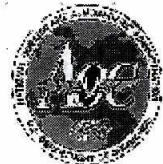




NOAA P-3 N43RF
H. KATRINA NHC MISSION



Flight ID: 050827I

Sensor or system	Number or Name
INE	2
Accelerometer	2
Temperature Probe	1
Dew Point Probe	2 (Edgetech)
Altitude (for vertical wind)	Radar Altimeter 159
Static Pressure	Rosemount Fuselage
Dynamic Pressure	Rosemount Fuselage 1281
Time Source	Micro 99
Constants File	CO3051.CON

Notes:

There were numerous time/data gaps during this flight generated by the aircraft data system:

134906Z – 134930Z, 144751Z – 144800Z, 144811Z – 144820Z, 144841Z – 144850Z,
145621Z – 145630Z, 145711Z – 145720Z, 150131Z – 150200Z, 150241Z – 150250Z,
172221Z – 172230Z, 172321Z – 172320Z, 172421Z – 172430Z, 172451Z – 172500Z,
172551Z – 172600Z, 173051Z – 173100Z, 175541Z – 175550Z, 175859Z – 175910Z,
180131Z – 180140Z, 180431Z – 180440Z, 182321Z – 182330Z, 182711Z – 182720Z,
185711Z – 185730Z, 185801Z – 185810Z, 185821Z – 185840Z, 190331Z – 190400Z,
192311Z – 192330Z, 192341Z – 192410Z, 192611Z – 192620Z, 192751Z – 192800Z,
192851Z – 192910Z, 192921Z – 192950Z, 193001Z – 193010Z and 195101Z – 195110Z.

These data/time gaps could lead to erroneous vertical wind derivations.

The King Liquid Water Sensor was inoperative during the entire flight.

Dewpoint sensor #2, DW2, experienced some problems during the flight. During the following time frames its output was replaced by dewpoint sensor #1, DW1, output:

164200Z – 164616Z and 205908Z – 210312Z.

Also for dewpoint sensor #2 other edits to the data were made during the following time frames:

1433Z – 1435Z, 1513Z – 1515Z, 1524Z – 1526Z, 1550Z – 1552Z, 1603Z – 1605Z,
1719Z – 1721Z, 1838Z – 1840Z, 2005Z – 2007Z and 2036Z – 2038Z.

During the mission there were instances where dewpoint temperature exceeded derived ambient temperature. This occurred primarily during heavy rain events.

All other sensors worked optimally.

The selected 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.

	Takeoff	Landing
Aircraft Static Pressure	1008.3 mb	1006.7 mb
Corrected Tower Pressure	1008.3 mb	1006.6 mb

Flight Director: A. Barry Damiano (813) 828-3310 ext. 3073

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

AOCWF1

Flt ID: <i>F050827</i>	From: <i>KMCF</i>	To: <i>KMCF</i>
Flt No: <i>05-046</i>	Blk In: <i>2120Z</i>	ATA: <i>2109Z</i>
ETD: <i>1330Z</i>	Blk Out: <i>1323Z</i>	ATD: <i>1335Z</i>
ETE:	Blk Time: <i>7:57 (8.0)</i>	Flt Time: <i>7:34 (7.6)</i>
Sponsor Org: <i>NHC</i>	Program: <i>HURR RECCO</i>	Purpose: <i>H. KATRINA IN GULF of Mexico</i>

AOC Personnel

AC: <i>SILAH</i>	Sys Eng:
CP: <i>STRONG / CHOI</i>	Data Sys: <i>LYNCH</i>
Nav: <i>BRABOS</i>	Radar:
FE: <i>BAST / KLIPPEL</i>	GPS/BT: <i>OLNEY</i>
FD: <i>DAMIANO / MAYEAUX</i>	Cld Phys:
Avionics: <i>SANS SOUCE</i>	

Participating Scientists / Visitors / AOC

Name (Last, First)	Activity on Aircraft	Affiliation
<i>ROGERS, R</i>	<i>PI/OBS</i>	<i>HRD</i>
<i>SMULL, B</i>	<i>RADAR</i>	<i>UW</i>
<i>GAMACHE, J</i>	<i>RADAR</i>	<i>HRD</i>
<i>KOZAK, S</i>	<i>OBS</i>	<i>AOC</i>
<i>DE BOW, S.</i>	<i>OBS</i>	<i>AOC</i>
<i>ROCHE, V.</i>	<i>MEDIA</i>	<i>USA TODAY</i>
<i>O'DRISCOLL, P.</i>	<i>MEDIA</i>	<i>USA TODAY</i>

Proposed/Actual Mission Remarks (Recco, Fixes, Storm, PENET, NHOP #) *27/16Z forecast 24.8 854 105 KT**105 NM
EYEWALL DOPS
EYE
OB #
INTERIMEDTA
NE-NW**1312A KATRINA CALL CARRANT REPT/O*

1514Z
2428'
8506'
949

1651Z
2422'
8515'
948

1754Z
2427'
8519'
948

2009Z
2433'
8523'
945mb

1405Z

*RADAR
 FLT DISPLAY SMOKING
 A/C wanted me in the seat for entire mission*

*#400 for Greg Bast**(4)*

180 120
30

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

AOCWF2

Flt ID: 1050827 Time Off: 1335Z Time On: 2109Z

A/C (Take Off) Wx Station (Take Off) A/C (Land) Wx Station (Land)

Pressure 1008.3 29.79 / 1008.3 1006.7 29.74 / 1006.6

Number Data Disposition / Date / Quality

Flt Lvl Tapes 2

Radar Tapes 2

Cloud Physics Tapes

Video Tapes 4

AXBT

AXCP

AXCTD

Dropsondes 30 4 Rainex; 2 AGL; 24 NHC

Video

Forward Left Side Right Side Down 040 Remarks

Time On

Time Off

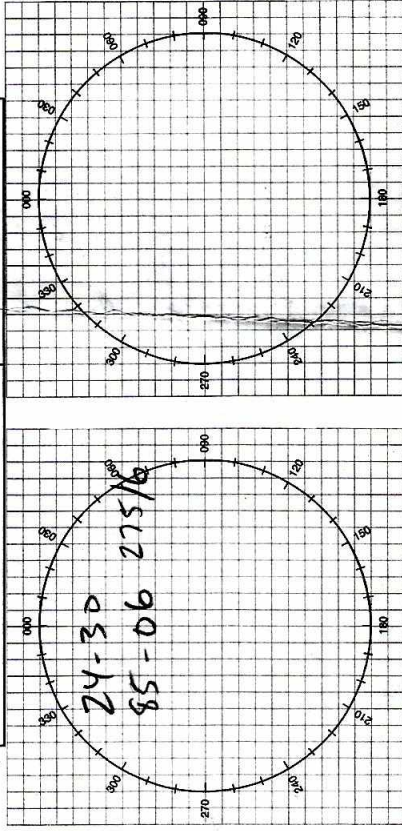
Rate

Remarks

15Z 24.5 275/6 RAOAR 12Z RAOAR 8/27-8/28
15-20min 85.1 400 100 1630Z SE CORNER
IP 2552 8340 2314 2542
8340 1958 40Z 8630 8648
2331 data 5 min g/lvl
8407 NO LF on 2nd run thru
1833Z
1630Z 1816Z 24W 83W PT1 1835Z 24 8342 ✓
35 gr NW 83W P2 1850Z 2500 8330 ✓
60m outer eye well P3 1855Z 2500 8400 ✓
P4 1905Z 2500 8430 ✓

MISSION LOG	PAGE 1 OF 1
-------------	-------------

CLEARANCES				OTHER
FREQ	ALT	HDG		
	1.6	080		RV → P _{1E} → 225/50
133.9	12K	270		ED 50W - BLVD 3 → KMcF
132.6	120	120		McF



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 _____
E/W AT _____ Z _____

- HEADING _____ TRUE/MAG _____
- AT _____ KTS TRUE/INDICATED _____

- FLIGHT LEVEL OR ALTITUDE -

- WE ARE A P-3 AIRCRAFT WITH
- NATURE OF EMERGENCY

- ASSISTANCE DESIRED

- PILOT INTENTIONS
- WE HAVE _____ ENDURANCE REMAINING

[illegible]

1410 18 15 30 NR587 24-41 340 82-46

TRAC 99 ~~1999~~

SPQ 220125

[illegible]

1825 - 1835

15-58

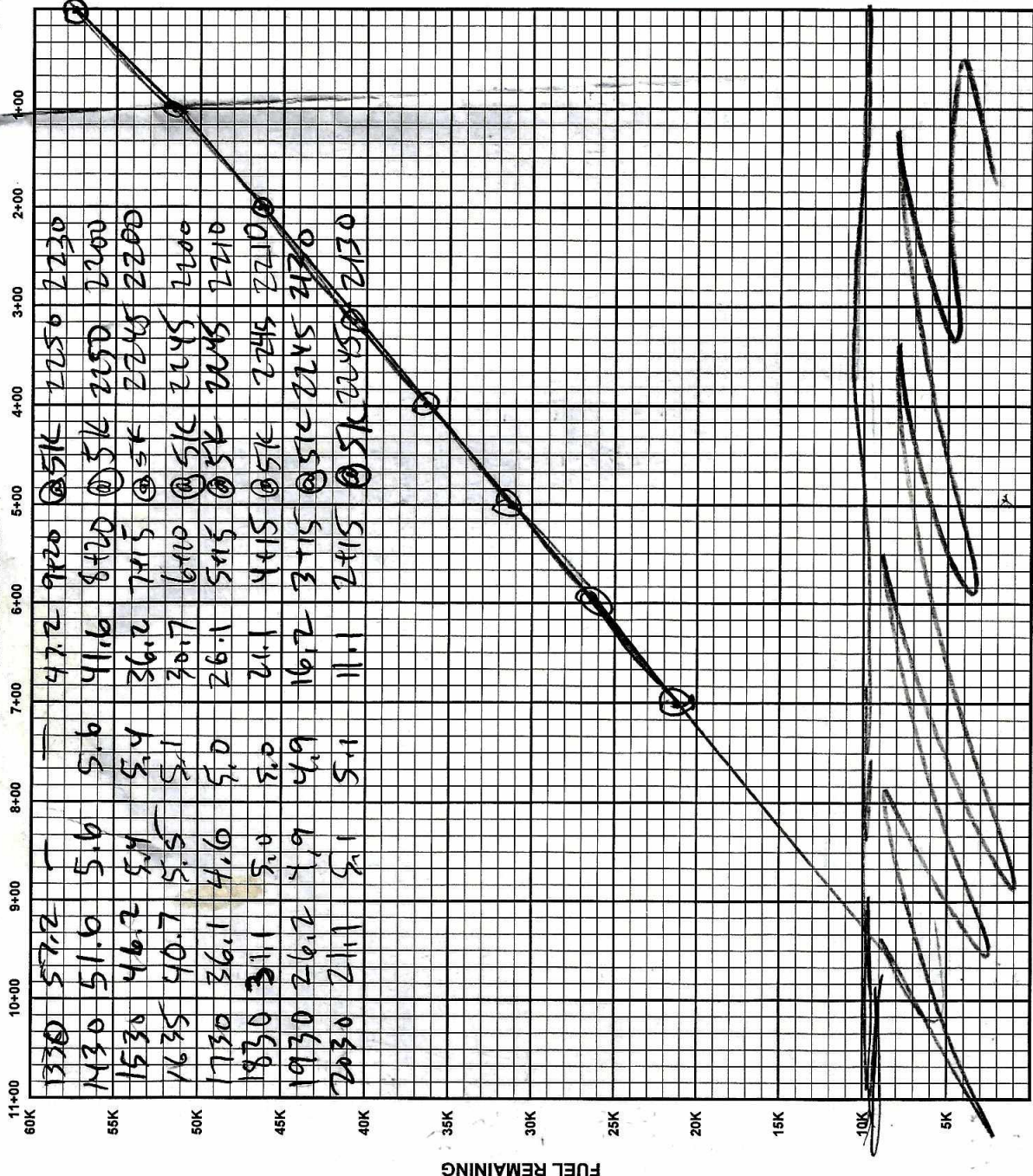
61-42

~~24837~~

57

RANGE CONTROL GRAPH

TIME REMAINING



ENROUTE FUEL	
ENROUTE TIME	9:00
ENROUTE FUEL (6K 5K 4 5K RULE)	46K
RESERVE AT DESTINATION	10K
REQUIRED RAMP	56K
ACTUAL RAMP FUEL	57.2

TACTICAL (OFFSTA TO DESTINATION)	
DISTANCE (OFFSTA TO DEST)	4 ENG 3 ENG
ENROUTE TIME (OFFSTA TO DEST)	
BURN RATE (LBS/HR)	4500 5500
ENROUTE FUEL REQUIRED	
RESERVE AT DESTINATION	
FUEL AT OFFSTA	

POINT OF SAFE RETURN	
ETP DISTANCE (TO DEPARTURE)	4 ENG 3 ENG
ENROUTE TIME (TO DEPARTURE)	
BURN RATE (LBS/HR)	4500 5500
FUEL REQUIRED	
RESERVE AT DEPARTURE	
PSR FUEL	

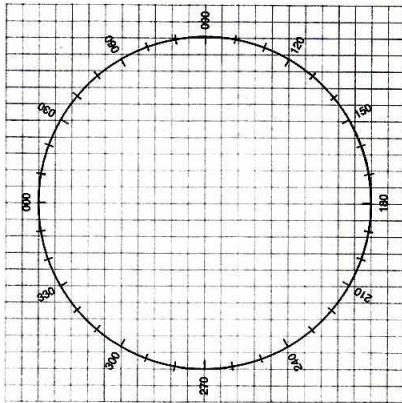
WIND FACTOR		
WINDSPEED	HEADWIND	TAILWIND
10	1.03	.97
20	1.06	.94
30	1.10	.92
40	1.14	.89
50	1.18	.87
60	1.22	.85

DISTANCE REMAINING

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

PRESS ALT		200	250	300	350
10,000	1.0	.99	.98	.97	.96
20,000	.99	.98	.97	.96	.95
30,000	.97	.96	.95	.94	.93
40,000	.96	.95	.94	.93	.92

TRUE AIRSPEED CROSS-CHECK					
TIME	IAS	PRESS ALT	"F" FACTOR	EAS	TAS



CEX - TRUE BEARING METHOD	
COMPASS TYPE	INS1 INS2 WET
MCH (READING)	
MTH (SEXTANT)	
GE	
-VAR	
DEV	

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

CEX SIGHT	
GWT	
GHA	
CORR	
GHA	
LONG +W -E	
EXACT LHA	
LAT	
BODY	
DEC	
HC/D	
CORR	
HC	
Z	
ZN	

[illegible]

N43RF AVAPS DROP LOG

Project : Hurricane '05 / RAINEX

Mission : KATRINAFlight ID : 0508271

Take Off : _____

Landing : _____

Flt Dir : _____

Launcher S/N: _____

Drop #	Sonde Serial #	Rcvr #	Press Offset	Launch Time	Winds Time	Operator	Comments	Good ?	
1	011 245 392	1	-0.8	1423	20	DSS	IP DROP	✓	NHC
2	011 245 388	1	-0.3	1442	22		EYEWALL OUTER	✓	NHC
3	011 245 386	3	0	1513	30		EYEWALL INNER	✓	NHC
4	001 115 047	4	-0.3	1540	59		NHC	✓	
5	011 245 313	1	-0.2	1556	82		CATWINDS		NHC
6	011 245 391	3	-1.2	1614	1120		AOC SONDAS	✓	
7	011 245 382	1	-0.8	1629	38		NHC	✓	
8	011 245 106	1	-1.2	1643	35		NHC	✓	
9	001 115 272	3	-1.8	1651	39		NHC	✓	
10	011 245 104	1	-1.6	1655	42		NHC	✓	
11	011 245 352	1	-1.8	1720	26	✓	NHC	✓	
12	011 245 132	2	-1.3	1730	25	OLNEY	AOC	✓	
13	011 245 133	3	-1.4	1738	—		NHC NO LAUNCH DET.		
14	011 245 380	4	-.5	1751	34		NHC WINDS STOPPED (3900m)		
15	011 245 138	1	-3.0	1759	40		NHC	✓	
16	011 245 354	2	-1.4	1801	15		NHC	✓	
17	011 245 289	3	-.9	1805	25		NHC	✓	
18	011 245 350	4	-1.2	1825	50		NHC	✓	
19	051926 171	1	.3	1835	00		RAINX WINDS ON LAUNCH	✓	
20	044535 110	2	.4	1848	02			✓	
21	051926 173	3	0	1854	04			✓	
22	043845 068	4	0	1900	04		✓	✓	
23	011 245 378	1	-.3	1925	36		NHC	✓	
24	011 245 067	2	-1.1	1943			NHC NOW WINDS		
25	012225 163	3	0	1944	50		NHC	✓	
26	012225 150	1	0	1959	29		NHC	✓	
27	012225 084	2	0	2008	30		NHC	✓	
28	012225 060	3	0	2014			NHC NOW WINDS		
29	012225 168	4	0	2016	18		NHC	✓	
30	012225 145	1	-.5	2034	37	✓	NHC	✓	
All bad sondes change to AOC									
NHC	21								
AOC	5								

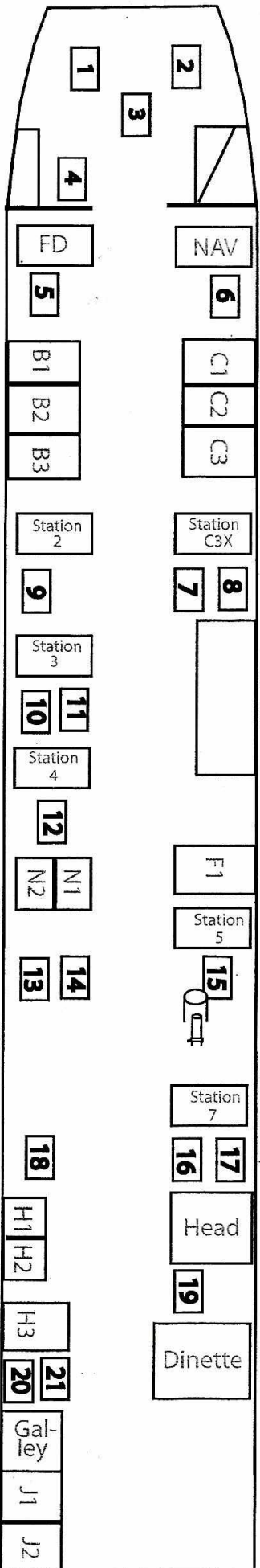
RAINEX 4

N

0508271 TIME	LAT	ION	PS	SP	TA	TD	TK	RA	WD	WS	WZ	Comment
133554	27.52.14	-82.30.00	989.9	1007.2	26.0	23.4	65.1	154.0	99.4	10.0	1.1	t/o
142351	25.51.78	-83.40.86	703.8	997.5	12.6	9.5	225.9	3041.0	124.9	26.2	.3	drop ne of cntr
ws 20s												
144240	24.54.96	-84.39.24	692.2	976.8	13.4	13.8	222.9	3016.0	127.5	42.6	.2	outer eyewall ne
ws 22s												
151354	24.27.24	-85. 5.58	667.7	946.0	14.4	12.9	159.6	3062.0	232.8	4.8	-2.1	center drop
154008	24. 6.84	-85.36.42	686.9	978.8	11.2	12.8	225.8	3079.0	321.8	37.2	1.1	sw eyewall ws 60s
160008	23.11.58	-86.27.18	700.7	996.8	12.6	5.1	81.3	3069.0	297.1	22.5	.3	drop sw of cntr
ws 122s												
161356	23.15.48	-85.13.56	701.0	992.4	12.2	9.7	84.1	3026.0	260.0	31.0	.2	aoc sonde ws 120s
162938	23.36.66	-83.59.52	700.9	992.8	12.9	9.7	278.8	3039.0	212.8	28.3	-.3	drop se of cntr
ws 38s												
164303	24. 2.94	-84.47.04	691.4	980.7	10.3	11.3	302.8	3026.0	217.0	45.1	3.8	se eyewall drop
ws 35s												
165130	24.21.36	-85.15.96	671.0	944.5	16.3	12.3	230.6	3021.0	352.0	3.3	.4	centr drop ws 39s
165518	24.27.78	-85.27.60	695.4	957.3	17.7	9.1	313.6	2827.0	21.5	36.2	.7	nw eyewall drop
ws 40s												
172000	25.29.64	-86.44.58	695.8	996.3	11.9	7.4	200.3	3122.0	44.3	24.4	.8	drop nw of cntr
ws 26s												
173042	24.39.18	-87. 3.06	696.0	995.4	12.2	8.0	189.2	3116.0	7.9	22.9	.4	aoc sonde ws 25s
173732	24.18.36	-86.55.26	696.1	995.5	11.2	8.6	90.5	3106.0	344.5	24.9	-2.4	sonde w of cntr
no launch detect												
175053	24.18.90	-85.53.46	696.0	977.2	12.1	13.1	83.2	2956.0	347.9	41.4	1.3	drop w eyewall ws
34s												
175855	24.27.66	-85.18.72	696.7	945.7	16.0	14.5	75.9	2691.0	126.9	5.5	-1.2	cntr drop ws 40s
180134	24.27.78	-85. 6.96	694.8	816.0	16.0	14.4	135.2	1396.0	171.2	101.4	3.6	e eyewall outbd
ws 15s												
180523	24.27.78	-84.50.22	695.2	972.2	12.2	15.3	91.9	2925.0	182.5	44.4	-.6	e eyewall outer
ws 25 s												
182537	24.25.68	-83.20.94	695.3	997.9	10.5	10.0	139.0	3132.0	186.6	29.6	-.6	drop e turn pt ws
50s												
183543	24. 2.04	-83.24.60	696.8	997.5	11.2	9.9	354.8	3116.0	194.6	28.4	.1	rainexs 1 ws 8s
184833	25. 3.36	-83.36.06	696.2	996.8	11.0	9.9	269.7	3114.0	163.9	29.7	.5	rainex 2 ws 3s
185356	25. 1.32	-84. 1.08	694.8	993.4	10.6	11.9	265.6	3101.0	156.0	30.7	4.3	rainex 3 ws 3s
190000	24.59.52	-84.30.66	696.1	987.7	11.0	11.8	269.8	3036.0	153.0	39.1	.5	rainex 4 ws 4s
192554	26.17.22	-85.27.06	695.7	994.9	12.0	7.6	252.9	3113.0	98.0	27.8	.2	drop n of cntr ws

NOAA AIRCRAFT OPERATIONS CENTER

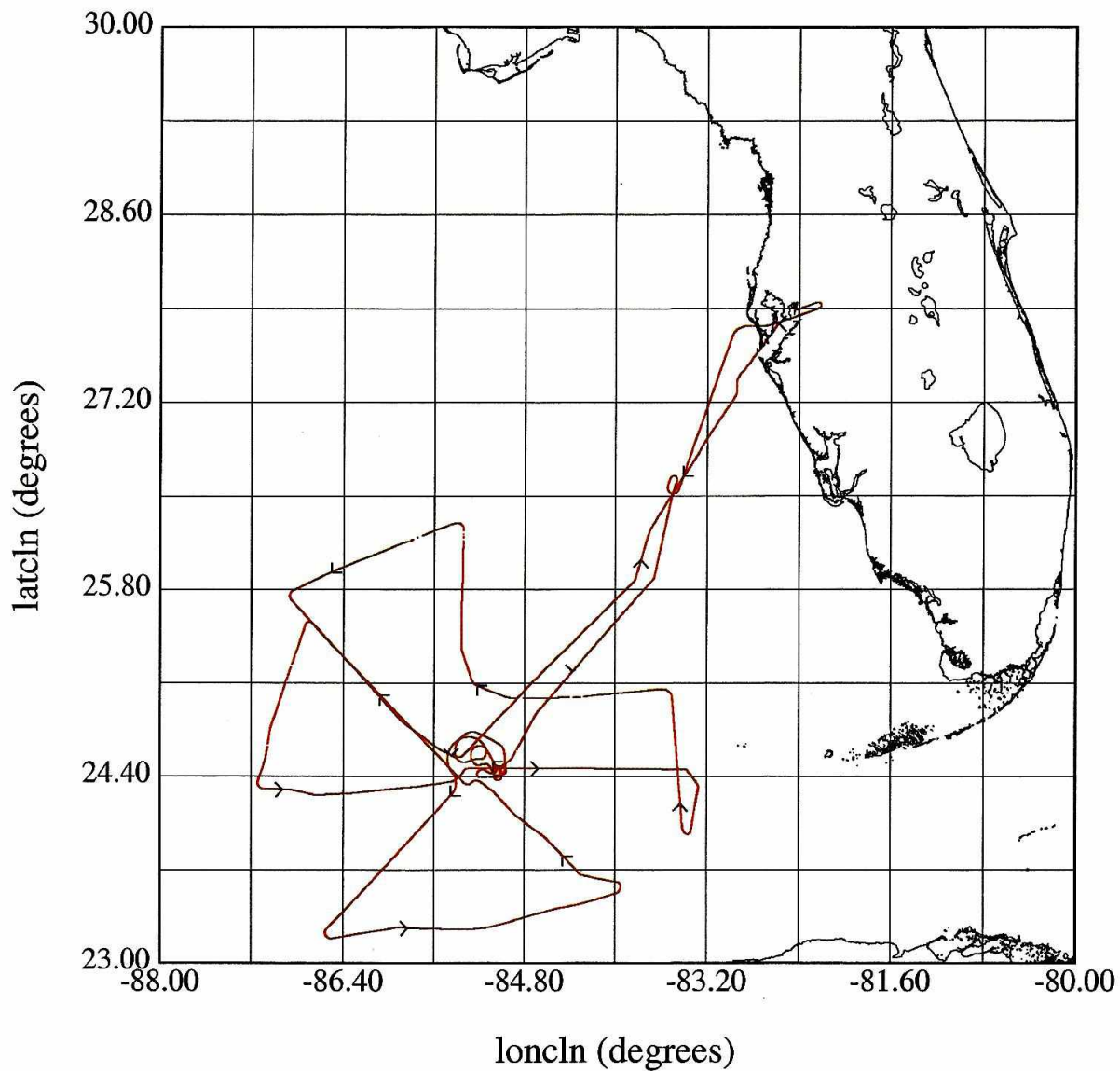
Flight ID 1050827



1. SLAH PILOT
2. CHAY COPILOT
3. KLIPPEL FLIGHT ENGINEER
4. ROGERS STATION 1
5. DANNINO FLIGHT DIRECTOR
6. BLAKOB NAVIGATOR
7. KOZAK STATION C3X
8. DEBOW STATION C3X
9. MAYEAOX STATION 2
10. SMUCK STATION 3
11. CHAMACHE STATION 3
12. LYUCH STATION 4
13. ROCHE PROJECT SEAT
14. O'DRISCOLL PROJECT SEAT
15. OLNEY STATION 5
16. OFF DUTY PILOT STATION 7
17. OFF DUTY FE STATION 7
18. SPANS SOURCE STATION 8
19. DINETTE
20. GALLEY
21. GALLEY

H. Katrina in Southeast Gulf of Mexico

08/27/2005 UTC, 13:37:00-21:08:00



	mean	sigma	min	max
latcln (degrees), 1 s/sec	25.07	1.15	23.19	27.95
loncln (degrees), 1 s/sec	-84.84	1.20	-87.14	-82.21