

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

| | | |
|---------------------|-----------------|---------------------|
| FLT ID: 20121027H2 | From: KMcF | To: KMcF |
| FLT #: | Blk In: 0326 Z | Lnd Time: 0316 Z |
| ETD: 2000 Z | Blk Out: 1951 Z | T/O Time: 2000 Z |
| ETE: 8+20 | Total Blk: 7.6 | Total Flt: 7.3 |
| Sponsoring Org: EMC | Program: TPC | Purpose: FULL SANDY |

AOC Flight Crew

| | |
|----------------------------|-----------------------|
| Aircraft Commander: Nelson | Data System: Lynch, T |
| Co-Pilot: Sweeney / Martin | Avaps: Smith |
| Navigator: Sloan / | System Engineer: Peck |
| Flight Eng: Klippel / | AA: |
| Flt Director: Williams / | AA: |
| Avionics: Newnam | Crew Chief: |

Participating Scientists, Visitors, & Add'l Aircrew on back: 15 # of people listed on back: 5

| | | | | |
|----------|---------------|----------------------|------------|-------------------|
| | A/C - Takeoff | Wx Station - Takeoff | A/C - Land | Wx Station - Land |
| Pressure | | 2966 | 405.6 | |

ATIS - Takeoff

ATIS - Land 0255 330101d um cer 23/20 A2973

| Data Source | Number | Data Disposition / Date / Quality | |
|--------------------|--------|-----------------------------------|------------|
| Flight Level Tapes | | | |
| Radar Tapes | | | |
| Dropsondes | 21 | Good: 21 | Bad: Sent: |
| AXBT | 18 | | |

List other data sources on back in Remarks section.

| Remarks (Storm Name, Mission ID, Recco Times, Fix Times) | Recco Times: | Fix # | Fix Time |
|--|--------------|-------|----------|
| Storm Name: AL182012 | | 1 | 2146 966 |
| | | 2 | 2300 961 |
| | | 3 | 2358 960 |
| | | 4 | 0114 961 |

4 pennies

46 HDAs
 35 gen obs (21 sandes 4 vdm's)
 10 reccos



N42RF ERROR SUMMARY
HUR RAFAEL, KMCF-KMCF
 27 Oct 2012



Flight ID: 20121027H2

| <u>Sensor or system</u> | <u>Number or Name</u> |
|---|----------------------------------|
| Inertial Selected (for wind derivation) | INE 1 |
| Accelerometer | AccZfilterI-GPS.1 |
| Temperature Probe | TTM.1 |
| Dew Point Probe | TDM.2 |
| Static Pressure | PSM.2 |
| Dynamic Pressure | PQM.2 |
| Altitude (for vertical wind) | AltI-GPS.1 |
| Flight Directory | acdata/MET/2012/20121027H2 |
| Constants File | 20121027H2/AAMPSCfg/core/n42.xml |

| <u>Local Met Data:</u> | <u>Takeoff (2000Z)</u> | <u>Landing (0316Z)</u> |
|----------------------------------|------------------------|------------------------|
| Aircraft Static Pressure (PSM.2) | 1003.9 mb | 1006.3 mb |
| Tower Pressure (corrected) | 1004.1 mb | 1005.6 mb |

Notes:

There were no data gaps.

The Edgetech dewpoint, TDM.2, performed best and was used as default. TDM.3, the Maycomm TDL, was unusable for the flight. Dew point values intermittently exceeded ambient temperature values during portions of flight where the aircraft was in precipitation, causing RH values greater than 100%.

The Novatel Alt, Lat and Lon (GPS.3) had 4 data spikes at 23:13:38Z, 00:28:36Z, 01:28:15Z and 02:02:23Z. The blended inertial-GPS solution Alt, Lat and Lon (I-GPS.1) is the default position source.

SPECIAL NOTE!!! The variable names GSZ_DPJ, ASZ_DPJ and WSZ_DPJ in the netCDF file represent vertical ground speeds, vertical air speeds and vertical wind speeds, respectively, computed using Dave Jorgensen's vertical wind algorithm. It is recommended that these values be used for vertical wind analysis.

All other AOC instruments worked properly.

There were 21 GPS dropsondes (21 sent) and 18 AXBT's released from the aircraft. There were 4 hurricane penetrations.

Flight Director:
Phone #:

Jess Williams
(813) 828-3310 ext. 3140/3077

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FLT ID: 20121027H2 T/O Time: 2000 Z Lnd Time: 0316 Z

| Name (Last, First) | Activity on Aircraft | Affiliation |
|--------------------|----------------------|--------------|
| Rogers | PI | HRD |
| Gamache | RADAR | HRD |
| TORN, Ryan | THE OBS | HFIP |
| VanCleave Chris | MEDIA | ABC/CNN (DC) |
| Fiol Michael | ↓ | ABC/CNN (DC) |
| | | |
| | | |
| | | |

Remarks:

CNN 404-827-1411

~~inmarsat~~
inmarsat

061

Iridium
1*

201+404 8271411

Project: Hurricane 2012

Mission: Hurricane Season

Flight ID: 20121027112

Take Off: 2020Z

Landing: 0316Z

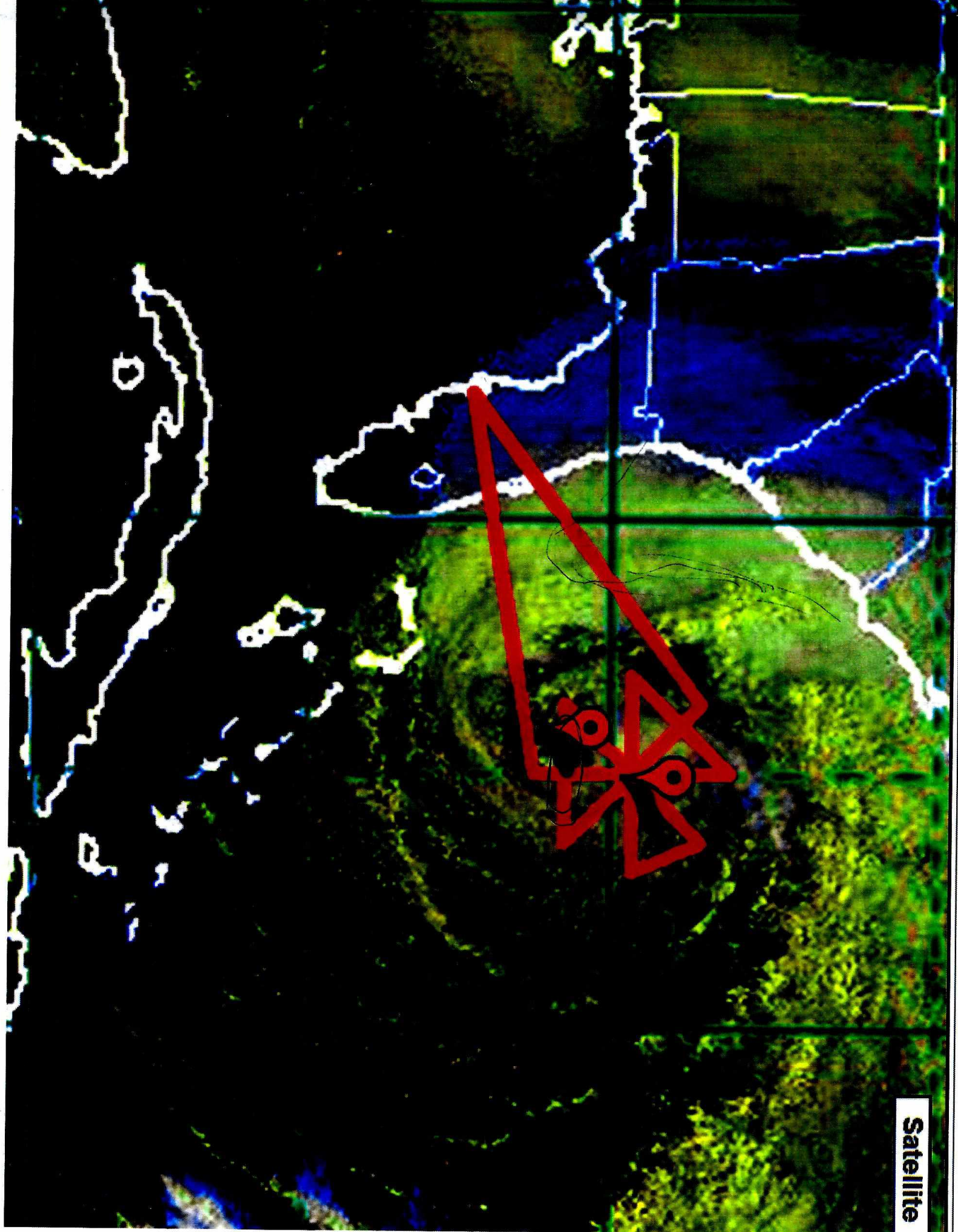
Flt Dir: Williams

| Drop # | Sonde Serial # | Rcvr # | Press Offset | Launch Time | Operator | Charge \$\$ To | Comments | Good ? |
|--------|----------------|--------|--------------|-------------|----------|----------------|-----------------------|--------|
| BT 1 | 111925007 | 1 | Ø | 222449 | JWF | JFIP | IP | ✓ |
| BT 2 | 117315049 | 2 | Ø | 213529 | | | | ✓ |
| BT 3 | 111925081 | 3 | Ø | 214024 | | | | ✓ |
| BT 4 | 112325280 | 4 | Ø | 215154 | | | | ✓ |
| BT 5 | 112325012 | 5 | Ø | 220356 | | | End PE LATE LD (2sec) | ✓ |
| BT 6 | 111925086 | 6 | Ø | 223647 | | | End PE LATE LD 12sec | ✓ |
| BT 7 | 112325317 | 7 | Ø | 224738 | | | LATE LD 12sec | ✓ |
| BT 8 | 112315122 | 8 | Ø | 225838 | | | Center | ✓ |
| BT 9 | 111945319 | 1 | Ø | 231158 | | | LATE LD 7sec | ✓ |
| BT 10 | 111745150 | 2 | Ø | 232016 | | | End PE | ✓ |
| BT 11 | 112325183 | 3 | Ø | 233737 | | | End PE | ✓ |
| BT 12 | 112065020 | 4 | Ø | 234627 | | | LATE LD 7sec | ✓ |
| BT 13 | 112115385 | 5 | Ø | 235850 | | | Center LATE LD 4sec | ✓ |
| BT 14 | 112115387 | 6 | Ø | 001024 | | | LATE LD 12sec | ✓ |
| BT 15 | 112115219 | 7 | Ø | 002125 | | | End PE | ✓ |
| BT 16 | 112325028 | 8 | Ø | 005216 | | | End PE | ✓ |
| BT 17 | 111925036 | 1 | Ø | 010429 | | | | ✓ |
| BT 18 | 112315041 | 2 | Ø | 011414 | | | Center | ✓ |
| BT 19 | 112325278 | 3 | Ø | 012550 | | | | ✓ |
| BT 20 | 112315025 | 4 | Ø | 014057 | | | End PE | ✓ |
| BT 21 | 112315043 | 5 | Ø | 014609 | JWF | JFIP | Extended log | ✓ |
| 22 | | | | | | | | |
| 23 | | | | | | | | |
| 24 | | | | | | | | |
| 25 | | | | | | | | |
| 26 | | | | | | | | |
| 27 | | | | | | | | |
| 28 | | | | | | | | |
| 29 | | | | | | | | |
| 30 | | | | | | | | |
| 31 | | | | | | | | |
| 32 | | | | | | | | |
| 33 | | | | | | | | |
| 34 | | | | | | | | |

Combined HRD/JFIP MISSION. Sondes charged to HRD since

JFIP inventory = 0

- BT - HRD - Sondes



Satellite

~~CD~~ H S. Cont 1 TDR EMC

Plan ~~several~~ 12kft ~~is~~ passes S 18BT's ~20s mostly combo

AF Test 71 23-05z 5-10kft? carbah
chk with flight to clear drops

WX H0 3403623 UNL ~~3403623~~ 170 OCNL SUR Turb ^{terminal} 2-11kft
19kft
tempo 3402063564

FLWIND NW 35-45kt ^{bold} [↑] 60kt ^{enroute} cont LGT OCNL MOT CLR AIR to our LP BW 15kft
HTV strat rain off coast Few emd TS
fzlv 11-12kft
stem ENV ~~wean~~ tropical sys merge w/ coldfront
W-side + E-SE side jet dryair 44 AIR ~ ~~best~~ ^{best} ~~clap~~ ^{clap}
IN CNTR CONV PAPPINGS W-NW -fairly open no eyewall

LND 3301061564 OCN MOD TUR ^{Desc} 9kt SKC

2PM 29.7 75.6 96lwb
 3038 75 00

2140, 2204
 2152

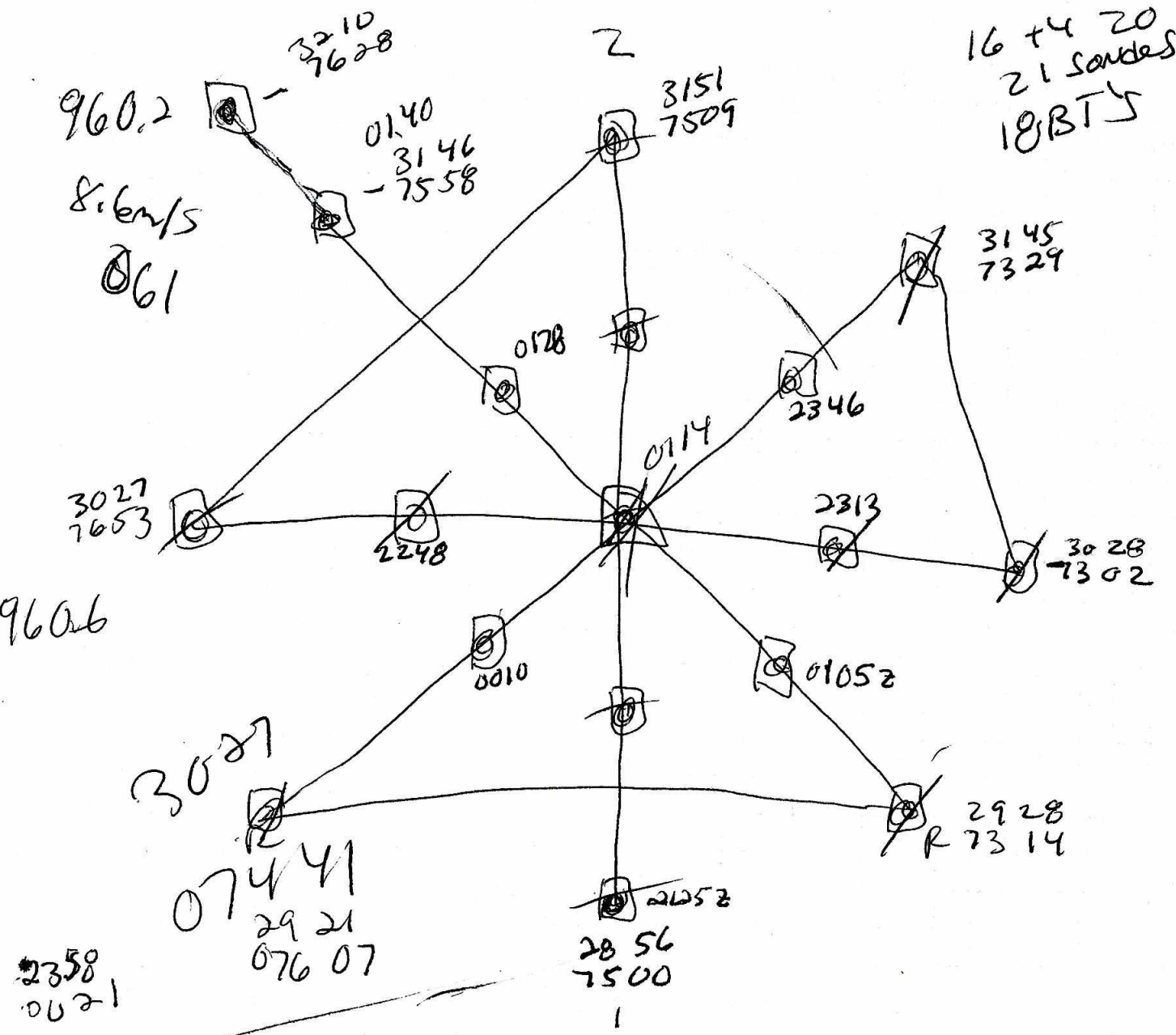
Rec'd 012026

CNTR
 3028
 7456

3040 7435

2335 2358
 ~ 11

16 + 4 20
 21 sandes
 18 BT's



○ - GPS sonde
 □ - ATBT

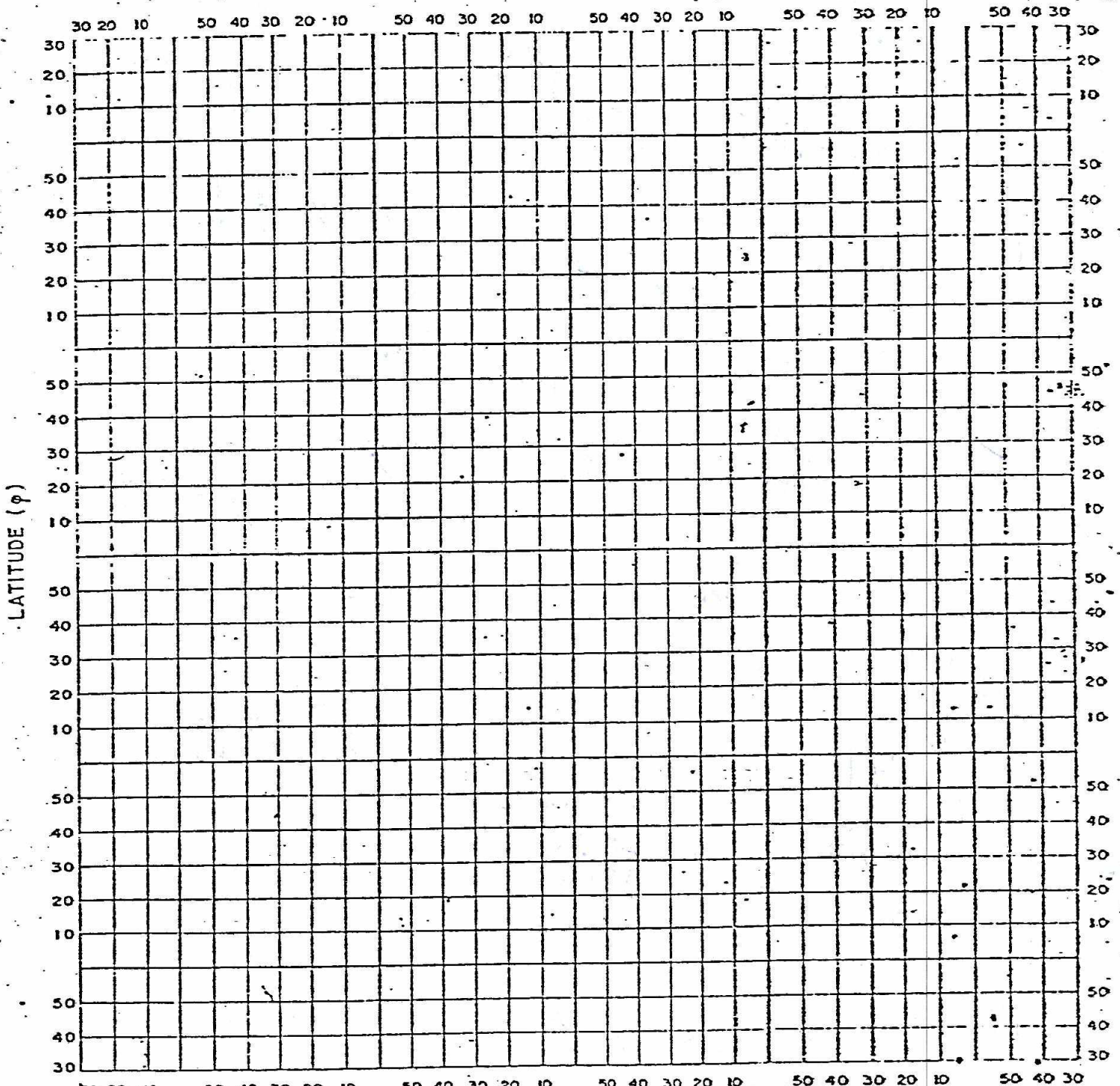
3075

2358472

0114462

HURRICANE RECCO PLOTTING CHART

TRUE AT 25° LATITUDE, IN DEGREES AND MINUTES OF ϕ AND λ



DATE _____

LONGITUDE (λ) _____

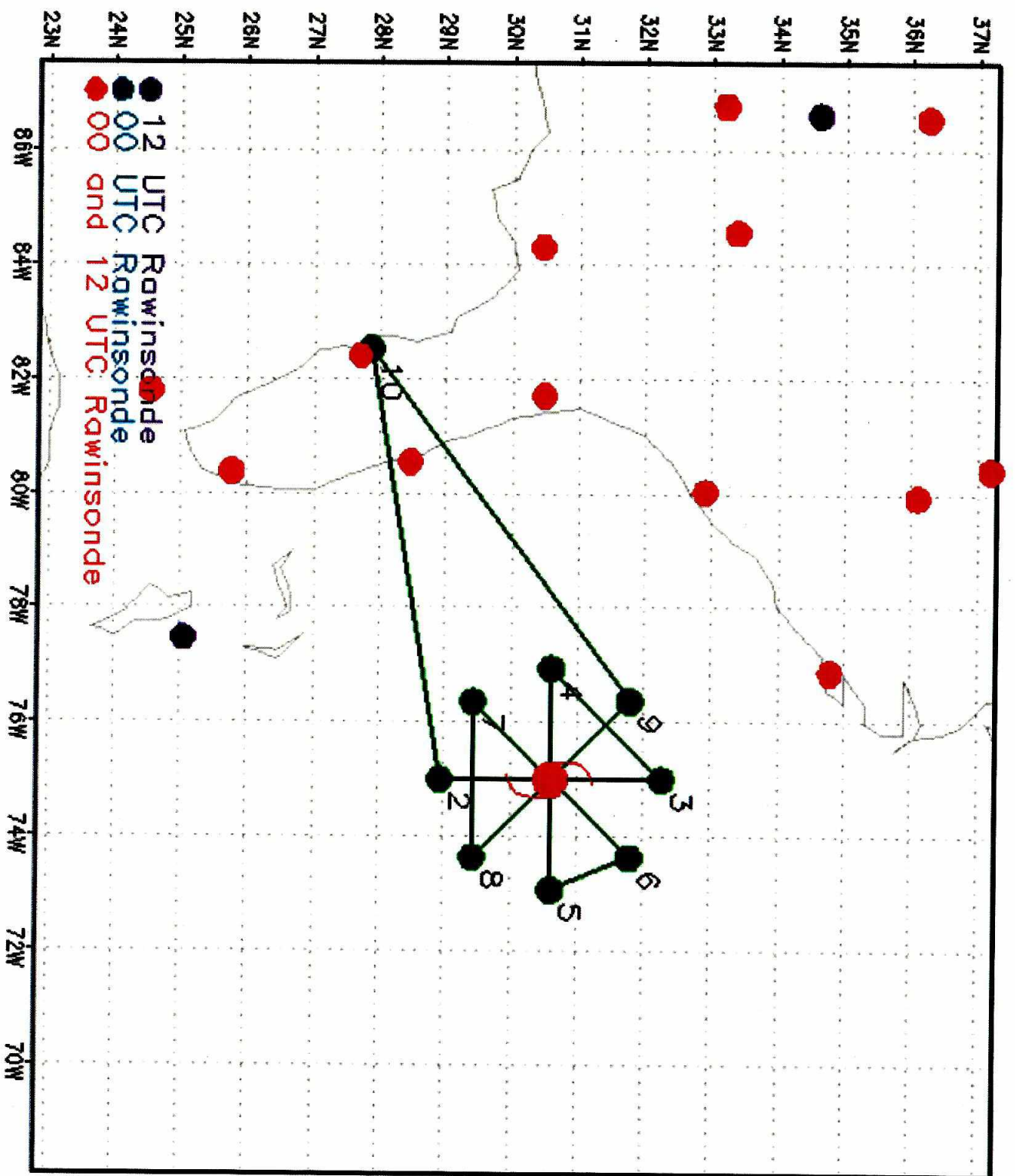
OBSERVER _____

NOTE: LABEL FULL DEGREES ACCORDING TO LOCATION OF FLIGHT AREA

| | | | |
|--|---|--|------|
| DATE | SCHEDULED FIX TIME | AIRCRAFT NUMBER | ARWO |
| WX MISSION IDENTIFICATION | | STORM NUMBER IDENTIFIER | |
| VORTEX DATA MESSAGE | | | OB |
| A | 21 | DATE AND TIME OF FIX | |
| B | 37 DEG 11 MIN N S | LATITUDE OF VORTEX FIX | |
| | 75 DEG 09 MIN E W | LONGITUDE OF VORTEX FIX | |
| C | NA / GA | MINIMUM HEIGHT AT STANDARD LEVEL | |
| D | 46 | ESTIMATE OF MAXIMUM SURFACE WIND OBSERVED | |
| E | 166 / 36 | BEARING AND RANGE FROM CENTER OF MAXIMUM SURFACE WIND | |
| F | WS 262 / WS 64 | MAXIMUM FLIGHT LEVEL WIND NEAR CENTER | |
| G | 771 / 55 | BEARING AND RANGE FROM CENTER OF MAXIMUM FLIGHT LEVEL WIND | |
| H | 960 | MINIMUM SEA LEVEL PRESSURE COMPUTED FROM DROPSONDE OR EXTRAPOLATED FROM FLIGHT LEVEL. IF <u>EXTRAPOLATED</u> , CLARIFY IN REMARKS. | |
| I | 9 / 3671 PA | MAXIMUM FLIGHT LEVEL TEMP/PRESSURE ALTITUDE OUTSIDE EYE | |
| J | 13 / 3664 PA | MAXIMUM FLIGHT LEVEL TEMP/PRESSURE ALTITUDE INSIDE EYE | |
| K | TD 6 / NA (NA) | DEWPOINT TEMP/SEA SURFACE TEMP INSIDE EYE | |
| L | NA | EYE CHARACTER: Closed wall, poorly defined, open SW, etc. | |
| M | C CO - NA E / / | EYE SHAPE/ORIENTATION/DIAMETER. CODE EYE SHAPE AS: C -Circular; CO - Concentric; E- Elliptical. TRANSMIT ORIENTATION OF MAJOR AXIS IN TENS OF DEGREE (i.e., 01-010 to 190; 17-170 to 350). TRANSMIT DIAMETER IN NAUTICAL MILES. Examples: C8 - Circular eye 8 miles in diameter. EO9/15/5 - Elliptical eye, major axis 090-270, length of major axis 15 NM, length of minor axis 5NM. CO8-14 - Concentric eye, diameter inner eye 8 NM, outer eye 14 NM. | |
| N | | FIX DETERMINED BY/FIX LEVEL. FIX DETERMINED BY: 1 - Penetration; 2 - Radar; 3 - Wind; 4 - Pressure; 5 - Temperature. FIX LEVEL: Indicate surface center if visible; indicate both surface and flight level centers only when same: 0 - Surface; 1 - 1500ft; 9-925mb; 8 - 850 mb; 7 - 700 mb; 5 - 500 mb; 4 - 400 mb; 3 - 300 mb; 2 - 200 mb; NA - Other. | |
| O | 711 | NAVIGATION FIX ACCURACY/METEOROLOGICAL ACCURACY | |
| P | REMARKS MAX FL WIND _____ KT _____ QUAD _____ Z MAX OUTBOUND FL WIND _____ KT _____ QUAD _____ Z SLP EXTRAP FROM (Below 1500 FT/ 925 MB/ 850 MB/ DROPSONDE) SFC CNTR _____ / _____ NM FROM FL CNTR MAX FL TEMP _____ C _____ / _____ NM FROM FL CNTR SURFACE WIND OBSERVED VISUALLY | | |
| INSTRUCTIONS: Items A through G (and H when extrapolated) are transmitted from the aircraft immediately following the fix. The remainder of the message is transmitted as soon as available. | | | |

Figure 5-3. Vortex Data Message Worksheet

001



AFTER LAUNCH (BEFORE LANDING)

1. Sonobuoy Release Control master switch: OFF
2. Sonobuoy Release Control safety switch: DISABLE
3. Aircraft Commander safety switch: DISABLE
4. Ground Loading safety switch: DISABLE
5. Station 5 28VDC WOW Breaker: OUT, RED RINGED
6. Notify Aircraft Commander if any live CAD's are still loaded.

AFTER LANDING

1. Remove all power from Station 5.
2. Unload all tubes.
3. Place live CAD's in secure storage.

0219
 M1 ATC
 JAX
 134.85
 M1A
 119.82

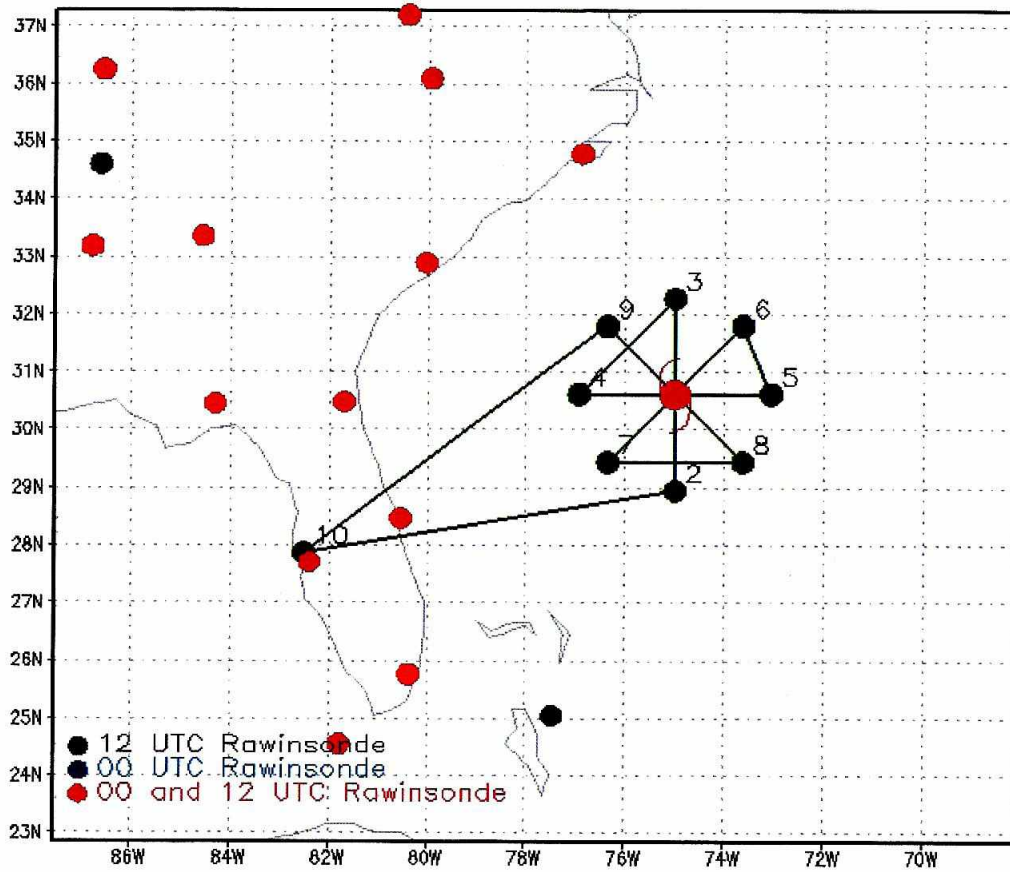
DW DW ↓

| | | | | | | |
|---------------|---------------|---------------|-------|-------|---------------|------------------|
| 12 | 1A | 2A | 12 | 12 | 3A | |
| 12 | 1B | 2B | 12 | 12 | 3B | 1B |
| 12 | 1C | 2C | 12 | 12 | 3C | Free Fall |
| 12 | 1D | 2D | 12 | 12 | 3D | 4D Pressure Tube |
| 12 | 1E | 2E | 12 | 12 | 3E | |
| 12 | 1F | 2F | 12 | 12 | 3F | |
| 1G | | | FWD 1 | RIGHT | 4G | |

- M1 CLAS M1 CTC M1A 123.67
 132.25

(76.5 w
 135.05
 126.12)

0213
 - ATC PP L/L M3049 W 7818 NO CAN 10h
 DUK TO TEAL 71



GRADS: COLA/IGES

2012-10-27-07:32

CTR 31N 150MM
75W
11-13K

