054046051           | 204051        | 15°56.9     | 075°57.1    | 1002.6        |             |          |      |                     |              |
| 14    | 055036262           | 205223        | 17°1.2      | 080°27.5    | 1006.6        |             |          |      |                     |              |
| 15    | 055036262           | 205223        | 17°1.2      | 080°27.5    | 1006.6        |             |          |      |                     |              |
| 16    | 061429091           | 212305        | 20°36.7     | 078°46.1    | 1009.4        |             |          |      |                     |              |
| 17    | 061429091           | 212305        | 20°36.7     | 078°46.1    | 1009.4        |             |          |      |                     |              |
| 18    | 060356135           | 215517        | 20°40.3     | 084°00.4    | 1011.5        |             |          |      |                     |              |
| 19    | 060356135           | 221348        | 22°0.8      | 085°59.7    | 1012.6        |             |          |      |                     |              |
| 20    | 053626167           | 223211        | 23°57.9     | 087°17.14   | 1013.7        |             |          |      |                     |              |
| 21    | 054046048           | 224306        | 23°59.9     | 088°45.0    | 1014.1        |             |          |      |                     |              |
| 22    | 054046045           | 225410        | 23°59.9     | 090°15.0    | 1013.3        |             |          |      |                     |              |
| 23    | 060356137           | 230610        | 23°57.9     | 091°46.5    | 1013.0        |             |          |      |                     |              |

Flight ID N070819 Flight Director JACKIE ARMEIDA Page 2 of 2

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Storm DEAN[illegible]

17017  
1700  
75-43  
E93

# N49RF AOC GPS Dropwindsonde Log

Flight ID 16070819  
*ASPEN OPERATOR*  
 Flight Director

Backy Damiano

Page 1 of 2

Mission ID 1004A Storm DEAN

| Drop# | Sonde ID# | Time<br>(UTC) | Lat<br>(°N) | Lon<br>(°W) | Sfc<br>Prs mb | WX Cond.           | Comments    | OB # | SatComm<br>Failure | Send<br>Time<br>(UTC) |
|-------|-----------|---------------|-------------|-------------|---------------|--------------------|-------------|------|--------------------|-----------------------|
| 1     | 060356065 | 181626        | 23.6        | 80.0        | 1014.7        | no sfc wind        | KWBC-143059 | 1    | —                  | 181626                |
| 2     | 053626165 | 183049        | 23.9        | 78.1        | 1015.2        |                    | KWBC-145212 | 2    | —                  | 185322                |
| 3     | 053626168 | 184234        | 23.6        | 77.6        | 1013.4        |                    | 700 mb 0537 | 3    | —                  | 190622                |
| 4     | 053626163 | 185506        | 22.9        | 76.0        | 1013.8        |                    | KWBC-151413 | 4    | —                  | 191522                |
| 5     | 054046049 | 190713        | 21.5        | 75.7        | 1011.5        |                    | KWBC-152618 | 5    | —                  | 192722                |
| 6     | 053416163 | 192747        | 20.0        | 73.8        | 1010.3        | no sfc wind        | KWBC-154859 | 6    | —                  | 195022                |
| 7     | 053626169 | 193825        | 19.4        | 75.0        | 1008.7        |                    | KWBC-155731 | 7    | —                  | 195822                |
| 8     | 054046051 | 194839        | 18.3        | 74.8        | 1007.6        | not sfc wind<br>IN | KWBC-160946 | 8    | —                  | 2010                  |
| 9     | 054046040 | 200021        | 17.0        | 75.1        | 1004.2        |                    | KWBC-162206 | 9    | —                  | 202322                |
| 10    | 053626166 | 201130        | 16.0        | 76.0        | 1002.6        |                    | KWBC-163059 | 10   | —                  | 203222                |
| 11    | 061229071 | 202146        | 15.7        | 76.5        | 1003.4        |                    | KWBC-164037 | 11   | —                  | 204422                |
| 12    | 053626172 | 203153        | 15.4        | 78.5        | 1004.5        | chy WDist sfc      | KWBC-165142 | 12   | —                  | 205222                |
| 13    | 054056130 | 204156        | 16.0        | 79.7        | 1005.8        |                    | KWBC-170201 | 13   | —                  | 210822                |
| 14    | 055036262 | 205222        | 17.0        | 80.5        | 1006.6        |                    | KWBC-171238 | 14   | —                  | 211422                |
| 15    | 060356145 | 210617        | 18.6        | 80.0        | 1006.5        | added sfc wind     | KWBC-172921 | 15   | —                  | 212022                |
| 16    | 061429091 | 212305        | 20.6        | 79.8        | 1009.4        | added sfc wind     | KWBC-174522 | 16   | —                  | 214622                |
| 17    | 061429089 | 213951        | 20.6        | 82.0        | 1010.1        | added sfc wind     | KWBC-180155 | 17   | —                  | 220222                |
| 18    | 060356135 | 215519        | 20.7        | 84.0        | 1011.5        | no sfc wind        | KWBC-181405 | 18   | —                  | 221522                |
| 19    | 060356166 | 221347        | 22.0        | 86.0        | 1012.6        |                    | KWBC-183044 | 19   | —                  | 223922                |
| 20    | 053626167 | 223210        | 24.0        | 87.3        | 1014.3        |                    | KWBC-185246 | 20   | —                  | 225322                |
| 21    | 054046048 | 224308        | 24.0        | 88.8        | 1014.1        |                    | KWBC-190141 | 21   | —                  | 230322                |
| 22    | 054046045 | 225412        | 24.0        | 90.3        | 1013.3        |                    | KWBC-191306 | 22   | —                  | 231422                |
| 23    | 060356139 | 230511        | 24.0        | 91.8        | 1013.0        |                    | KWBC-192320 | 23   | —                  | 232422                |

65015

# N49RF AOC GPS Dropwindsonde Log

Flight ID  
N620819

Flight Director

Mission ID 1564A DEAN  
Storm

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# N49RF AVAPS DropSonde Log

Project: HURRICANE 07 Flight ID: \_\_\_\_\_ Flt Dir: ALMEIDA

Mission: 070819N Flight #: 3 Status: Sys 1 ☒ Sys 2 ☒ Launcher S/N: 02

| Drop # | Sonde Serial Number | Chn. # | Time (Zulu) | Press. offset | Winds time | Operator Initials | Comments /Status/ Failure Reason | \$ | GOOD <input checked="" type="checkbox"/> |
|--------|---------------------|--------|-------------|---------------|------------|-------------------|----------------------------------|----|------------------------------------------|
| 1      | 060 356 065         | 1      | 18:16       | .1            | 5          | (37)              |                                  |    |                                          |
| 2      | 053 626 165         | 2      | 18:30       | .1            | 6          |                   |                                  |    |                                          |
| 3      | 053 626 168         | 1      | 18:42       | .3            | 6          |                   |                                  |    |                                          |
| 4      | 053 626 163         | 2      | 18:55       | .3            | 5          |                   |                                  |    |                                          |
| 5      | 054 046 047         | 1      | 19:07       | .1            | 40         |                   |                                  |    |                                          |
| 6      | 053 416 163         | 2      | 19:27       | 0             | 5          |                   |                                  |    |                                          |
| 7      | 053 626 169         | 1      | 19:38       | .1            | 2          |                   |                                  |    |                                          |
| 8      | 054 046 051         | 3      | 19:48       | .1            | 4          |                   |                                  |    | LOCKER                                   |
| 9      | 054 046 040         | 3      | 20:00       | .3            | 5          |                   |                                  |    |                                          |
| 10     | 053 626 166         | 1      | 20:11       | .2            | 5          |                   |                                  |    |                                          |
| 11     | 061 229 071         | 2      | 20:21       | .2            | 5          |                   |                                  |    |                                          |
| 12     | 053 626 172         | 3      | 20:31       | .4            | 3          |                   |                                  |    |                                          |
| 13     | 054 556 138         | 1      | 20:41       | 0             | 6          |                   |                                  |    |                                          |
| 14     | 055 036 262         | 2      | 20:52       | .1            | 4          |                   |                                  |    |                                          |
| 15     | 060 0356 143        | 2      | 21:06       | 0             | 28         |                   |                                  |    |                                          |
| 16     | 061 429 091         | 2      | 21:23       | 0             | 5          |                   |                                  |    |                                          |
| 17     | 061 429 089         | 1      | 21:39       | .2            | 5          |                   |                                  |    |                                          |
| 18     | 060 356 135         | 2      | 21:55       | .1            | 4          |                   |                                  |    |                                          |
| 19     | 060 356 166         | 1      | 22:13       | .1            | 3          |                   |                                  |    |                                          |
| 20     | 053 626 167         | 2      | 22:32       | .3            | 4          |                   |                                  |    |                                          |
| 21     | 054 046 048         | 1      | 22:43       | 0             | 5          |                   |                                  |    |                                          |
| 22     | 054 046 045         | 3      | 22:54       | .4            | 3          |                   |                                  |    |                                          |
| 23     | 060 356 139         | 2      | 23:05       | 0             | 7          |                   |                                  |    |                                          |
| 24     | 060 356 140         | 1      | 23:16       | 0             | 20         |                   |                                  |    |                                          |
| 25     | 055 036 212         | 3      | 23:26       | 0             | 10         |                   |                                  |    |                                          |
| 26     | 053 626 170         | 1      | 23:40       | .5            | 5          |                   |                                  |    |                                          |
| 27     | 054 046 053         | 2      | 23:58       | 0             | 3          |                   |                                  |    |                                          |
| 28     | 054 046 043         | 1      | 00:10       | .4            | 4          |                   |                                  |    |                                          |
| 29     | 054 046 044         | 2      | 00:21       | .2            | 5          |                   |                                  |    |                                          |
| 30     | 054 046 049         | 1      | 00:32       | .3            | 4          |                   |                                  |    |                                          |
| 31     | 060 356 164         | 3      | 00:44       | 0             | 4          |                   |                                  |    |                                          |
| 32     | 060 356 069         | 1      | 00:56       | .1            | 3          |                   |                                  |    |                                          |
| 33     | 055 036 319         | 3      | 1:07        | 0             | 5          |                   |                                  |    |                                          |

\$ Codes A = AOC N = NHC/NWS H = HRD OW = NESDIS \_\_\_\_\_ = \_\_\_\_\_ = \_\_\_\_\_

| 070819n.log     | Latitude   | Longitude  | Press | Temp  | DP    | WD    | WS   | MSL Alt |
|-----------------|------------|------------|-------|-------|-------|-------|------|---------|
| 18:07:55<br>1,  | 24 26.03'N | 80 34.26'W | 177.9 | -56.4 | -58.4 | 176.6 | 18.6 | 13220.5 |
| 18:30:50<br>2,  | 23 55.68'N | 78 03.42'W | 178.2 | -57.4 | -62.4 | 203.0 | 6.4  | 13227.3 |
| 18:42:33<br>3,  | 22 36.92'N | 77 39.22'W | 177.9 | -56.6 | -63.1 | 180.8 | 4.7  | 13231.5 |
| 18:55:04<br>4,  | 22 54.72'N | 76 02.47'W | 173.3 | -57.6 | -63.9 | 225.8 | 2.3  | 13386.2 |
| 19:07:14<br>5,  | 21 30.41'N | 75 43.07'W | 169.4 | -58.5 | -64.5 | 148.1 | 13.7 | 13543.8 |
| 19:27:47<br>6,  | 20 01.46'N | 73 50.56'W | 169.8 | -58.9 | -65.5 | 154.8 | 16.6 | 13525.3 |
| 19:31:26        | 19 48.92'N | 74 14.13'W | 169.6 | -58.4 | -65.6 | 164.2 | 19.4 | 13536.4 |
| 19:38:24<br>7,  | 19 27.04'N | 75 01.90'W | 169.7 | -57.5 | -65.5 | 149.6 | 19.8 | 13528.3 |
| 19:48:38<br>8,  | 18 20.37'N | 74 48.66'W | 165.6 | -60.4 | -64.9 | 128.0 | 27.0 | 13673.5 |
| 20:00:20<br>9,  | 16 59.93'N | 75 06.66'W | 165.4 | -58.1 | -62.0 | 164.1 | 15.3 | 13669.4 |
| 20:11:32<br>10, | 15 56.94'N | 75 57.12'W | 165.5 | -57.3 | -58.8 | 312.9 | 8.8  | 13651.1 |
| 20:16:50        | 15 39.41'N | 76 33.45'W | 161.8 | -58.3 | -59.1 | 351.5 | 17.1 | 13796.2 |
| 20:31:49<br>12, | 15 23.74'N | 78 28.31'W | 161.7 | -59.1 | -62.2 | 46.6  | 14.6 | 13795.4 |
| 20:41:54<br>13, | 15 57.65'N | 79 39.74'W | 161.6 | -60.4 | -64.5 | 66.6  | 17.0 | 13799.8 |
| 20:52:23<br>14, | 17 01.12'N | 80 27.52'W | 157.6 | -61.3 | -66.1 | 77.8  | 18.7 | 13960.6 |
| 21:06:20<br>15, | 18 35.94'N | 79 59.07'W | 157.9 | -60.6 | -66.6 | 88.2  | 22.2 | 13963.7 |

| Alt    | Heading | Track | TAS   | GS    | V Vel | Event Comments                                             |
|--------|---------|-------|-------|-------|-------|------------------------------------------------------------|
| 3178.4 | 152.1   | 150.0 | 229.4 | 212.6 | -0.04 | Sonde Launch, Drop                                         |
| 3184.7 | 125.3   | 122.7 | 227.3 | 226.1 | -0.18 | winds at 05 sec<br>Sonde launch, Drop                      |
| 3187.7 | 123.1   | 123.0 | 230.3 | 227.8 | -0.07 | winds at 06 sec<br>Sonde Launch, Drop                      |
| 3341.8 | 128.5   | 126.9 | 229.5 | 229.8 | 0.07  | winds at 06 sec<br>Sonde Launch, Drop                      |
| 3497.4 | 150.7   | 151.1 | 227.3 | 213.6 | 0.33  | winds at 05 sec<br>Sonde Launch, Drop                      |
| 3477.7 | 202.2   | 204.5 | 226.8 | 215.7 | 0.03  | winds at 40 sec<br>Sonde Launch, Drop                      |
| 3488.6 | 243.3   | 248.3 | 226.4 | 223.5 | -0.10 | winds at 05 sec<br>Some CB breaking<br>through CDO @ 40kft |
| 3480.2 | 202.6   | 207.5 | 228.9 | 217.7 | 0.12  | Sonde Launch, Drop                                         |
| 3623.8 | 167.8   | 172.3 | 226.2 | 206.0 | -0.11 | winds at 02 sec<br>Sonde Launch, Drop                      |
| 3618.7 | 203.6   | 205.8 | 229.7 | 218.0 | -0.37 | winds at 04 sec<br>Sonde Launch, Drop                      |
| 3599.8 | 235.5   | 232.9 | 228.2 | 226.4 | -0.06 | winds at 05 sec<br>Sonde Launch, Drop                      |
| 3743.9 | 248.0   | 243.9 | 226.1 | 230.7 | -0.58 | winds at 05 sec<br>Mads down                               |
| 3742.9 | 287.7   | 284.1 | 226.2 | 233.7 | -0.07 | Sonde Launch, Drop                                         |
| 3747.7 | 314.4   | 310.1 | 227.2 | 234.2 | 0.19  | winds at 03 sec<br>Sonde Launch, Drop                      |
| 3908.2 | 357.4   | 352.0 | 227.6 | 225.5 | -0.17 | winds at 06 sec<br>Sonde Launch, Drop                      |
| 3912.5 | 13.9    | 8.2   | 226.8 | 221.8 | 0.71  | winds at 04 sec<br>Sonde Launch, Drop                      |
|        |         |       |       |       |       | winds at 28 sec                                            |

|                 |    |         |    |         |       |       |       |       |      |         |    |
|-----------------|----|---------|----|---------|-------|-------|-------|-------|------|---------|----|
| 21:23:05<br>16, | 20 | 36.78'N | 79 | 46.15'W | 157.9 | -59.4 | -67.2 | 125.9 | 13.0 | 13953.6 | 1. |
| 21:39:50<br>17, | 20 | 38.98'N | 82 | 00.46'W | 150.6 | -63.1 | -67.8 | 160.6 | 17.2 | 14262.1 | 1. |
| 21:55:17<br>18, | 20 | 40.34'N | 84 | 00.42'W | 150.7 | -64.8 | -68.8 | 187.4 | 20.4 | 14245.9 | 1. |
| 22:13:48<br>19, | 22 | 00.80'N | 85 | 59.95'W | 147.0 | -62.7 | -69.0 | 208.7 | 15.4 | 14374.3 | 1. |
| 22:32:11<br>20, | 23 | 57.91'N | 87 | 17.14'W | 146.9 | -60.6 | -68.7 | 181.7 | 7.4  | 14367.4 | 1. |
| 22:43:06<br>21, | 23 | 59.99'N | 88 | 45.07'W | 147.0 | -58.5 | -67.9 | 167.6 | 12.3 | 14353.2 | 1. |
| 22:54:10<br>22, | 23 | 59.99'N | 90 | 15.08'W | 146.9 | -58.0 | -67.6 | 75.6  | 5.1  | 14356.9 | 1. |
| 23:05:10<br>23, | 23 | 59.99'N | 91 | 45.50'W | 146.9 | -56.9 | -67.5 | 80.6  | 8.4  | 14351.8 | 1. |
| 23:16:02<br>24, | 23 | 59.99'N | 93 | 14.93'W | 146.9 | -58.6 | -67.4 | 65.6  | 3.3  | 14356.9 | 1. |
| 23:26:57<br>25, | 24 | 02.91'N | 94 | 43.46'W | 147.1 | -58.8 | -67.7 | 326.9 | 4.1  | 14357.4 | 1. |
| 23:40:39<br>26, | 25 | 30.90'N | 95 | 26.22'W | 146.9 | -62.0 | -68.8 | 25.0  | 18.0 | 14382.1 | 1. |
| 23:58:03<br>27, | 26 | 58.69'N | 93 | 58.24'W | 147.0 | -59.0 | -68.2 | 38.1  | 18.5 | 14379.2 | 1. |
| 00:10:19<br>28, | 26 | 59.99'N | 92 | 24.20'W | 146.9 | -57.6 | -67.3 | 65.5  | 22.8 | 14373.5 | 1. |
| 00:21:17<br>29, | 26 | 59.96'N | 90 | 59.91'W | 147.0 | -56.8 | -67.5 | 77.2  | 19.2 | 14377.7 | 1. |
| 00:32:55<br>30, | 26 | 59.97'N | 89 | 29.18'W | 147.1 | -57.1 | -67.3 | 97.4  | 12.6 | 14374.4 | 1. |
| 00:44:32<br>31, | 26 | 59.99'N | 87 | 59.79'W | 147.1 | -57.5 | -68.0 | 117.3 | 16.8 | 14392.0 | 1. |

|         |       |       |       |       |       |                    |
|---------|-------|-------|-------|-------|-------|--------------------|
| 13904.0 | 307.3 | 307.9 | 227.9 | 240.8 | 0.35  | Sonde Launch, Drop |
|         |       |       |       |       |       | winds at 05 sec    |
| 14210.8 | 266.0 | 270.2 | 224.8 | 230.0 | 0.12  | Sonde Launch, Drop |
|         |       |       |       |       |       | winds at 05 sec    |
| 14194.8 | 286.0 | 290.3 | 223.9 | 227.5 | 0.30  | Sonde Launch, Drop |
|         |       |       |       |       |       | winds at 04 sec    |
| 14323.6 | 316.3 | 319.4 | 224.9 | 229.9 | -0.67 | Sonde Launch, Drop |
|         |       |       |       |       |       | winds at 03 sec    |
| 14318.6 | 295.4 | 297.5 | 230.5 | 233.6 | -0.13 | Sonde Launch, Drop |
|         |       |       |       |       |       | winds at 04 sec    |
| 14304.5 | 266.5 | 269.5 | 228.5 | 230.7 | -0.27 | Sonde Launch, Drop |
|         |       |       |       |       |       | winds at 05 sec    |
| 14308.1 | 270.4 | 270.0 | 228.8 | 233.8 | -0.58 | Sonde Launch, Drop |
|         |       |       |       |       |       | winds at 03 sec    |
| 14303.1 | 270.7 | 270.2 | 230.0 | 238.2 | -0.20 | Sonde Launch, Drop |
|         |       |       |       |       |       | winds at 07 sec    |
| 14308.2 | 270.4 | 270.0 | 230.0 | 233.0 | -0.36 | Sonde Launch, Drop |
|         |       |       |       |       |       | winds at 20 sec    |
| 14308.7 | 305.5 | 304.4 | 227.7 | 223.8 | 0.24  | Sonde Launch, Drop |
|         |       |       |       |       |       | winds at 10 sec    |
| 14334.8 | 15.9  | 14.3  | 227.8 | 210.0 | -0.01 | Sonde Launch, Drop |
|         |       |       |       |       |       | winds at 05 sec    |
| 14333.4 | 67.7  | 69.5  | 227.0 | 210.9 | 0.14  | Sonde Launch, Drop |
|         |       |       |       |       |       | winds at 03 sec    |
| 14327.8 | 87.9  | 90.1  | 228.5 | 207.6 | -0.75 | Sonde Launch, Drop |
|         |       |       |       |       |       | winds at 04 sec    |
| 14332.0 | 89.2  | 90.0  | 230.2 | 211.4 | -0.68 | Sonde Launch, Drop |
|         |       |       |       |       |       | winds at 05 sec    |
| 14328.6 | 89.6  | 89.0  | 226.5 | 214.1 | 0.36  | Sonde Launch, Drop |
|         |       |       |       |       |       | winds at 04 sec    |
| 14346.2 | 91.4  | 89.1  | 226.9 | 211.9 | 0.05  | Sonde Launch, Drop |

|                 |            |            |        |       |       |       |     |          |
|-----------------|------------|------------|--------|-------|-------|-------|-----|----------|
| 00:56:06<br>32, | 27 00.01'N | 86 29.72'W | 146.9  | -58.5 | -68.0 | 112.0 | 6.2 | 143.03.0 |
| 01:07:29<br>33, | 27 00.52'N | 84 59.45'W | 147.0  | -60.2 | -68.3 | 133.5 | 5.8 | 144.1.3  |
| 01:36:01        | 27 50.82'N | 82 31.26'W | 1016.6 | 35.0  | 23.1  | 51.9  | 9.0 | 11.9     |

|         |       |       |       |       |      |                                        |
|---------|-------|-------|-------|-------|------|----------------------------------------|
| 14347.2 | 90.3  | 89.7  | 228.1 | 222.3 | 0.36 | winds at 04 sec<br>Sonde Launch, Drop  |
| 14355.4 | 79.5  | 78.4  | 227.3 | 223.9 | 0.30 | winds at 03 sec<br>Sonde Launch, Drop  |
| 11.9    | 219.0 | 230.3 | 0.4   | 9.3   | 0.00 | winds at 05 sec<br>Taxling to hangar 5 |

| 070816n.log | Latitude   | Longitude  | Press | Temp  | DP    | WD    | WS   |
|-------------|------------|------------|-------|-------|-------|-------|------|
| 17:43:40    | 19 43.09'N | 65 29.26'W | 295.9 | -33.5 | -43.0 | 195.2 | 9.5  |
| 17:52:12    | 20 43.30'N | 65 55.70'W | 188.6 | -55.9 | -53.5 | 236.1 | 4.9  |
| 18:01:40    | 21 48.76'N | 66 24.88'W | 178.0 | -59.0 | -60.0 | 169.2 | 2.3  |
| 18:13:43    | 21 59.99'N | 65 00.00'W | 178.0 | -56.6 | -62.1 | 150.7 | 8.2  |
| 18:29:04    | 21 59.97'N | 62 58.63'W | 177.9 | -57.1 | -62.9 | 114.8 | 1.6  |
| 18:35:07    | 22 00.14'N | 62 10.80'W | 169.7 | -59.3 | -63.3 | 101.7 | 6.6  |
| 18:44:17    | 21 57.79'N | 60 59.84'W | 169.8 | -59.1 | -64.4 | 127.5 | 4.0  |
| 19:00:55    | 20 36.53'N | 59 28.75'W | 161.7 | -60.8 | -65.4 | 150.1 | 1.9  |
| 19:14:38    | 21 57.75'N | 58 28.47'W | 161.7 | -61.3 | -66.1 | 320.1 | 3.3  |
| 19:33:47    | 22 01.95'N | 56 00.65'W | 161.8 | -60.7 | -66.1 | 355.7 | 13.3 |
| 19:44:08    | 22 49.31'N | 55 02.43'W | 161.6 | -60.5 | -66.5 | 347.9 | 12.2 |
| 19:59:12    | 20 58.88'N | 55 02.43'W | 162.0 | -61.7 | -66.7 | 200.2 | 5.5  |
| 20:10:06    | 20 00.53'N | 55 54.85'W | 161.9 | -62.6 | -67.0 | 185.8 | 7.9  |
| 20:18:52    | 19 12.65'N | 55 12.62'W | 161.8 | -62.4 | -67.6 | 189.0 | 10.7 |
| 20:18:52    | 19 12.65'N | 55 12.62'W | 161.8 | -62.4 | -67.6 | 189.0 | 10.7 |

Real

|          |            |            |       |       |       |       |      |
|----------|------------|------------|-------|-------|-------|-------|------|
| 20:37:09 | 17 46.88'N | 54 37.32'W | 154.1 | -65.4 | -68.4 | 213.1 | 17.5 |
| 20:54:52 | 16 58.75'N | 56 33.45'W | 154.1 | -64.5 | -68.3 | 158.0 | 17.2 |
| 21:04:56 | 16 26.30'N | 55 31.91'W | 154.2 | -66.3 | -69.2 | 147.8 | 17.2 |
| 21:16:46 | 15 23.30'N | 54 42.16'W | 154.2 | -66.7 | -69.9 | 132.5 | 12.5 |
| 21:28:03 | 14 05.15'N | 54 24.56'W | 154.1 | -66.1 | -69.7 | 113.4 | 9.0  |
| 21:39:10 | 12 47.94'N | 54 42.62'W | 147.0 | -67.9 | -69.9 | 200.9 | 7.1  |
| 21:50:15 | 11 45.03'N | 55 33.00'W | 147.0 | -67.8 | -70.4 | 196.2 | 3.4  |
| 22:01:32 | 11 11.09'N | 56 47.89'W | 147.1 | -68.5 | -70.9 | 201.0 | 2.4  |
| 22:12:50 | 11 13.99'N | 58 10.29'W | 146.9 | -68.9 | -71.4 | 316.6 | 1.9  |
| 22:22:47 | 11 46.82'N | 59 15.69'W | 146.9 | -67.9 | -71.5 | 43.1  | 5.0  |

| MSL Alt | G Alt   | Heading | Track | TAS   | GS    | V Vel | Event Comments  |
|---------|---------|---------|-------|-------|-------|-------|-----------------|
| 9804.5  | 9775.5  | 336.6   | 337.8 | 235.4 | 242.7 | 6.01  | Td > Ta         |
| 12795.0 | 12752.0 | 336.4   | 337.5 | 223.5 | 224.4 | 3.06  | Drop 1,         |
| 13160.8 | 13116.7 | 343.7   | 342.3 | 228.4 | 230.7 | -0.16 | winds at 23 sec |
| 13170.5 | 13126.6 | 92.6    | 90.7  | 230.0 | 225.8 | 0.22  | Drop 2,         |
| 13184.5 | 13140.5 | 90.2    | 90.0  | 228.8 | 227.4 | -0.39 | winds at 5 sec  |
| 13476.2 | 13430.5 | 90.5    | 90.0  | 226.5 | 220.0 | -0.74 | winds at 4 sec  |
| 13478.5 | 13432.8 | 116.7   | 115.8 | 228.5 | 224.7 | 0.49  | climbed to 42k  |
| 13792.0 | 13743.4 | 72.9    | 73.4  | 226.4 | 226.0 | 0.28  | Drop 4,         |
| 13787.1 | 13739.7 | 61.3    | 61.4  | 226.2 | 226.8 | 0.28  | winds at 6 sec  |
| 13788.2 | 13740.8 | 63.3    | 66.8  | 227.1 | 222.4 | 0.07  | Drop 5,         |
| 13786.1 | 13739.5 | 125.2   | 125.4 | 229.4 | 238.2 | -0.60 | winds at 37 sec |
| 13782.4 | 13734.2 | 207.4   | 207.1 | 226.8 | 221.3 | 0.05  | Drop 6,         |
| 13784.1 | 13735.0 | 182.1   | 182.7 | 228.1 | 220.1 | 0.34  | winds at 13 sec |
| 13793.3 | 13743.5 | 138.4   | 136.1 | 226.1 | 219.5 | -0.30 | Drop 7,         |
| 13793.3 | 13743.5 | 138.4   | 136.1 | 226.1 | 219.5 | -0.30 | winds at 06 sec |
| 13793.3 | 13743.5 | 138.4   | 136.1 | 226.1 | 219.5 | -0.30 | winds at 09 sec |
|         |         |         |       |       |       |       | Drop 8,         |
|         |         |         |       |       |       |       | Drop 9,         |
|         |         |         |       |       |       |       | winds at 01 sec |
|         |         |         |       |       |       |       | Drop 10,        |
|         |         |         |       |       |       |       | winds at 01 sec |
|         |         |         |       |       |       |       | A bit more      |
|         |         |         |       |       |       |       | turbulence      |
|         |         |         |       |       |       |       | Drop 11,        |
|         |         |         |       |       |       |       | winds at 05 sec |
|         |         |         |       |       |       |       | MADS crash.     |

drop time was  
202120.

|         |         |       |       |       |       |       |                 |
|---------|---------|-------|-------|-------|-------|-------|-----------------|
| 14078.4 | 14025.8 | 247.0 | 249.5 | 224.7 | 210.2 | 0.22  | Drop 12,        |
| 14090.0 | 14036.8 | 164.8 | 166.9 | 225.6 | 208.5 | -0.04 | winds at 04 sec |
| 14079.0 | 14025.4 | 133.0 | 131.2 | 224.5 | 207.9 | 0.22  | Drop 13,        |
| 14079.9 | 14025.6 | 156.3 | 157.0 | 225.1 | 213.6 | -0.14 | winds at 05 sec |
| 14076.2 | 14021.1 | 181.3 | 182.9 | 224.0 | 220.6 | -0.24 | Drop 14,        |
| 14363.1 | 14305.6 | 206.8 | 206.5 | 221.7 | 214.6 | -0.13 | winds at 37 sec |
| 14356.1 | 14298.0 | 233.3 | 233.3 | 223.5 | 220.7 | -0.38 | Drop 15,        |
| 14352.6 | 14294.3 | 266.9 | 266.8 | 221.4 | 220.4 | 0.16  | winds at 10 sec |
| 14358.8 | 14300.5 | 296.3 | 296.1 | 223.9 | 222.0 | -0.01 | Drop 16,        |
| 14359.9 | 14301.8 | 319.6 | 317.8 | 222.8 | 222.3 | 0.29  | winds at 05 sec |
|         |         |       |       |       |       |       | Drop 17,        |
|         |         |       |       |       |       |       | winds at 05 sec |
|         |         |       |       |       |       |       | Drop 18,        |
|         |         |       |       |       |       |       | winds at 17 sec |
|         |         |       |       |       |       |       | Drop 19,        |
|         |         |       |       |       |       |       | winds at 11 sec |
|         |         |       |       |       |       |       | Drop 20,        |
|         |         |       |       |       |       |       | winds at 05 sec |
|         |         |       |       |       |       |       | Drop 21,        |

|          |    |         |    |         |        |       |       |       |      |
|----------|----|---------|----|---------|--------|-------|-------|-------|------|
| 2:43:53  | 14 | 07.23'N | 60 | 22.69'W | 147.0  | -67.3 | -71.4 | 103.4 | 12.8 |
| 22:54:35 | 15 | 23.89'N | 60 | 05.41'W | 147.0  | -67.0 | -71.2 | 112.7 | 17.4 |
| 23:00:03 | 15 | 55.12'N | 59 | 41.37'W | 147.0  | -67.3 | -71.2 | 123.3 | 16.0 |
| 23:11:11 | 16 | 44.77'N | 58 | 38.50'W | 146.8  | -66.9 | -71.1 | 151.0 | 10.5 |
| 23:27:48 | 18 | 26.05'N | 58 | 32.82'W | 147.0  | -66.8 | -71.2 | 204.9 | 16.5 |
| 23:47:36 | 18 | 03.18'N | 61 | 00.60'W | 146.8  | -65.6 | -71.1 | 149.9 | 8.8  |
| 23:50:38 | 18 | 18.28'N | 61 | 18.05'W | 146.8  | -65.1 | -70.9 | 143.6 | 2.4  |
| 00:09:43 | 19 | 53.72'N | 63 | 03.20'W | 146.8  | -63.9 | -70.3 | 126.5 | 9.6  |
| 00:38:31 | 17 | 42.10'N | 64 | 48.05'W | 1013.6 | 30.4  | 24.8  | 73.7  | 5.3  |

|        |         |       |       |       |       |       |                             |
|--------|---------|-------|-------|-------|-------|-------|-----------------------------|
| 4372.8 | 14315.9 | 359.2 | 355.4 | 222.3 | 225.9 | -0.11 | winds at 05 sec<br>Drop 22, |
| 4374.0 | 14317.9 | 30.0  | 24.9  | 223.3 | 222.0 | 0.84  | winds at 05 sec<br>Drop 23, |
| 4372.4 | 14316.7 | 41.1  | 36.9  | 223.5 | 221.8 | -0.15 | winds at 48 sec<br>Drop 24, |
| 4384.6 | 14329.5 | 66.0  | 63.3  | 224.5 | 223.9 | -0.44 | winds at 48 sec<br>Drop 25, |
| 4373.0 | 14319.2 | 296.6 | 301.5 | 221.9 | 223.2 | 0.03  | winds at 06 sec<br>Drop 26, |
| 4378.1 | 14324.0 | 291.0 | 291.7 | 225.5 | 232.2 | -0.22 | winds at 43 sec<br>Drop 27, |
| 4375.6 | 14321.7 | 316.8 | 316.7 | 224.5 | 226.8 | 0.58  | winds at 20 sec<br>Drop 28, |
| 4364.7 | 14312.2 | 247.3 | 250.2 | 226.0 | 231.1 | -0.06 | winds at 08 sec<br>Drop 29, |
| 16.0   | 16.0    | 83.5  | 79.1  | 24.5  | 19.2  | -0.15 | winds at 17 sec<br>landed   |

## =====

HURRICANE SYNOPTIC SURVEILLANCE MISSION PLAN: Hurricane

National Hurricane Center: August 18, 2007 10:55:18 AM

Aircraft: N49RF

Proposed takeoff: 19/1730Z

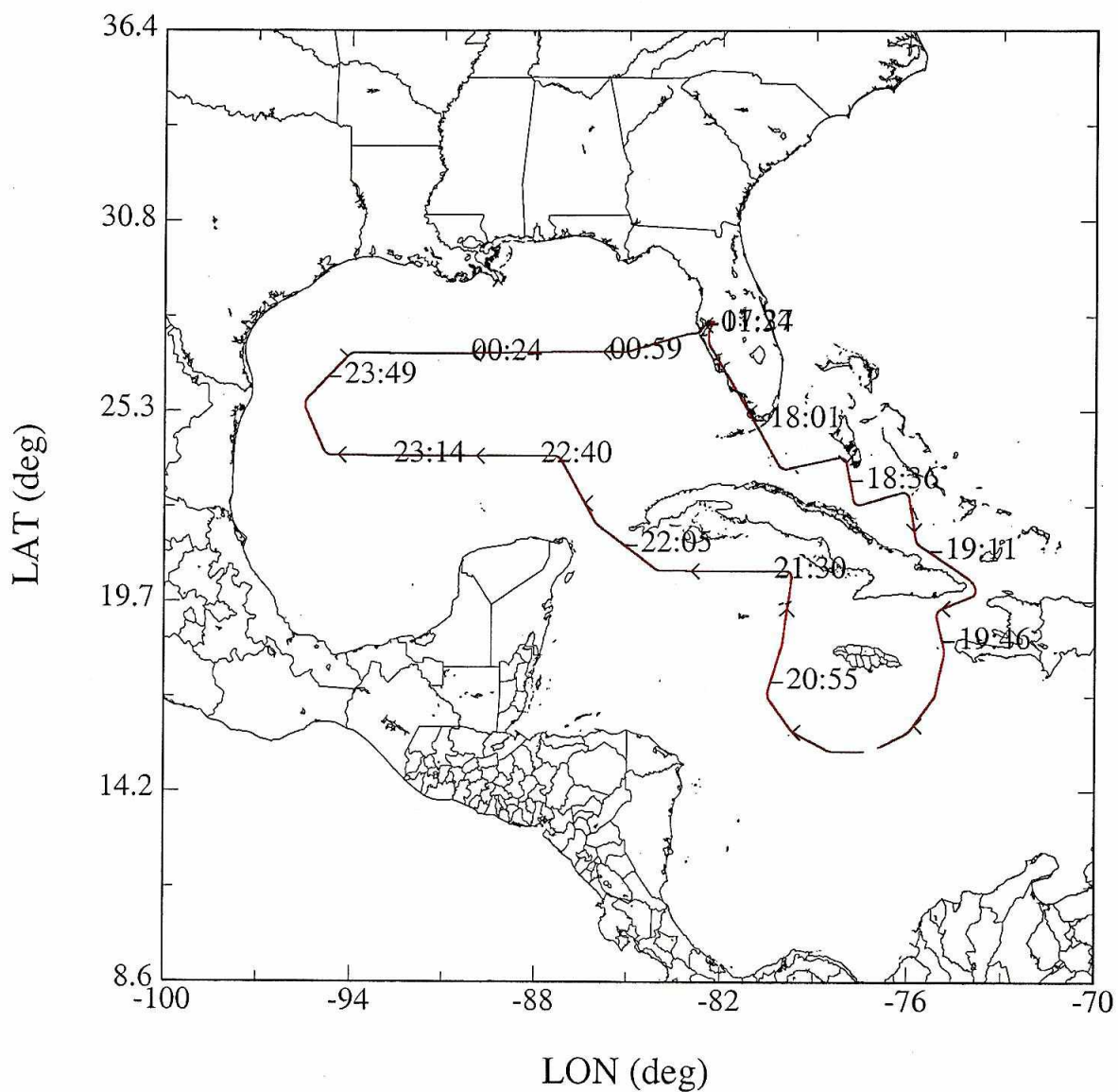
=====

## DROP LOCATIONS

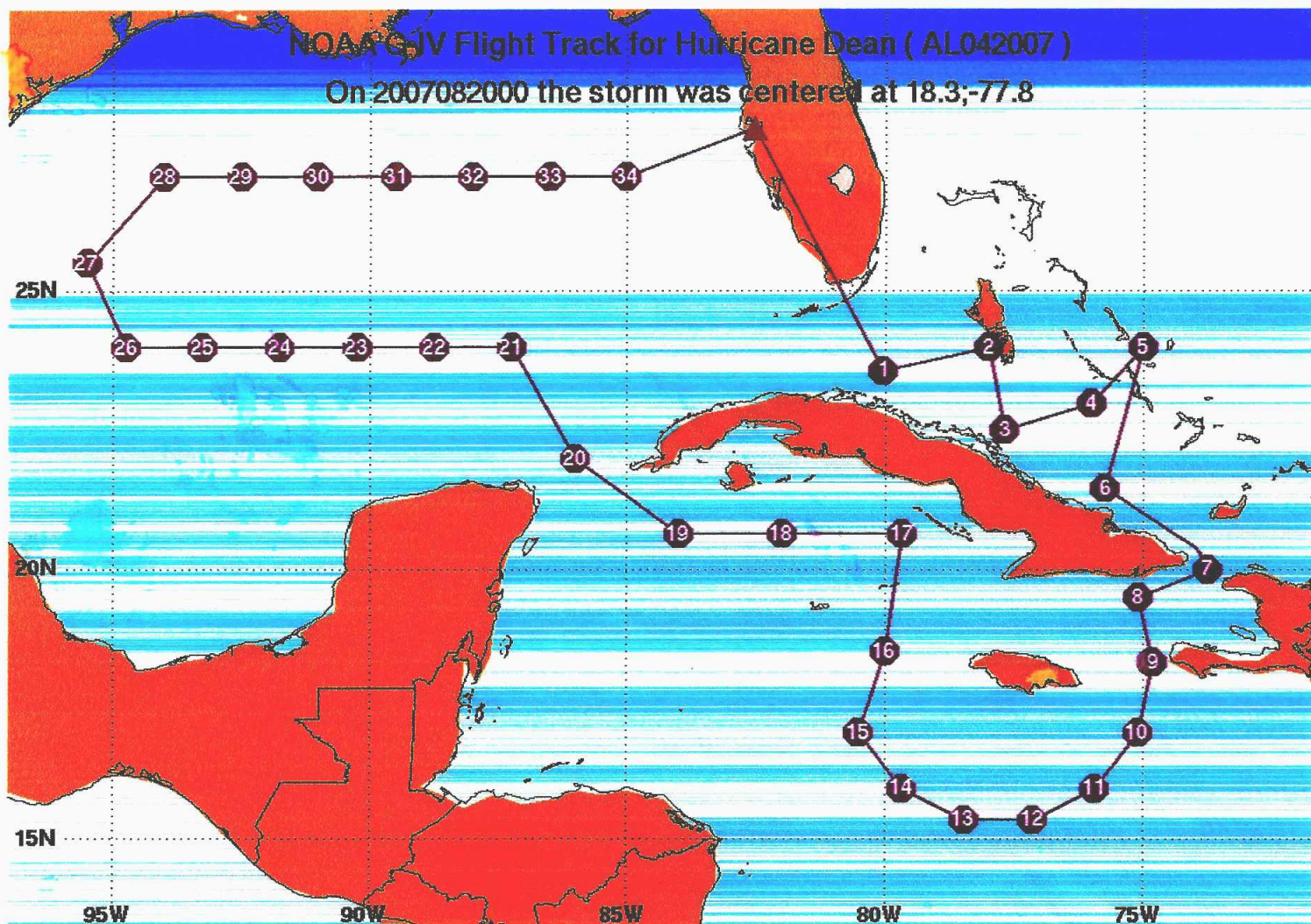
| #  | LAT<br>(d m) | LON<br>(d m) | TIME<br>(h:mm) |
|----|--------------|--------------|----------------|
| 1  | 23 35        | -80 02       | 0:40           |
| 2  | 24 00        | -78 00       | 0:56           |
| 3  | 22 32        | -77 42       | 1:08           |
| 4  | 23 00        | -76 00       | 1:22           |
| 5  | 24 00        | -75 00       | 1:34           |
| 6  | 21 28        | -75 44       | 1:55           |
| 7  | 20 00        | -73 45       | 2:15           |
| 8  | 19 29        | -75 06       | 2:27           |
| 9  | 18 18        | -74 48       | 2:37           |
| 10 | 17 00        | -75 06       | 2:48           |
| 11 | 15 57        | -75 56       | 2:58           |
| 12 | 15 23        | -77 08       | 3:09           |
| 13 | 15 23        | -78 28       | 3:20           |
| 14 | 15 57        | -79 40       | 3:31           |
| 15 | 17 00        | -80 30       | 3:41           |
| 16 | 18 30        | -80 00       | 3:54           |
| 17 | 20 39        | -79 40       | 4:12           |
| 18 | 20 39        | -82 00       | 4:31           |
| 19 | 20 39        | -84 00       | 4:46           |
| 20 | 22 00        | -86 00       | 5:06           |
| 21 | 24 00        | -87 15       | 5:25           |
| 22 | 24 00        | -88 45       | 5:37           |
| 23 | 24 00        | -90 15       | 5:48           |
| 24 | 24 00        | -91 45       | 5:60           |
| 25 | 24 00        | -93 15       | 6:12           |
| 26 | 24 00        | -94 45       | 6:23           |
| 27 | 25 30        | -95 30       | 6:37           |
| 28 | 27 00        | -94 00       | 6:54           |
| 29 | 27 00        | -92 30       | 7:06           |
| 30 | 27 00        | -91 00       | 7:17           |
| 31 | 27 00        | -89 30       | 7:29           |
| 32 | 27 00        | -88 00       | 7:40           |
| 33 | 27 00        | -86 30       | 7:52           |
| 34 | 27 00        | -85 00       | 8:03           |

# Hurricane\_2007, Flight #rf03

08/19/2007, 17:27:00-25:34:00



|                      | mean   | sigma | min    | max    |
|----------------------|--------|-------|--------|--------|
| — LAT (deg), 1 s/sec | 22.84  | 3.64  | 15.36  | 27.91  |
| — LON (deg), 1 s/sec | -83.44 | 6.28  | -95.46 | -73.84 |



pt 5

'atlantic-map' (ads@L3) Proj. 706 Flt rf03 Aug-20-07 01:32:53  
00:22:28 to 01:32:53

