

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

AOCWFF1

Flt ID: H080722	From: KMCF	To: KMCF
Flt No: 08-046	Blk In: 16362	ATA: 16272
ETD: 09002	Blk Out: 08422	ATD: 08502
ETE:	Blk Time: 7:54 (7.9)	Flt Time: 7:37 (7.6)
Sponsor Org: EMC	Program: HURRICANE	Purpose: TS DOLLY IN W. GULF OF MEX

AOC Personnel

AC: CHoy	Sys Eng:
CP: GIRIMONTE	Data Sys: PEEK
Nav: GALLAGHER / KIDDER	Radar:
FE: BAST/WADE	GPS/BT: BOSKO
FD: DAMIANO	Cld Phys:
Avionics: OLNEY	

Participating Scientists / Visitors / AOC

Name (Last, First)	Activity on Aircraft	Affiliation
BLACK, M	PI	HRD
GAMACHE, J	PI	HRD
LORSOLO, S	OBS	HRD
CHU, T	C-SCAT	UMASS
MANUS, J	C-SCAT	UMASS
CRUZ, C	OBS	AOC (INTERN)

Proposed/Actual Mission Remarks (Recco, Fixes, Storm, PENET, NHOP #)

VI 6m 2456 IP
9256

TEAL 71
989mkt

1504R DOLLY

280/13KT

Used Sparrow RA159 today

122
23.7N 290/10
94.3W

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AOCWF2

Flt ID:	H080722		Time Off:	0850Z		Time On:	1627Z	
	A/C (Take-Off)		Wx Station (Take-Off)		A/C (Land)		Wx Station (Land)	
Pressure	1015.86		30.08/1015.9		1017.4		30.07/1017.4	
	Number	Data Disposition / Date / Quality						
Flt Lvl Tapes	2							
Radar Tapes	1							
Cloud Physics Tapes								
Video Tapes								
AXBT	10	all good						
AXCP								
AXCTD								
Dropsondes	20	all good (1 HRD)						

Video

	Forward	Left Side	Right Side	Down	Remarks
Time On					
Time Off					
Rate					

Remarks



N42RF ERROR SUMMARY

TS DOLLY IN WESTERN GULF OF MEXICO



Flight ID: 080722H

<u>Sensor or system</u>	<u>Number or Name</u>
Inertial	INE1
Accelerometer	ACC1
Temperature Probe	TT1
Dew Point Probe	TDM2X (EdgeTech)
Static Pressure	PSF
Dynamic Pressure	PQF1
Vert. Wind	RA159X
Constants File	n42_hur08v3.adc
Project Directory	/acdata/2008/hur08

Notes:

There were no data gaps.

There were no liquid water sensors available for the flight.

The APN-159 (RA159X) radar altimeter used for this flight was the backup unit. Its output had several short duration erroneous data occurrences during the following time frames:

093500Z – 093800Z, 094100Z – 094400Z, 113000Z – 113300Z, 115200Z – 115400Z, 120700Z - 120900Z, 122230Z – 122430Z, 125600Z – 125800Z, 134100Z – 134300Z, 135300Z – 135500Z, 135900Z – 140100Z and 512000Z – 152200Z. This data was used to extrapolate sea level pressure from altitude and was used as input for the 1251Z VORTEX message that was transmitted to NHC. For the other two (2) VORTEX messages....1129Z and 1343Z the GPS dropsonde splash pressure was used.

The measured fuselage static pressure...PSF....and one data spike at 095730Z – 095930Z. This spike was removed and patch using statistical techniques with the measured wingtip static pressure.

Measured dewpoint temperature #2 (EdgeTech)...TDM2...exhibited erroneous data

throughout the flight. The modification of the data occurred in two ways: either direct substitution using TDM3 (TDL/Maycomm) dewpoint sensor output or statistical techniques also using TDM3. During the following time frames there was a direct substitution, TDM2 = TDM3, for TDM2's data erroneous values: 095809Z – 101320Z, 110517Z – 110600Z, 111044Z – 111107Z, 112427Z - 112453Z, 113130Z – 113233Z, 120035Z – 120521Z and 160850Z - 161040Z.

The modification of TDM2 data using statistical techniques occurred during the following time frames: 103925Z – 103940Z, 104007Z – 104018Z, 113847Z – 113902Z, 113957Z – 114008Z and 134000Z – 134200Z.

All other instrumentation worked optimally.

Twenty (20) GPS dropsondes were deployed all being good. Their corresponding tempdrop messages were successfully sent to NHC. Ten (10) AXBTs were deployed internally from the aircraft with all being good.

	Takeoff 0850Z	Landing 1627Z
Aircraft Static Pressure	1015.6mb	1017.4mb
Corrected Tower Pressure	1015.9mb	1017.4mb

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

14080722

INE1

ACC1

TT1

~~DW2~~ TDM2

PSF

PQF1

RA159X

NO Data

Gap

RA159 = RA232

084601 = 085346 ✓

162644 = 163100

RA159 free

RA159 fixer
my MTI1

~~0935-0938~~ ✓

0941-0944 ✓

manual 1130-1133 ✓

1152-1154 ✓

1207-1209 ✓

✓ ~~1223-1224~~ ~~1223-1225~~
122230-122430 1228-1258 ✓

1344-1343 ✓

1353-1355 ✓

patch.15 → 1359-1401 ✓

~~14~~
1520-1522 ✓

BSF4 fix

✓

095731 = 095930

~~DW2~~ fixer

~~1340-1342 auto/patch.25~~

~~095809-095829~~

TDM2 ~~DW2~~ fixer

TDM2 = TDM3

DW2 = DW3 095809 = 101320 ✓

TDM2

patch.25

patch.27

patch.27

patch.27

patch.27

patch.27

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patch.27

TDM2 = TDM3 120035-120521 ✓

TDM2 = TDM3 160850-161040 ✓

~~1340-1342~~ auto/patch.20

✓ manual 134040-134052 patch.20

#080722H

Drop 1	1006.9	24.96N	92.97W	
Drop 2	Bad			
Drop 3	1002.0	24.39N	93.70W	
Drop 4	997.8	24.20N	93.85W	NE RMW
Drop 5	992.6	23.72 N	94.02W	cntr (200mb)
Drop 6	1001.5	23.09N	94.52W	SW RMW
Drop 7	1005.9	22.63N	94.96W	
Drop 8	1006.8	22.32N	95.13W	
Drop 9??				
Drop 10	1005.2	23.23N	93.45W	
Drop 11	1001.9	23.35N	93.67W	
Drop 12	993.1	23.81N	94.30W	cntr (700mb)
Drop 13	999.3	24.13N	94.74W	NW RMW
Drop 14	1002.9	24.38N	95.00W	
Drop 15	1006.5	24.88N	95.53W	
Drop 16	996.4	23.81N	94.71W	(850mb)
Drop 17	991.8	23.84N	94.37W	cntr 1493
Drop 18	999.3	23.87N	93.85W	1524
Drop 19	1007.0	23.87N	93.00W	1502
Drop 20	1007.8	23.86N	92.50	1500

273 sec 700mb
255 sec

DATE 7/22/08		SCHEDULED RX TIME	AIRCRAFT NUMBER N42RF	FLIGHT DIRECTOR
WX MISSION IDENTIFIER				OB NUMBER 9
VORTEX DATA MESSAGE				
A	22 / 1129 Z	DATE and TIME of FIX		
B	23 DEG 41 MIN N S	LATITUDE of FIX		
	94 DEG 02 MIN W E	LONGITUDE of FIX		
C	700 MB 3012M	MINIMUM HEIGHT of STANDARD LEVEL		
D	58 KT	ESTIMATE of MAXIMUM SURFACE WIND OBSERVED		
E	030 DEG 42 NM	BEARING and RANGE FROM CENTER of MAXIMUM SURFACE WIND		
F	120 DEG 59 KT	MAXIMUM FLIGHT LEVEL WIND NEAR CENTER		
G	029 DEG 45 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	12 C / 3054 M	MAXIMUM FLIGHT LEVEL TEMP / PRESSURE ALTITUDE OUTSIDE EYE		
J	12 C / 3056 M	MAXIMUM FLIGHT LEVEL TEMP / PRESSURE ALTITUDE INSIDE EYE		
K	9 C / NA C	DEWPOINT TEMP / SEA SURFACE TEMP INSIDE EYE		
L	POORLY DEF	EYE CHARACTER: Closed wall, poorly defined, open SW, etc.		
M	E07/15/57	EYE SHAPE/ORIENTATION/DIAMETER: Code eye shape as: C - Circular; CO - Concentric; E - Elliptical. Transmit orientation of the major axis in tens of degrees, i.e., 01-010 to 190; 17 - 170 to 350. Transmit diameter in nautical miles. Examples: C8= Circular eye 8 miles in diameter. E09/15/5=Elliptical eye, major axis 090-270, length of major axis 15 NM, length of minor axis 5 NM. CO8-14=Concentric eye, diameter inner eye 8 NM, outer eye 14 NM.		
N	1234/7	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; 9-925mb; 8-850mb; 7-700mb; 5-500mb; 4-400mb; 3-300mb; 2-200mb; NA-Other		
O	1 / 1 NM	NAVIGATION FIX ACCURACY / METEOROLOGICAL ACCURACY		
P	REMARKS MAX FL WIND 58 KT NE QUAD 1117 Z VERY RAGGED EYE 992.6 Sunk splash pt 23.715 94.022 991 from fl level			

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 (intermediate) fixes.

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DATE		SCHEDULED RX TIME	AIRCRAFT NUMBER	FLIGHT DIRECTOR
WX MISSION IDENTIFIER				OB NUMBER 20
VORTEX DATA MESSAGE				
A	21 / 1251 Z	DATE and TIME of FIX <i>Sent wrong date → unit corrected</i>		
B	23 DEG 49 MIN N S	LATITUDE of FIX		
	94 DEG 18 MIN W E	LONGITUDE of FIX		
C	700 MB 3013 M	MINIMUM HEIGHT of STANDARD LEVEL		
D	55 KT	ESTIMATE of MAXIMUM SURFACE WIND OBSERVED		
E	130 DEG 47 NM	BEARING and RANGE FROM CENTER of MAXIMUM SURFACE WIND		
F	210 DEG 54 KT	MAXIMUM FLIGHT LEVEL WIND NEAR CENTER		
G	130 DEG 51 NM	BEARING and RANGE FROM CENTER OF MAXIMUM FLIGHT LEVEL WIND		
H	EXTRAP 991 MB	MINIMUM SEA LEVEL PRESSURE COMPUTED FROM DROPSONDE OR EXTRAPOLATED FROM FLIGHT LEVEL. IF EXTRAPOLATED, CLARIFY IN REMARKS.		
I	9 C / 3057 M	MAXIMUM FLIGHT LEVEL TEMP / PRESSURE ALTITUDE OUTSIDE EYE		
J	12 C / 3057 M	MAXIMUM FLIGHT LEVEL TEMP / PRESSURE ALTITUDE INSIDE EYE		
K	9 C / NA C	DEWPOINT TEMP / SEA SURFACE TEMP INSIDE EYE		
L	OPEN W	EYE CHARACTER: Closed wall, poorly defined, open SW, etc.		
M	C 20	EYE SHAPE/ORIENTATION/DIAMETER: Code eye shape as: C - Circular; CO - Concentric; E - Elliptical. Transmit orientation of the major axis in tens of degrees, i.e., 01-010 to 190; 17 - 170 to 350. Transmit diameter in nautical miles. Examples: C8= Circular eye 8 miles in diameter. E09/15/5=Elliptical eye, major axis 090-270, length of major axis 15 NM, length of minor axis 5 NM. CO8-14=Concentric eye, diameter inner eye 8 NM, outer eye 14 NM.		
N	1234/7	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; 9-925mb; 8-850mb; 7-700mb; 5-500mb; 4-400mb; 3-300mb; 2-200mb; NA-Other		
O	1 / 1 NM	NAVIGATION FIX ACCURACY / METEOROLOGICAL ACCURACY		
P	REMARKS SLP EXTRAPOLATED FROM 700 MB MAX FL WIND 58 KT NE QUAD 1117 Z MAX TEMP 13 280 / 2 NM FROM CENTER CNTR 993.2 FL MAX FL outboard 63 1256 Z NW QUAD			

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 (intermediate) fixes.

SFC CNTR 130 4 NM FROM FL CNTR

23.32 radar
94/6' fix
10552

7/22/08 N42RF

Leg 1 inbound

58htz

AXBT/Sonde Combos

1 ~~IP~~
2 24.45 93.35 } CPA 24°27'
3 ~~Mid point~~ } 93°21'
4 ~~RMW surface~~ } Combos
5 ~~Eye~~ (280) }

270
320
Sondes only - Leg 2 outbound

15
1430
2
1 ~~RMW surface~~
2 ~~Mid point~~ } Sondes only
3 ~~End point~~ }

2.5 Leg 3 Inbound

230
10
320
1 ~~End point - combo~~
2 ~~Mid point - sonde only~~
3 ~~RMW surface - sonde only~~
4 ~~Eye - sonde only~~

9 Leg 4 outbound

1 ~~RMW surface - combo~~
2 ~~Mid point - sonde only~~
3 ~~End point - combo~~

13102

15 sondes 8 BTs

2228

09241

1051

320

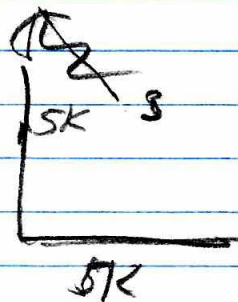
23,22

1840

20

open NW

(55)



5,000 ft Pass

Inbound

- 1 ~~RMW - Sonde only~~
- 2 Eye - Sonde only

Outbound

- 3 ~~RMW - Sonde only~~
- 4 24.0 93.0 - combo
- 5 24.2 92.5 - combo

296/9

N42RF AVAPS DropSonde Log

Project: ARRD Flight ID: 080722H Flt Dir: Barry D

Mission: TSPolly Flight #: 3 Status: Sys 1 / Sys 2 /

Drop #	Sonde Serial Number	Chn. #	Time (Zulu)	Press. Offset	Winds time	Operator Initials	Comments /Status/ Failure Reason	\$	Good ☒
1	061319095	1	1105	0	4	JB			/
2	061329211	2	1113	0	4	JB			/
3	061329213	3	1117	-0.5	2				/
4	061329212	4	1121	0	2				/
5	061319099	1	1128	0	4				/
6	061319109	2	1140	0	4				/
7	061319117	3	1148	-0.5	4				/
8	061329053	4	1154	-0.3	4				/
9	061329202	1	1224	0	4				/
10	061329208	2	1236	-0.3	4				/
11	061329215	3	1239	-0.3	4				/
12	061329062	4	1250	-0.5	2				/
13	061319112	1	1251	-0.1	4				/
14	061229125	2	1302	-0.7	2				/
15	061229143	1	1312	-0.4	2				/
16	061329203	2	1327	-0.4	2				/
17	061319107	1	1342	-0.3	2				/
18	061329210	4	1349	-0.4	4				/
19	061329059	2	1402	-0.6	4				/
20	05C1626258	1	1429	0	4				/
21									
22									
23									
24									
25									
26									
27									
28									
29									
30									
31									
32									
33									

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

N42RF AVAPS DropSonde Log

Project: HRD Flight ID: 0807224 Flt Dir: Barry D

Mission: TSDolly Flight #: 3 Status: Sys 1 / Sys 2 /

Drop #	Sonde Serial Number	Chn. #	Time (Zulu)	Press. Offset	Winds time	Operator Initials	Comments /Status/ Failure Reason	\$	Good ☒
1	061319095	1	1105	0	4	JB	FMC		☒
2	061319211	2	1113	0	4	J.R.			☒
3	061329213	3	1117	-1.5	2				☒
4	061329212	4	1121	0	2				☒
5	061319099	1	1128	0	4				☒
6	061319109	2	1140	0	4				☒
7	061319117	3	1148	-1.5	4				☒
8	061329053	4	1154	-1.3	4				☒
9	061329202	1	1224	0	4				☒
10	061329208	2	1236	-1.3	4				☒
11	061329215	3	1239	-1.3	4				☒
12	061329062	4	1250	-1.5	2				☒
13	061319112	1	1257	-1.1	4				☒
14	061229125	2	1302	-1.7	2				☒
15	061229143	1	1312	-1.4	2				☒
16	061329203	2	1327	-1.4	2				☒
17	061319107	1	1342	-1.3	2				☒
18	061329210	4	1349	-1.4	4				☒
19	061329059	2	1402	-1.6	4				☒
20	054626258	1	1409	0	4				☒
21									
22									
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27									
28									
29									
30									
31									
32									
33									

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

2801

FREQ	ALT	HDG	OTHER
16502			C/RNC- 190
14202	600 HGT		1600 135.5
			1444 Swamp
			703 904 4525
			NAV - Call Complete
			121K 132.25 114K
		HF	8733 11344 3494 6640
			6586 5550
			6577 14K

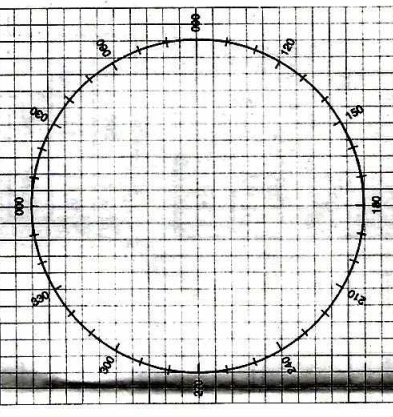
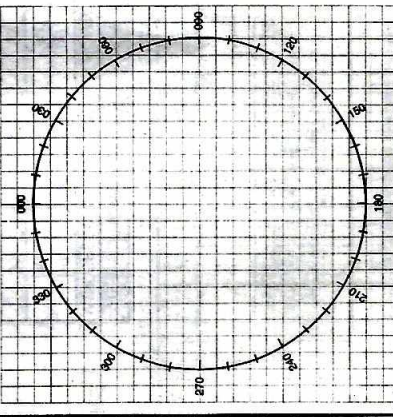
TIME	FIX TYPE	POSITION	INS 1 POSITION	K ERR	INS 2 POS
0836		CNG START			
0844		74.1 1.56			
0850		7/0	KMCF		
		SAC ✓			
0850	△	240.19 6/10/08 08248	2741 08249	+1	2741 08249
0856	△	241.5 0820 08248	2741 08249	+1	2741 08249
0920	○	420.1 08248	400.1		
0926	△	241.5 0820 08248	2741 08249		2741 08249
1122	⊗	234.2 0840 01.2	knot		
1202	△	234.2 0840 01.2	234.2 0840 01.2		234.2 0840 01.2
1235	○	NO JOE KN			
1249	○	NO JOE KN			
	⊗	234.2 0840 01.2	234.2 0840 01.2		234.2 0840 01.2
	△	234.2 0840 01.2	234.2 0840 01.2		234.2 0840 01.2
1343	⊗	23.50.4 0842.1			
1406	○	23.50.4 0842.1			

msf 2700
8 hr 2 hr Transit
Figure 4

FDPH 830 HF-1 Looks UP
NO MOSA INT. 1 Dolly

not a

MISSION LOG PAGE OF

[illegible]

Address-

4343 09241

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 42, NOAA

- POSITION _____ N/S _____

- HEADING _____ TRUE/MAG _____

- AT _____ KTS TRUE/INDICATED
- FLIGHT LEVEL OR ALTITUDE

- WE ARE A P-3 AIRCRAFT WITH ~~000~~ SOULS ON BOARD

- 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