

E.2 Lead Project Scientist (On-Board)

E.2.1 Preflight

- _____ 1. Participate in general mission briefing.
- _____ 2. Determine specific mission and flight requirements for assigned aircraft.
- _____ 3. Determine from CARCAH or field program director whether aircraft has operational fix responsibility and discuss with AOC flight director/meteorologist and CARCAH unless briefed otherwise by field program director.
- _____ 4. Contact HRD members of crew to:
 - a. Assure availability for mission.
 - b. Arrange ground transportation schedule when deployed.
 - c. Determine equipment status.
- _____ 5. Meet with AOC flight crew at least 90 minutes before takeoff, provide copies of flight requirements, and provide a formal briefing for the flight director, navigator, and pilots.
- _____ 6. Report status of aircraft, systems, necessary on-board supplies and crews to appropriate HRD operations center (MGOC in Miami or FGOC at remote recovery location).

E.2.2 In-Flight

- _____ 1. Confirm from AOC flight director that satellite data link is operative (information).
- _____ 2. Confirm camera mode of operation.
- _____ 3. Confirm data recording rate.
- _____ 4. Complete Form E-2.

E.2.3 Postflight

- _____ 1. Debrief scientific crew.
- _____ 2. Report landing time, aircraft, crew, and mission status along with supplies (tapes, etc.) remaining aboard the aircraft to the appropriate HRD operations center (MGOC or FGOC).
- _____ 3. Gather completed forms for mission and turn in at the appropriate operations center. [Note: all data removed from the aircraft by HRD personnel should be cleared with the AOC flight director.]
- _____ 4. Obtain a copy of the 10-s flight listing from the AOC flight director. Turn in with completed forms.
- _____ 5. Determine next mission status, if any, and brief crews as necessary.
- _____ 6. Notify the appropriate operations center (FGOC or MGOC) as to where you can be contacted and arrange for any further coordination required.
- _____ 7. Prepare written mission summary.

On-Board Lead Project Scientist Check List

Date 9/21/02 Aircraft 43RF Flight ID 020921E

Hurricane Isidore

A. Participants:

| HRD | | AOC | |
|--|----------------------------|------------------------|----------------------------------|
| Function | Participant | Function | Participant |
| Lead Project Scientist | <u>P. Black</u> | Flight Director | <u>B. Damiano</u> |
| Cloud Physics | <u>—</u> | Pilots | <u>D. Temessen, H. Halvorsen</u> |
| Radar | <u>P. Dodge</u> | Navigator | <u>T. Adler</u> |
| Workstation | <u>P. Dodge</u> | Systems Engineer | <u>T. Lynch, J. Smith</u> |
| <u>Scissors digital</u> Photographer/Observer | <u>P. Matcovsov</u> | Data Technician | <u>D. San Souci</u> |
| <u>Laser Altimeter</u> | <u>P. Dodge</u> | Electronics Technician | <u>R. Song</u> |
| <u>GPS</u> -Omegasonde | <u>L.K. Shay, T. Cook,</u> | Other | <u>Flight Eng. J. Curry, D.</u> |
| AXBT/AXCP/Guest | <u>S. Gohin</u> | | |

SRA
Take-Off: E. Walsh Location: MacDill
Landing: _____ Location: _____ Number of Eye Penetrations: _____

B. Past and Forecast Storm Locations:

| Date/Time | Latitude | Longitude | MSLP | Maximum Wind |
|-----------|----------|-----------|------|--------------|
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C. Mission Briefing:

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Lead Project Scientist Event Log

Date 9/21/02Flight 020921FLPS P. Black

| Time | Event | Position | Comments |
|--------|--------------------------------------|----------------------|--|
| 175604 | BT16A | 2426 8332 | SST=28.4 mld ~ 50m |
| 180100 | BT12A | 2409 8344 | SST=28.4 moving on 100m near |
| 180404 | BT16B | 2353 8354 | SST=29.1 good on 125m um near |
| 181104 | BT12B | 2357 8408 | SST=29.0 D ₂₆ ~ 140m |
| 181551 | SFMR WS = 50kt PLWS = 35kt | | |
| 181609 | BT16B | 2322 8420 | SST=28.8 D ₂₆ =155m mld ~ 90m |
| 181905 | descend to 5,000 ft | | |
| 182046 | BT12B | 2307 8431 | SST=28.9 D ₂₆ =155m |
| 182401 | CP16 ① GPS1 | 2254 8442 | winds ok |
| | SFMR winds had 20kt when really 50kt | | |
| 183000 | CTD12 ② | 2246 8459 | good |
| 183500 | CP14 ③ | 2237 8517 | good |
| 184000 | CTD12 ④ | 2227 8534 | good |
| 184500 | CP14 ⑤ GPS2 | 2215 8556 | cp winds cp and on 5 sig |
| 185000 | CP12 ⑥ | 2203 8606 | VMAX = 105kt - cp good |
| | inside eyewall | no eyewall | 20 walls not ready |
| 185130 | turn in eye to 180 | | eyewall open W side circle |
| 185348 | Seyewall GPS3 | 2148 8609 | VMAX = 105kt |
| 1854 | Seyewall GPS4 | 2140 8609 | |
| | eye | 2157 8607 | |
| 1902 | descend to 1,000 ft | | |

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Lead Project Scientist Event Log

Date 9/21/02Flight 020921 ILPS R. Black

| | Time | Event | Position | Comments |
|-----|-----------------------------|----------------------------|------------------------|---|
| | 190716 | at 1,020 ft | 2058 888 08 | WS = 45 kt |
| | | old base \approx 1200 ft | | SRWS = 46 kt |
| | 191900 | chint to 5,000 ft | | |
| 15. | 192600 | CP16 (9) 38 shipped | 2003 8609 | good |
| | 192620 | GPS 5 | 2005 8609 | winds, PTH good TAS = 209, TAS = 231 |
| 16. | 193111 | CTD12 (10) | 2022 8609 | noisy |
| 17. | 193615 | CP14 (11) | 2041 8610 | |
| 18. | 194110 194110 | CTD12 (12), GPS 6 | 2103 8609 | good |
| 19. | 194625 | CP14 (13) | 2120 8609 | bad |
| 20. | 195122 | CP12 (14) | 2139 8609 | VPL = 85 kt no good |
| 21. | 195329 | GPS 7 | 2146 8609 | SRWS = 46 kt VPL = 97 |
| 22. | 195410 | GPS 8 | 2149 8609 | SRWSmax = 88 kt |
| 23. | 195705 | CP14 (14) | 2200 8607 | eye center CP good |
| 24. | 200035 | GPS 9 | 2213 8608 | late on winds again |
| 25. | 200240 | CP12 (15) | 2221 8608 | VMAX = 97 kt CP good |
| 26. | 200740 | CP14 (16) | 2241 8608 | |
| 27. | 201130 | good off waves | SRWS = 55 kt | FLWS = 55 kt |
| 27. | 201225 | CTD12 (17), GPS 10 | 2259 8608 | wire broke - no good |
| 28. | 201734 | CP14 (18) | 2320 8607 | good |
| 29. | 202230 | CTD12 (19) | 2338 8607 | SSS = 28.6 good |
| 30. | 203024 | CP16 (20) GPS 11 | 2401 8613 | winds, PTH good CP good - |
| 31. | 203610 | CP12 (20) | 2341 8635 | wire broke |

Lead Project Scientist Event Log

Date 9/21/02

Flight 020921Z

LPS P. Black

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| | Time | Event | Position | Comments |
|-----|-------------------|----------------------------|-------------|----------------------------------|
| 32. | 203757 | BT14(17) | 2341 8642 | |
| 33. | 204352 | BT12(18) | 2330 8704 | no good |
| | | old base 360 m | | |
| | 204710 | at 1,000 ft | PLWS ~ 40kt | SLWS ~ 30kt |
| 34. | 204904 | BT14(19) | 2318 8723 | SST ~ 28.9 |
| 35. | 205200 | BT12(10) | 2307 8742 | bottom at 120m |
| | 2056 | climb to 5,000 ft | 2300 8754 | SST ~ 29.3 brk ~ 15m |
| 36. | 210045 | CP14(25) GPS12 | 2251 8757 | good |
| 37. | 210519 | CTD12(26) | 2241 8736 | |
| 38. | 211012 | CP14(27) | 2236 8728 | good |
| 39. | 211517 | CTD12, GPS13 | 2227 8707 | good winds, PTH |
| 40. | 212027 | CP14(29) | 2220 8650 | CP good |
| 41. | 212510 | CP12 (28) | 2212 8634 | no good |
| 42. | 212812 | VMAX BT14(11) | 2128 8623 | SST ~ 27.3 in open water P5kt |
| 43. | 212840 | GPS14 | 2206 8621 | good NW open water |
| | | VMAX = 95 kt | | |
| | 213523 | | 2203 8613 | center |
| | 213800 | Juan Carlos ashes launched | | into eye |
| 44. | 213838 | GPS15 | 2201 8604 | |
| 45. | 213930 | GPS16 | 2141 8602 | SLWS max ~ 112kt |
| 46. | 214139 | GPS17 | 2159 8600 | 124WS max ~ 97kt |

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Lead Project Scientist Event Log

Date 9/21/02

Flight 020921 I

LPS R. Black

IAS 218
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EAS 209
48

| Time | Event | Position | Comments |
|---|--|------------|--------------------------------|
| 214413 | 258 seconds wind max | 2152 8550 | |
| 214556 | CP12 (31) | 2149 8544 | 600 ft max wind |
| 214902 | CP14 (32) | 2144 8536 | was 118 kt |
| 215434 | CTD 12 (33) | 2131 8517 | good |
| 220000 | CP14 (34) | 2121 8459 | good |
| 220500 | CTD 12 (35) | 2112 8441 | good |
| 221016 | CP16 (36) | 2102 8426 | good |
| 221604 | GPS 18 | 2111 8442 | good |
| 222025 | lightning | | |
| 223000 | BT 12 (12) | 2158 8516 | SST = 29.0 MLD = 100m |
| 224010 | BT 14 (13) | 2241 8459 | SST = 28.4 |
| 225200 | BT 16 (14) | 2329 8439 | SST = 28.5 |
| 2258 | at 1000 ft | 2452 38 kt | |
| 2300 | ch. back to 500 ft | | |
| 230504 | BT 16 (14) CP14 (37) | 2413 8421 | SST = 29.0 good CP |
| 232601 | over E end of O. Casco the speed of the deployment | 2446 8424 | 20 m/s toward SE MLD = 130m |
| 232601 | CP12 (38) | 2500 8405 | |
| 232601 | CTD 16 (39) | 2446 8424 | |
| 233154 | CP14 (40) | 2433 8443 | |
| Peter Matsumoto says Scripps camera needs to be adjusted to account for a wider range of brightness, especially low light | | | |

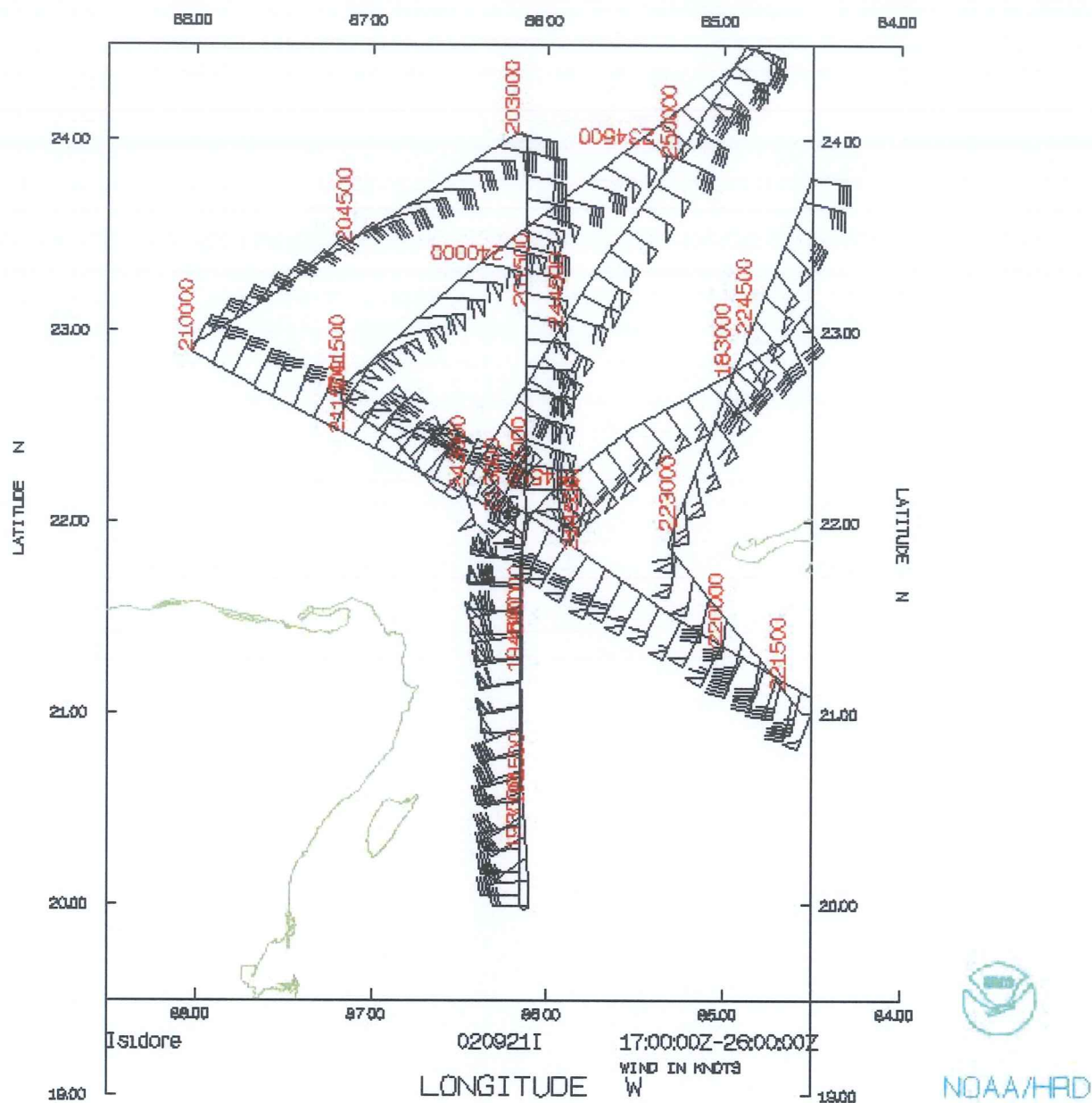
28 84 01203

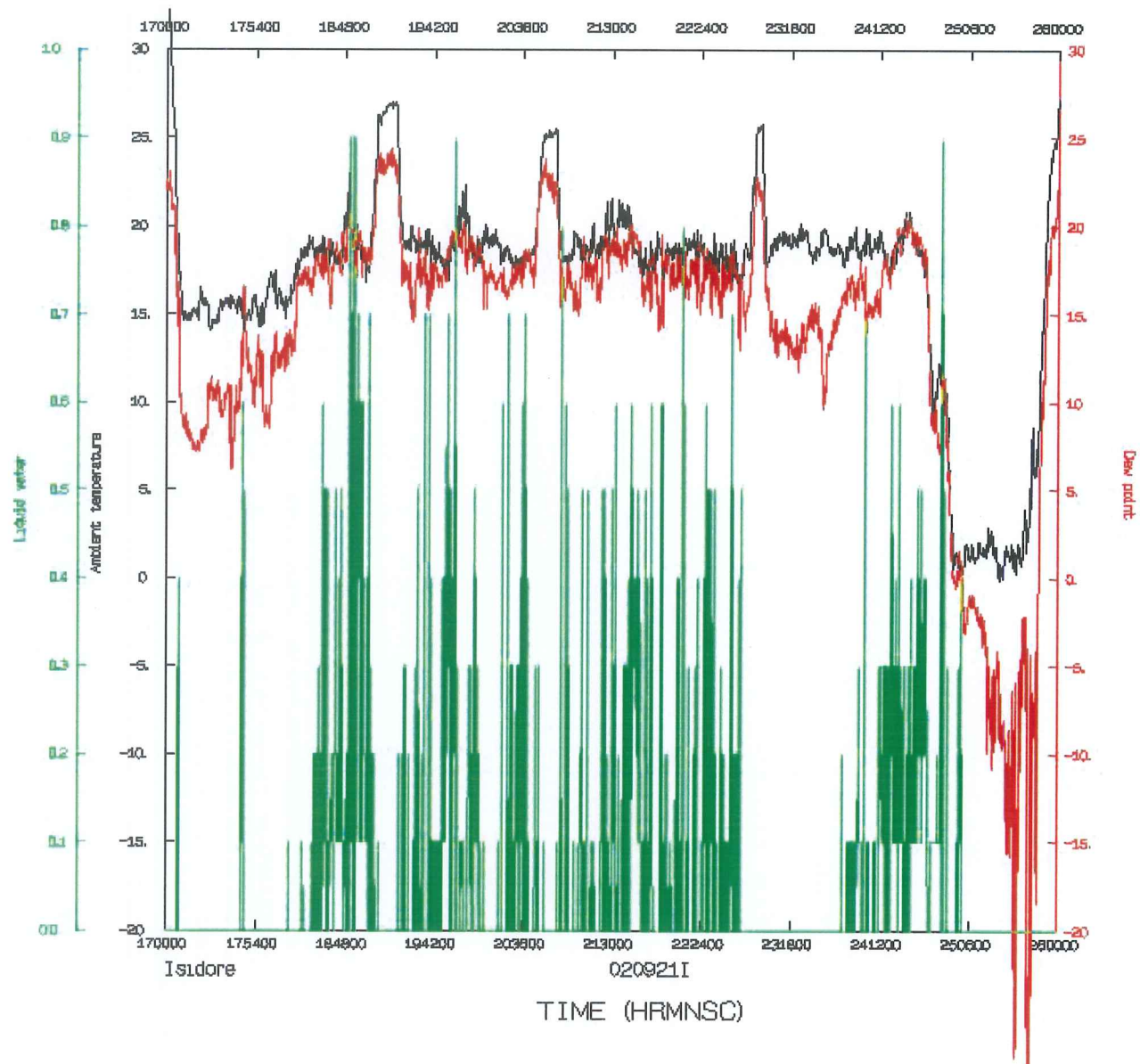
3600
24
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1200
26400
1480
18.5 km/day
1.8
18.5
10 m/s

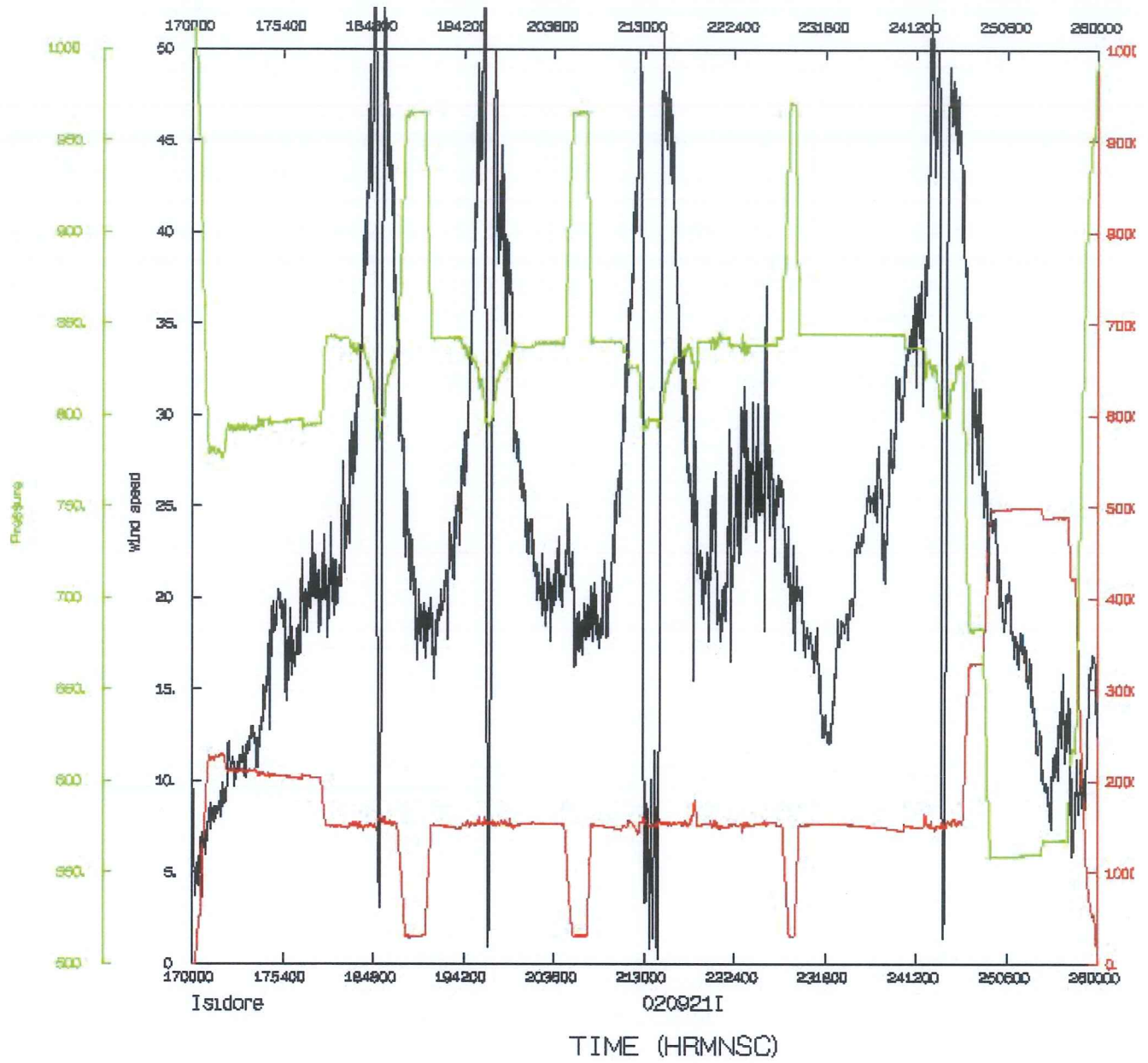
True at 25° Latitude, in Degrees and Minutes

[illegible]

Note : Label full degrees according to location of the flight area.







HURRICANE ISIDORE

Public Advisory Forecast/Advisory Discussion Probabilities Graphics Update Help

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WTNT45 KNHC 212105

TCDAT5

HURRICANE ISIDORE DISCUSSION NUMBER 23

NATIONAL WEATHER SERVICE MIAMI FL

5 PM EDT SAT SEP 21 2002

AIR FORCE RECON DATA INDICATE MAJOR HURRICANE ISIDORE HAS CONTINUED TO RAPIDLY STRENGTHEN AND THE CENTRAL PRESSURE HAS DROPPED 21 MB IN THE PAST 13 HOURS. A PRESSURE OF 946 MB GENERALLY CORRESPONDS TO A MAXIMUM WIND OF ABOUT 117 KT. HOWEVER...THE EYE IS OPEN TO THE WEST AND THERE MAY BE A LAG IN THE WIND FIELD. ALSO...DROPSONDE DATA INDICATED ABOUT 105 KT SURFACE WINDS...BUT WINDS JUST A FEW HUNDRED ABOVE THE SURFACE HAVE BEEN AS HIGH AS 130 KT. THE THREE SATELLITE AGENCIES REPORTED A DVORAK SATELLITE INTENSITY ESTIMATE OF T6.0...OR 115 KT...WHILE THE 3-HOUR OBJECTIVE DVORAK T-NUMBER WAS ALSO T6.0. BASED ON THIS INFORMATION...THE INITIAL INTENSITY WAS INCREASED TO 110 KT.

THE INITIAL MOTION ESTIMATE IS 270/3. RECON FIX POSITIONS SINCE ABOUT 12Z INDICATE ISIDORE HAS ACTUALLY REMAINED NEARLY STATIONARY THE PAST 6 HOURS...BUT RIGHT OVER SOME OF THE HOTTEST WATER IN THE ATLANTIC BASIN. STEERING CURRENTS REMAIN WEAK AND ARE FORECAST BY ALL OF THE GLOBAL TO REMAIN WEAK OR EVEN GET WEAKER. ISIDORE REMAINS CAUGHT BETWEEN A MID- TO UPPER-LEVEL LOW EAST OF FLORIDA AND ONE TO THE WEST OVER THE BAY OF CAMPECHE. A WEAK AND NARROW LOW- TO MID-LEVEL RIDGE EXTENDS ACROSS THE NORTHERN GULF OF MEXICO COAST FROM FLORIDA WESTWARD TO TEXAS. GIVEN THE RELATIVE WEAKNESS OF THIS RIDGE...ONLY 5880 METERS AT 500 MB...IT WOULD NOT TAKE MUCH OF A SHORTWAVE TROUGH TO ERODE IT AND ALLOW ISIDORE TO DRIFT SLOWLY POLEWARD. ALL OF THE NHC MODEL GUIDANCE...EXCEPT LBAR...KEEPS ISIDORE MOVING ON A SLOW WEST OR WEST-SOUTHWEST TRACK THROUGH THE FORECAST PERIOD. THE AVN AND GFDL ARE VERY SIMILAR IN HOOKING ISIDORE TO THE SOUTHWEST AROUND THE WESTERN YUCATAN PENINSULA IN 36 TO 48 HOURS. THIS MAY BE SOME ARTIFACT OF TERRAIN INTERACTION WHICH I HAVE IGNORED FOR THIS ADVISORY PACKAGE SINCE ALL OF THE GLOBAL MODELS SHOW NO SIGNIFICANT RIDGING NORTH OF ISIDORE TO PUSH THE SYSTEM TO SOUTHWEST. THE FORECAST CALLS FOR A SLOW...LESS THAN 6 KT...MOTION THROUGHOUT THE FORECAST PERIOD WITH A SLIGHT WEST-NORTHWESTWARD MOTION AFTER 48 HOURS AS A STRONG SHORTWAVE TROUGH DROPS DOWN THE WEST SIDE OF THE BROAD LONGWAVE TROUGH...WHICH IS EXPECTED TO ERODE THE WEAK RIDGE OVER TEXAS AND THE NORTHWEST GULF OF MEXICO AND ALLOW ISIDORE TO GAIN SOME LATITUDE. HOWEVER...THE SLOWER ISIDORE MOVES DURING THE NEXT 36 TO 48 HOURS WILL DETERMINE JUST HOW FAR NORTH AND THE CYCLONE WILL MOVE IN THE LONGER TIME PERIODS BEYOND 72 HOURS. THE GOOD NEWS IS THAT IT APPEARS THAT ISIDORE IS NOT GOING TO GO ANYWHERE FAST. THE BAD NEWS IS THAT IT WILL REMAIN OVER VERY HOT WATER.

THE CENTRAL PRESSURE HAS DROPPED 21 MB IN THE PAST 13 HOURS. A TYPICAL RAPID INTENSIFICATION PERIOD. THIS TREND WOULD NORMALLY

CONTINUE FOR ANOTHER 12 HOURS OR SO...BUT RADAR AND RECON DATA INDICATE THAT THE EYE IS OPEN TO THE WEST AND THAT AN EYEWALL REPLACEMENT CYCLE MAY BE STARTING. AS SUCH...THE OFFICIAL INTENSITY FORECAST IS HELD BELOW THE SHIPS INTENSITY MODEL WHICH BRINGS ISIDORE TO 135 KT IN 36 HOURS AND 140 KT IN 60 HOURS. THIS TYPE OF INTENSIFICATION IS CERTAINLY POSSIBLE GIVEN THE LOW SHEAR...LESS THAN 6 KT...AND HIGH SSTs...ABOUT 30C/86F. HOWEVER...PREDICTING INTERNAL CONVECTIVE CHANGES IS NEARLY IMPOSSIBLE SO THERE COULD BE FLUCUATIONS BY AS MUCH 10 KT EITHER WAY FROM THE OFFICAL INTENSITY FORECAST. SOME COASTAL UPWELLING MAY WEAKEN THE HURRICANE SLIGHTLY AS IT MOVES WEST OF 88W LONGITUDE...BUT THEN SOME RESTRENGTNERING IS FORECAST AFTER 48 HOURS WHEN ISIDORE IS FORECAST TO MOVE BACK OVER WARMER WATER.

FORECASTER STEWART

FORECAST POSITIONS AND MAX WINDS

| | | | | |
|---------|----------|-------|-------|---------|
| INITIAL | 21/2100Z | 21.9N | 86.2W | 110 KTS |
| 12HR VT | 22/0600Z | 21.9N | 87.0W | 120 KTS |
| 24HR VT | 22/1800Z | 21.9N | 88.0W | 125 KTS |
| 36HR VT | 23/0600Z | 21.9N | 89.2W | 125 KTS |
| 48HR VT | 23/1800Z | 22.0N | 90.3W | 125 KTS |
| 72HR VT | 24/1800Z | 22.5N | 92.5W | 130 KTS |

2146

Problems?

Subject: Re: message from mike

Date: Sat, 21 Sep 2002 15:05:09 -0400

From: "Frank Marks" <Frank.Marks@noaa.gov>

To: paul chang <Paul.S.Chang@noaa.gov>

CC: "Griffin Joe <Joseph Griffin" <joe.griffin@noaa.gov>

Paul:

Tell Mike I will call Marie. Also tell him that Judy Gray is driving up to Tampa tomorrow morning early. She will call in to the conference call at 8:30 AM from the road to find out if she should continue to Tampa. Ed Zipser is on his way to Tampa for a flight tomorrow also and will be at the Doubletree at midnight tonight. HAVE fun and be safe.

Frank

PS on the workstation issue, it would have been better if you guys had talked to Joe about this yesterday. I can't fault him for saying no on such short notice. It is our intention to do exactly what you suggested through the SATCOM (our HPCC funded effort). We already do that from the workstation through the ASDL, so it isn't like it doesn't get to NHC already (we have been doing this for 12 years already). We just got the new version of the workstation delivered that has the necessary LAN connections to connect to the SATCOM system, and plan to get it on N43RF before the end of the season to test out what you were proposing to do on the fly. Joe is the key guy there and I support his strategy fully.

On Saturday, September 21, 2002, at 02:07 PM, paul chang wrote:

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> Hi Frank,  
> Mike wanted to ask you if you would call Marie  
> 305-383-0908  
> 305-803-7044  
> and tell her that Mike will be back on the ground around 10pm  
>  
> thanks  
> paul  
>  
>
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Frank D. Marks
NOAA/AOML, Hurricane Research Division
4301 Rickenbacker Causeway, Miami, FL 33149-1097
URL: <http://www.aoml.noaa.gov/hrd/>
PH: (305) 361-4321 FAX: (503) 210-6625 EMAIL: Frank.Marks@noaa.gov

Prediction is tricky, especially about the future.~ Yogi Berra