

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

FLT ID: <u>D70901H</u>	From: <u>TISX</u>	To: <u>TISX</u>
Flt No: <u>—</u>	In: <u>0328Z</u>	On: <u>0324Z</u>
ETD: <u>2000Z</u>	Out: <u>1944Z</u>	Off: <u>1956Z</u>
ETE: <u>8+00</u>	Blk Time: <u>7+44</u> 7.7 Hrs	Flt Time: <u>7+28</u> 7.5 Hrs
Sponsoring Org: <u>NOAA/NHC</u>	Program: <u>HUR OT</u>	Purpose: <u>T. S. FELIX</u>

AOC Flight Crew

Aircraft Commander: <u>STROGAN, T</u>	Data System: <u>McMillan, S.</u>
Co-Pilot: <u>NEWMAN, C</u>	AVAPS: <u>OLNEY, B</u>
Navigator: <u>GALLAGHER, T</u>	System Engineer: <u>HILL, J</u>
Flight Eng: <u>BAST, G</u> <u>WADE, S</u>	AA:
Flight Director: <u>SHEPHERD, T</u>	AA:
Avionics:	Crew Chief:

Participating Scientists / Visitors

Name (Last, First)	Activity on Aircraft	Affiliation
<u>ABERSON, S</u>	<u>PI</u>	<u>NOAA/HRD</u>
<u>ROGERS, R</u>	<u>PI</u>	<u>"</u>
<u>ESTEBAN, D</u>	<u>UMASS SFMR</u>	<u>UMASS</u>
<u>JELENAK, Z</u>	<u>↓</u>	<u>↓</u>
<u>CONTRERAS, R</u>		
<u>McMANUS, J</u>		

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

Storm Name: TS FELIX

Mission ID: NDAAZ 0506A FELIX

Recco Times

2008-1 0043
2034-2 0213
2149-6 0236
2219-7
2329-10
0003-

Fix # Fix Time

1 2125
2 2241

PEN 1
ON FIX #2

(See reverse for additional remarks)

U.S. DEP'T OF COMMERCE / NMAO / NOAA / AIRCRAFT OPERATIONS CENTER

FLT ID: 070901H		TIME OFF: 1956 Z		TIME ON: 0324 Z	
	A/C - Takeoff	WX Station - Takeoff	A/C - Land	WX Station - Land	
Pressure	1013.4	29.98	1015.0	30.06	
ATIS - Takeoff					
ATIS - Land					
Data Source	Number	Data Disposition / Date / Quality			
Flight Level Tapes	2				
Radar Tapes	1				
Cloud Physics Tapes / Cds	0				
Video Tapes/DVDs	0				
Dropsondes	21	Good: 18 Bad: 3 (1 NO LAYNCR, 1 bad PTH, 1 NO WINDS)			
AXBT		1-NHC 17-HRD/NCEP			
AXCP					
AXCTD					
SONOBUOY					
REMARKS: IP 1335 6612 RECD 0235 03 33 0252 34					



NOAA P-3 N42RF
Hurricane 2007
H. Felix

Flight ID: 070901H

Sensor or system

Number or Name

INE.....	2
Accelerometer.....	2
Temperature Probe.....	1
Dew Point Probe.....	2
Altimeter (for vertical wind).....	RA-159
Static Pressure.....	Rosemount (fuselage)
Dynamic Pressure.....	Rosemount (fuselage)
Time Source.....	Micro 99

Local Met. Data: Not copied at takeoff

Take off: 1956Z

Land: 0324Z

The RA-159 had spikes that were removed. The spikes all occurred at small (1-2 second) data gaps. The spikes were removed (234831-234833, 010652-010653, 010802-010803, 011542-011543, 011553-011554, 011622-011623, 011632-011633, 014952-014953, 022552-022553).

There were data gaps noted: 234831-234833, 010651-010653, 010801-010803, 011541-011543, 011551-011552, 011621-011623, 011631-011633, 014951-014953, 022551-022553, 302151-032202.

There were times during heavy precipitation events (e.g. eye wall penetrations) when the dew point exceeded ambient temperature yielding a RH of greater than 100%. This is probably due to a wet bulb effect on the total temperature probe and/or the dew pointer over heating while trying to remove excess moisture. In these instances, no corrections were attempted.

SPECIAL NOTE: In the netCDF file, 070901H_RXC.nc, vertical ground speed (dpj_wgs), vertical air speed (dpj_was), and vertical wind speed (dpj_wz) were computed using Dr. Dave Jorgensen's vertical wind algorithm. It is recommended that these values be used for vertical wind analysis.

	Take off	Land
Aircraft Static Pressure	1013.4 mb	1015.0 mb
Corrected Tower Pressure	1015.2 mb	1017.9 mb

Flight Director:	Tom Shepherd
	813-828-3310 x3053

070901H

TT1

TD2

INE2

ACC2

PQF1

TO 1956

LAND 0324

RA 159 spikes removed

234832-33 (DG)

010652-53

010802-03

234831

011542-43

011553-54

011622-23

011632-33

014952-53

022552-53

-32168
69

DATA Gaps

234831-33

010651-53

010801-03

0115541-43

011551-52

011621-23

011631-33

~~0225~~

014951-53

022551-53

032151-032202

VORTEX DATA MESSAGE

Date 9/1/07	Scheduled Fix Time NA	Aircraft Number N42RF	Flight Director Shepherd
Mission Identifier: NOAAZ 0506A FELIX			OB Number: 9
A	0112241Z	Date and Time of Fix	
B	12 DEG 29 MIN N	Latitude of Fix (If in Southern Hemisphere, use "S")	
	65 DEG 43 MIN W	Longitude of Fix (If in Eastern Hemisphere, use "E")	
C	NA MB NA M	Minimum Height of Standard Level	
D	NA KT	Estimate of Maximum Surface Wind Observed (visually)	
E	NA DEG NM	Bearing and Range From Center of Maximum Surface Wind	
F	129 DEG 77 KT	Maximum Flight Level Wind Near Center	
G	50 DEG 14 NM	Bearing and Range From Center of Maximum Flight Level Wind	
H	993 MB	Minimum Sea Level Pressure computed from Dropsonde or Extrapolated from flight level. If extrapolated, clarify in remarks.	
I	16 CI 2423 M	Maximum Flight Level Temp / Pressure Altitude Outside Eye	
J	17 CI 2450 M	Maximum Flight Level Temp / Pressure Altitude Inside Eye	
K	14 CI NA C	Dewpoint Temp / Sea Surface Temp Inside Eye	
L	OPEN NE	Eye Character (Closed wall, poorly defined, open SW, etc.)	
M	C 30	Eye Shape / Orientation / Diameter Code eye shape as: C – circular; CO – concentric; E – elliptical. Transmit orientation of the major axis in tens of degrees from 01 to 18, i.e., 01 => 010 to 190; 17 => 170 to 350. Transmit diameter in nautical miles. Examples: C8 = Circular eye 8 nm in diameter; E07/15/5 = Elliptical eye oriented 070 to 250, length of major axis is 15 nm, length of minor axis is 5 nm; CO18-30 = Concentric eye walls with diameter of inner eye 18 nm and diameter of outer eye 30 nm.	
N	12345 NA	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 – 1500 ft; 9 – 925 mb; 8 – 850 mb; 7 – 700 mb; 5 – 500 mb; 4 – 400 mb; 3 – 300 mb; 2 – 200 mb; NA - Other	
O	1 1 2 NM	Navigation Fix Accuracy / Meteorological Accuracy	
P	REMARKS: MAX FL WIND 77 KT NE QUAD 2238		

Instructions: Items A thru 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 for scheduled fixes and at the Flight Director's discretion for unscheduled fixes.

VORTEX DATA MESSAGE

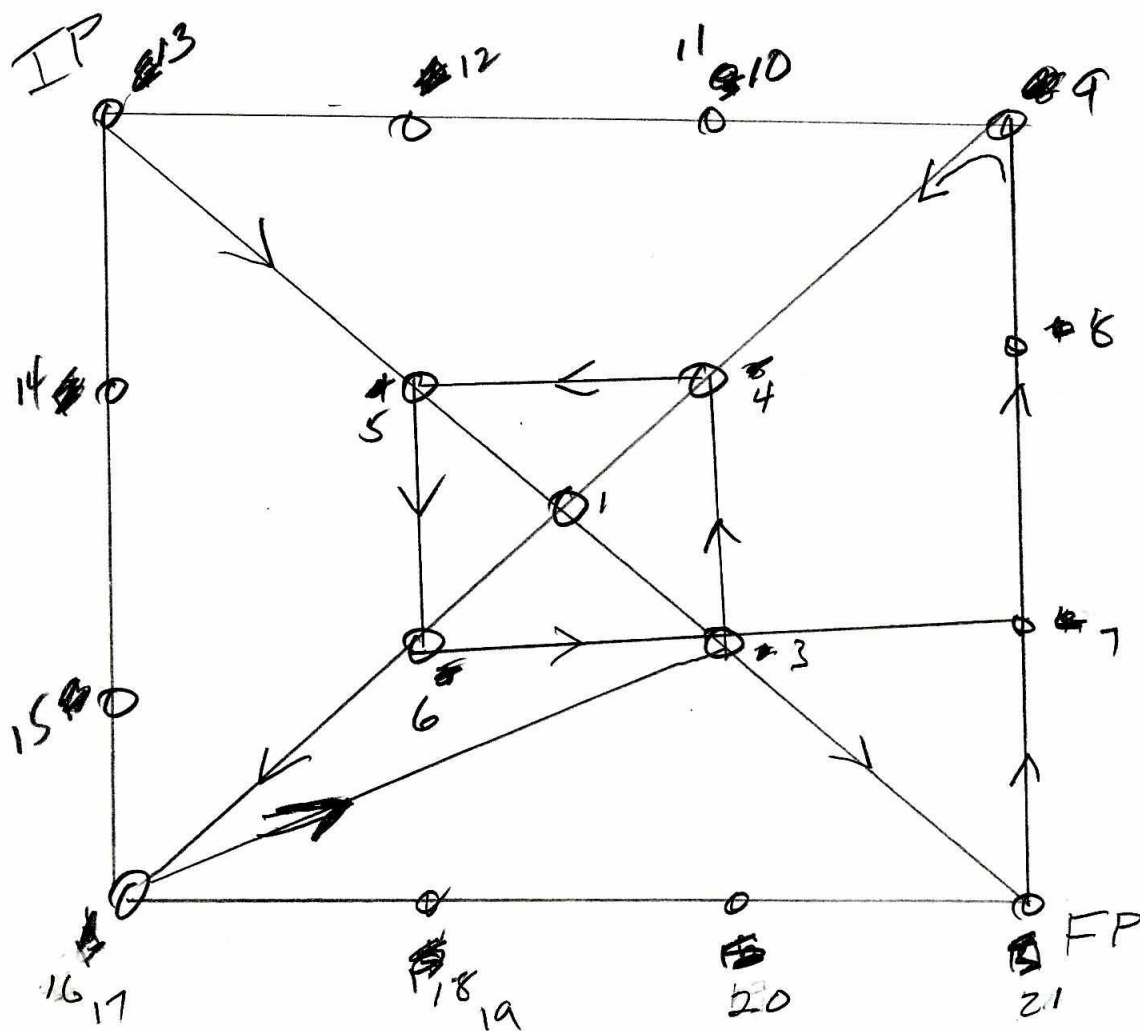
Date: 9/1/07	Scheduled Fix Time: NA	Aircraft Number: N42	Flight Director: Shepherd
Mission Identifier: N0AA2 0500A FELIX			OB Number: 5

A	0112125Z	Date and Time of Fix
B	12 DEG 28 MIN N	Latitude of Fix (If in Southern Hemisphere, use "S")
	65 DEG 23 MIN W	Longitude of Fix (If in Eastern Hemisphere, use "E")
C	NA MB NA M	Minimum Height of Standard Level
D	NA KT	Estimate of Maximum Surface Wind Observed (visually)
E	NA DEG NA NM	Bearing and Range <u>From</u> Center of Maximum Surface Wind
F	43 DEG 57 KT	Maximum Flight Level Wind Near Center
G	300 DEG 18 NM	Bearing and Range <u>From</u> Center of Maximum Flight Level Wind
H	996 MB	Minimum Sea Level Pressure computed from Dropsonde or Extrapolated from flight level. <u>If</u> extrapolated, clarify in remarks.
I	13 CI 2456 M	Maximum Flight Level Temp / Pressure Altitude <u>Outside</u> Eye
J	14 CI 2420 M	Maximum Flight Level Temp / Pressure Altitude <u>Inside</u> Eye
K	14 CI NA C	Dewpoint Temp / Sea Surface Temp <u>Inside</u> Eye
L	Partly De Cloud	Eye Character (Closed wall, poorly defined, open SW, etc.)
M	NA	Eye Shape / Orientation / Diameter Code eye shape as: C – circular; CO – concentric; E – elliptical. Transmit orientation of the major axis in tens of degrees from 01 to 18, i.e., 01 => 010 to 190; 17 => 170 to 350. Transmit diameter in nautical miles. <i>Examples:</i> C8 = Circular eye 8 nm in diameter; E07/15/5 = Elliptical eye oriented 070 to 250, length of major axis is 15 nm, length of minor axis is 5 nm; CO18-30 = Concentric eye walls with diameter of inner eye 18 nm and diameter of outer eye 30 nm.
N	123451 NA	Fix Determined By / Fix Level Fix determined by: 1 – Penetration; 2 – Radar; 3 – Wind; 4 – Pressure; 5 – Temperature. <u>Fix Level</u> (Indicate surface center if visible; indicate both surface and flight level centers ONLY when same): 0 – Surface; 1 – 1500 ft; 9 – 925 mb; 8 – 850 mb; 7 – 700 mb; 5 – 500 mb; 4 – 400 mb; 3 – 300 mb; 2 – 200 mb; NA - Other
O	11 / NM	Navigation Fix Accuracy / Meteorological Accuracy

P REMARKS: **MAX FL WIND 57 KT NW QUAD 2119Z**
Eye wall appears to be forming south and SE side

Instructions: Items A thru 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 for scheduled fixes and at the Flight Director's discretion for unscheduled fixes.

MED. AN



BACK UP SONDES ~~6-17~~
7-20

Quick Navigation Links:

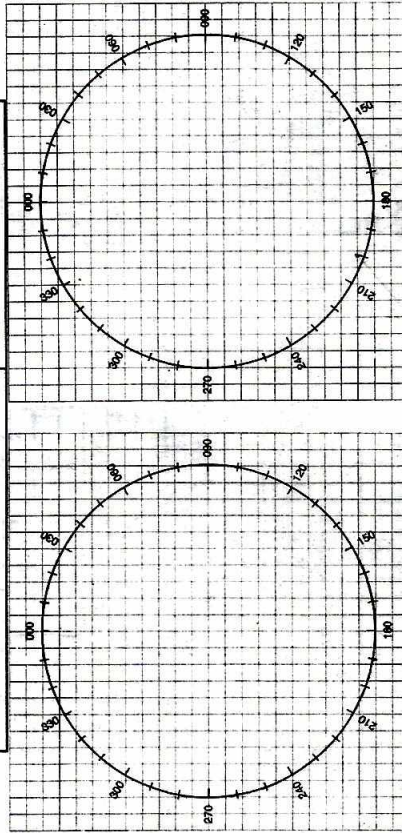
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NOAA/ National Weather Service
National Centers for Environmental Prediction
National Hurricane Center
Tropical Prediction Center
11691 SW 17th Street
Miami, Florida, 33165-2149 USA
nhcwebmaster@noaa.gov
Page last modified: Saturday, 01-Sep-2007 14:47:21 GMT

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POSITION REPORT

[illegible]

TIME	FIX TYPE	POSITION	INS 1 POSITION	K ERR	INS 2 POSITION	K ERR	MH	VAR +E=>	TH	DR +R=>	TRK	GS	WD	WS	ALT	TAS	NEXT PT	DIST	TIME	ETA	REMARKS
2000	Handwritten	16-48.0 064-48.5	16-48.5 064-48.2	±.5 ±.3	16-48.7 064-47.6	±.3 ±.9	204	10W	191	47C	195	257	0A5	22	1000	254	K1K42	99	+23	2023	1.55 #1
2001	Handwritten	17-48.8 066-48.3	17-48.8 066-48.3	±.6 ±.6	17-48.8 066-48.3	±.6 ±.6	23	10W	171	10C	130	240	0A5	49	800	245	8000	30	+08	2023	
2002	Handwritten	17-48.8 066-48.3	17-48.8 066-48.3	±.6 ±.6	17-48.8 066-48.3	±.6 ±.6															
2003	Handwritten	17-48.8 066-48.3	17-48.8 066-48.3	±.6 ±.6	17-48.8 066-48.3	±.6 ±.6															
2004	Handwritten	17-48.8 066-48.3	17-48.8 066-48.3	±.6 ±.6	17-48.8 066-48.3	±.6 ±.6															
2005	Handwritten	17-48.8 066-48.3	17-48.8 066-48.3	±.6 ±.6	17-48.8 066-48.3	±.6 ±.6															
2006	Handwritten	17-48.8 066-48.3	17-48.8 066-48.3	±.6 ±.6	17-48.8 066-48.3	±.6 ±.6															
2007	Handwritten	17-48.8 066-48.3	17-48.8 066-48.3	±.6 ±.6	17-48.8 066-48.3	±.6 ±.6															
2008	Handwritten	17-48.8 066-48.3	17-48.8 066-48.3	±.6 ±.6	17-48.8 066-48.3	±.6 ±.6															
2009	Handwritten	17-48.8 066-48.3	17-48.8 066-48.3	±.6 ±.6	17-48.8 066-48.3	±.6 ±.6															
2010	Handwritten	17-48.8 066-48.3	17-48.8 066-48.3	±.6 ±.6	17-48.8 066-48.3	±.6 ±.6															
2011	Handwritten	17-48.8 066-48.3	17-48.8 066-48.3	±.6 ±.6	17-48.8 066-48.3	±.6 ±.6															
2012	Handwritten	17-48.8 066-48.3	17-48.8 066-48.3	±.6 ±.6	17-48.8 066-48.3	±.6 ±.6															
2013	Handwritten	17-48.8 066-48.3	17-48.8 066-48.3	±.6 ±.6	17-48.8 066-48.3	±.6 ±.6															
2014	Handwritten	17-48.8 066-48.3	17-48.8 066-48.3	±.6 ±.6	17-48.8 066-48.3	±.6 ±.6															
2015	Handwritten	17-48.8 066-48.3	17-48.8 066-48.3	±.6 ±.6	17-48.8 066-48.3	±.6 ±.6															
2016	Handwritten	17-48.8 066-48.3	17-48.8 066-48.3	±.6 ±.6	17-48.8 066-48.3	±.6 ±.6															
2017	Handwritten	17-48.8 066-48.3	17-48.8 066-48.3	±.6 ±.6	17-48.8 066-48.3	±.6 ±.6															
2018	Handwritten	17-48.8 066-48.3	17-48.8 066-48.3	±.6 ±.6	17-48.8 066-48.3	±.6 ±.6															
2019	Handwritten	17-48.8 066-48.3	17-48.8 066-48.3	±.6 ±.6	17-48.8 066-48.3	±.6 ±.6															
2020	Handwritten	17-48.8 066-48.3	17-48.8 066-48.3	±.6 ±.6	17-48.8 066-48.3	±.6 ±.6															
2021	Handwritten	17-48.8 066-48.3	17-48.8 066-48.3	±.6 ±.6	17-48.8 066-48.3	±.6 ±.6															
2022	Handwritten	17-48.8 066-48.3	17-48.8 066-48.3	±.6 ±.6	17-48.8 066-48.3	±.6 ±.6															
2023	Handwritten	17-48.8 066-48.3	17-48.8 066-48.3	±.6 ±.6	17-48.8 066-48.3	±.6 ±.6															
2024	Handwritten	17-48.8 066-48.3	17-48.8 066-48.3	±.6 ±.6	17-48.8 066-48.3	±.6 ±.6															
2025	Handwritten	17-48.8 066-48.3	17-48.8 066-48.3	±.6 ±.6	17-48.8 066-48.3	±.6 ±.6															

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 . 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

POSITION REPORT

1. POSITION

2. TIME

3. ALTITUDE

4. NEXT POSITION

5. ETA

6. NEXT POSITION