

2

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

AOCWF-1

Flt ID: 090820IB	From: TBPB	To: TBPB
Flt No: 09-059	Bk In: 0515z	ATA: 0512
ETD: 2000z	Bk Out: 2019z (2112z)	ATS: 2122
ETE: 8+00	Bk Time: 9.1	Flt Time: 7.8
Sponsor Org: HRD	Program: PHX	Purpose: MODIFIED Hurricane Bill

AOC Personnel

AC: CHOY	Sys Eng: BOSKO
CP: NELSON / MARTIN	Data Sys: NAEHER
Nav: GALLAGHER / KIDDER	Radar: (16)
FE: BAST / KLIPPEL	GPS/BT: SAN SOUCI
FD: HENNING / PARRISH	Cld Phys:
Avionics:	

Participating Scientists / Visitors / AOC

Name (Last, First)	Activity on Aircraft	Affiliation
BLACK, Mike	LPS	HRD
GAMACHE	SCI	HRD
ANNANE	SCI	HRD
DVORSKY	SCI	UMASS

Takeoff Ps 1004.5 Landing Ps 1007.0
 STA PR 1003.7 ~~2007.8~~ STA PR 1007.8

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

TAKEOFF Altim 1010.0 TBPB 2HR transmit. 1218z (2663)
 (29.83) 1010.6 SLP 2210N 951mb
 LANDING Altim 1014 TBPB 6111W 120kts NE
 93 SFMR

MISSING OBS AT CARCAH:
 3 8 13 14 15 18 20 22 23
 (14 resent manually by Steven)
 2nd vortex MIAMI

00z → 24.2N 63.8W
 305/16
 23.36
 22z → 63.15
 1606z
 2252N 6212W

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AOCWE2

Flt ID:

090820I2

Time Off:

2122Z

Time On:

0512Z

A/C (Take Off)

Wx Station (Take Off)

A/C (Land)

Wx Station (Land)

Pressure

1004.5

1003.7

1007.0

1007.8

Number

Data Disposition / Date / Quality

Flt Lvl Tapes

2

Radar Tapes

0 (TDR and LF radars INOP)

Cloud Physics Tapes

Video Tapes

AXBT

AXCP

AXCTD

Dropsondes

20

2 bad (1 ~~bad~~ ^{NO Launch Detect} at 0143z + 1 FF at 0022z)

Video

Forward

Left Side

Right Side

Down

Remarks

Time On

Time Off

Rate

Remarks

N43RF ERROR SUMMARY

HURRICANE 2009 HURRICANE BILL

Flight ID: 090820I2

<u>Sensor or system</u>	<u>Number or Name</u>
INE (for wind derivation)	INE1
Accelerometer	ACC1
Temperature Probe	TT1
Dew Point Probe	TDM2X (EDGETECH)
Static Pressure	PSF
Dynamic Pressure	PQF1
Vert. Wind	ALTI1X
Constants File	n43_hur09v2.adc
Project Directory	/acdata/2009/hur09/P3

Notes:

There were 6 instances after takeoff of data gaps in the netCDF file:

00:52:01 – 00:52:11Z: no subsequent disruption resulted from this gap

01:09:11 – 01:09:19Z: during this interval, there were significant errors caused by the interface between the inertial navigation systems and the RAMS data collection system that generates High Density Observations in real time. As a result, the ASDL SATCOM system sent out greatly exaggerated flight level and SFMR wind speeds for HDOBS 01:09:00 and 01:09:30 Z. However, since in the creation of the netCDF file from the aircraft tape this nine second gap appears as missing data, no such errors are included in the research data. Fortunately also, no disruption of subsequent data occurred immediately following this gap in the netCDF file.

There were four more instances of one second gaps:

02:15:51Z

02:38:41Z

02:40:31Z

02:41:01Z

In each of these instances, there were significant spikes in the subsequent second resulting from errors in sampling inertial data output. This necessitated that the following variables be patched using statistical means: alti1, lati1, loni1. Two more: gsui1 and gsvi1 had very small data deviations not requiring patching.

Dewpoint sensor #2...TDM2 (EdgeTech) had several occurrences where its' value was greater than ambient temperature thus producing humidity values above 100%. For most of these occurrences TDM2 output was not modified. There were two instances where TDM2 had to be patched using statistical methods (data smoothing to remove anomalous spikes with weighting factors between 0.10 and 0.30) to avoid having RH values well in excess of 120% in the final RXC file: 23:20:00-23:20:33Z and 02:44:06 – 02:45:08Z.

The tail Doppler radar was not available for this mission. All other flight level instruments worked optimally during the flight. There was an abnormally long period of ground time between when the data system began collecting measurements and takeoff due to a maintenance delay (over 90 minutes from 1940z to 2122z).

Twenty dropsondes (20) were deployed during the mission. Two were bad (the 0022Z drop at the NW corner of the pattern was a fast fall and the 0143Z drop at the 060 degree radial out from eye along the arc pattern had no launch detect). No AXBT were deployed.

The RINU1550 GPS altitude output was used for extrapolating sea level pressure from flight altitude. An eye center dropsonde was conducted at 23:58:28Z. The extrapolated sea level pressure from flight altitude, 700 mb or 10,000 feet, at the time of this release was 940.3 mb with a splash sonde pressure (according to ASPEN, Editsonde was not run on this drop) of 943 mb (with 8 knots of wind at the surface).

SPECIAL NOTE!!! The variable names dpj wgs, dpj_was and dpj_wz in the netCDF file represent vertical ground, vertical air 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.

	Takeoff	Landing
	2122Z	0512Z
Aircraft Static Pressure	1004.5mb	1007.0mb
Corrected Tower Pressure	1003.7mb	1007.8mb

Flight Directors: Richard Henning and Jack Parrish (813) 828-3310 ext. 3086

N43RF AVAPS DROP LOG

Project : Hurricane '09

Mission :

BILL

Flight ID : 0908201B

Take Off : 2122

Landing : _____

Flt Dir : ~~PORRUSH~~ / ~~KEVIN~~ Launcher S/N: _____

Drop #	Sonde Serial #	Rcvr #	Press Offset	Launch Time	Winds Time	Operator	Charge \$\$ To	Comments	Good ?
1	084 919 137	1	.4	2334		WSS		IP	✓
2	084 439 011	2	.4	2341				MOAT	✓
3	084 919 217	3	.6	2354				SE EYE WALL	✓
4	083 259 178	2	.6	2358				CENTR	✓
5	083 259 238	4	.6	0139				NW EYE WALL	✓
6	084 919 212	2	.5	0022		FAST FALL		NW CORNER	✓
7	083 259 081	2	.7	0037				W POINT	✓
8	082 219 031	2	.3	0102				W EYE WALL	✓
9	083 259 233	4	.7	0108				E EYE WALL	✓
10	082 219 182	2	.1	0129				E POINT	✓
11	082 229 270	3	.8	0136				ARC 1	✓
12	082 229 265	2	1.0	0143		NO LAUNCH DET		ARC 2	✓
13	083 259 169	3	.3	0149				ARC 3	✓
14	084 919 141	2	.6	0159				ARC 4	✓
15	083 219 024	4	.6	0209				ARC 5	✓
16	084 919 221	2	.5	0216				ARC 6	✓
17	083 259 073	4	.8	0224				ARC 7	✓
18	083 219 026	1	.5	0229				ARC 8	✓
19	083 259 051	2	.9	0235				ARC 9	✓
20	083 259 222	3	.9	0244				ARC 10	✓

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MISSION LOG

PAGE ____ OF ____

TIME	FIX TYPE	POSITION	INS 4 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
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[illegible]

POSITION REPORT

1. POSITION
2. TIME
3. ALTITUDE
4. NEXT POSITION
5. ETA
6. NEXT POSITION

