

NOAA G-IV N49RF ERROR SUMMARY
HURRICANE 2010
3 Sept 2010 Hurricane Earl (HRD)

Flight ID: 100903N

<u>Sensor or system</u>	<u>Number or Name</u>
Accelerometer	ACINS
Altitude	PALT
Attack Angle	AKRD2
Dew Point Probe	DPR
Dynamic Pressure	QC2M
Geopotential Altitude	GPGALT
Inertial Selected	VEW, VNS
Static Pressure	PS2M
Slip Angle	SSRD1
Temperature Probe	AT3/TT3
True Airspeed	TAS2
Constants File	49cal093
Project Directory	acdata/2010/MET

Local Met Data	Takeoff (170935z)	Landing (235535z)
Aircraft Static Pressure	1014.6 mb	1012.1mb
Tower Pressure (corrected)	1016.1 mb	1013.7mb

Notes:

All Inertial 2 (PITR) and Honeywell 2 GPS (SG2) values spiked to zero for four seconds at 1800z and for five seconds at 2200z. Inertial 1 is default.

DADC Pressure Altitude (ADCPALT) was consistently approx 100 meters higher than NACA Pressure Altitude (PALT) during cruise. The APN-232 Radar derived Geopotential Altitude (HGALT) was 100 meters or more lower than Collins GPS derived Geopotential Altitude (GPALT) during cruise. HGALT also spiked occasionally with 300 meter downward spikes (that gradually worked back to level).

The Left Dew Point sensor (DPLC) read far too high through the entire flight (at times, 20C or more higher than DPRC and higher than the ambient temperature).

The Air Data Computer Attack Angle (ADCAOA) was consistently 0.5 degrees higher than the Left and Right Attack Angle sensors (AKRD1 and AKRD2).

Vertical Winds (WI) were generally very good throughout the cruise portion of flight (mean value of +0.02 m/s). However, during descent back into MacDill they displayed a +1 to +2 m/s high bias (highlighting the need for a calibration flight).

All other flight level instruments worked optimally during the flight.

Eighteen AVAPS II dropsondes (18) were deployed during the mission, all were good (and all 18 coded surface winds) and all were transmitted.

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

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

Flt ID: 100903N	From: KMCF	To: KMCF
Flt. No: 10 - 101	Blk In: 0003 Z	Time On: 2356 Z
ETD: 1930	Blk Out: 1700 Z	Time Off: 1710 Z
ETE: 7 + 00	Blk Time: 7:03 (7.1) Hrs	Flt Time: 6:46 (6.8) Hrs
Sponsoring Org: IAD	Program: Research	Purpose:

AOC Flight Crew

Aircraft Commander: Glover	Data System: Rogers
Co-Pilot: Twining	AVAPS: Miller
Navigator: /	System Eng: Goldstein
Flight Eng: /	A A: Mascaro
Flight Director: Parrish, Henning	A A: Carpenter
Avionics:	Crew Chief:

Participating Scientists / Visitors

[illegible]

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

Storm Name: EARL

mission ID: WX07A EABL3 6100Z 37°30'N 72°00'W

NOTES:

18 Drops, 18 ^{drop 2} (17 planned)

Recco Times

Fix #	Fix Time
1	10
2	15
3	20
4	25
5	30
6	35
7	40
8	45
9	50
10	55
11	60
12	65
13	70
14	75
15	80
16	85
17	90
18	95
19	100
20	105
21	110
22	115
23	120
24	125
25	130
26	135
27	140
28	145
29	150
30	155
31	160
32	165
33	170
34	175
35	180
36	185
37	190
38	195
39	200
40	205
41	210
42	215
43	220
44	225
45	230
46	235
47	240
48	245
49	250
50	255
51	260
52	265
53	270
54	275
55	280
56	285
57	290
58	295
59	300
60	305
61	310
62	315
63	320
64	325
65	330
66	335
67	340
68	345
69	350
70	355
71	360
72	365
73	370
74	375
75	380
76	385
77	390
78	395
79	400
80	405
81	410
82	415
83	420
84	425
85	430
86	435
87	440
88	445
89	450
90	455
91	460
92	465
93	470
94	475
95	480
96	485
97	490
98	495
99	500
100	505
101	510
102	515
103	520
104	525
105	530
106	535
107	540
108	545
109	550
110	555
111	560
112	565
113	570
114	575
115	580
116	585
117	590
118	595
119	600
120	605
121	610
122	615
123	620
124	625
125	630
126	635
127	640
128	645
129	650
130	655
131	660
132	665
133	670
134	675
135	680
136	685
137	690
138	695
139	700
140	705
141	710
142	715
143	720
144	725
145	730
146	735
147	740
148	745
149	750
150	755
151	760
152	765
153	770
154	775
155	780
156	785
157	790
158	795
159	800
160	805
161	810
162	815
163	820
164	825
165	830
166	835
167	840
168	

EPS 197 38°08'N 72°05'W

212 $38^{\circ}45'N$ $71^{\circ}35'W$

23Z 39°25'N 71°05'W

L PND A715 22552 250/4 10 31/21 29.94 -12

(See reverse for additional remarks)

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

Flight ID: Time Off: Z Time On: Z

A/C Takeoff Wx Station Takeoff A/C Land Wx Station Land

Pressure

	Number	Data Disposition / Date / Quality
Flight Level Tapes		
Radar Tapes		
Cloud Physics Tapes / CDs		
Video Tapes		
Dropsondes		Good: Bad:
AXBT		
AXCP		
AXCTD		

Remarks: TAKE OFF WEATHER:
LANDING WEATHER:

100903n	WS	MSL Alt	G Alt	Heading	Track	TAS	GS	V Vel	Event Comments
17:04:38	6.4	5.9	5.9	268.9	271.3	19.5	12.9	-0.01	blocked out
17:09:35	3.1	6.2	6.2	39.7	40.1	78.0	80.3	0.24	off
17:10:48	3.3	467.5	467.1	75.6	76.4	111.8	114.8	1.54	initial climb
17:13:59	9.0	1599.6	1597.8	26.8	29.4	138.4	143.4	11.92	more climb
17:25:06	13.1	7654.3	7639.2	56.7	57.7	226.4	237.9	6.83	and more climb
17:51:24	25.5	13229.1	13194.2	28.4	32.9	231.5	248.4	0.10	cruising along
18:21:15	17.1	13209.1	13178.0	35.4	37.9	231.9	244.9	0.16	passed Cape
Fear (I think)									
18:30:49	21.6	13176.8	13147.0	36.7	38.6	233.0	252.8	-0.31	In the SW CDO
18:40:46	20.6	13371.4	13342.0	37.0	39.4	233.9	251.4	1.92	7 min to pt 1
18:50:16	6.5	13502.3	13473.2	95.8	95.4	229.9	236.2	-0.64	after drop 1,
launch time 1848z									
18:59:47	18.0	13506.3	13477.1	83.6	82.3	235.0	251.6	0.04	Drop2 (so
called eye drop)									
19:07:48	17.1	13515.4	13486.8	63.8	62.4	231.5	248.1	-0.08	Drop old pt2
19:17:51	18.3	13524.7	13496.8	46.3	46.6	231.8	250.1	0.01	Drop pt 3
19:28:00	25.2	13514.9	13488.5	359.0	4.4	230.5	244.0	-0.06	Drop pt 4
19:39:09	31.1	13492.1	13467.5	337.5	344.4	230.4	240.8	-0.03	Drop pt 5
19:50:17	28.0	13468.5	13445.7	15.6	19.0	230.7	252.2	-0.44	Drop pt 6
After Pt.7 (drop time 195714)									
After Pt.7 (drop time 195714)									
DROP PT 8 ~2004z									
20:11:37	24.7	13774.3	13750.5	179.6	173.6	227.5	218.3	0.83	drop 9
20:12:02	23.6	13770.5	13746.6	179.4	173.7	226.7	219.0	-0.57	drop 9
20:12:38	22.4	13786.6	13762.6	179.3	173.7	226.8	219.6	-0.66	
20:19:01	16.1	13788.0	13763.0	136.1	133.7	228.5	237.4	-0.23	drop pt 10
20:29:30	19.9	13793.4	13768.4	89.7	90.7	226.8	246.3	0.46	drop pt 11
20:38:04	21.9	13803.2	13778.1	139.7	135.5	229.3	247.0	0.13	drop pt 12
20:49:16	17.7	14121.0	14092.8	220.5	216.1	226.4	215.3	0.12	drop pt 13
21:00:01	20.3	14114.9	14086.7	270.1	270.8	226.4	206.4	0.31	drop pt 14
21:11:15	28.4	14114.5	14086.2	231.5	230.9	230.3	202.2	0.15	drop pt 15
21:24:32	23.8	14122.2	14092.0	214.9	211.1	229.2	209.0	-0.28	drop pt 16
21:43:54	19.8	14125.4	14093.2	228.3	228.9	229.9	210.3	-0.05	drop pt 17
22:08:19	14.5	14161.4	14126.8	231.7	231.9	248.1	233.6	0.11	pointing home,
23:09:41	14.6	13209.5	13173.6	228.1	226.9	240.8	226.9	-3.23	pointing home,
35 min out									
23:41:29	12.6	3861.0	3855.5	255.5	257.7	158.5	147.6	0.45	on approach
23:55:35	4.1	8.4	8.4	221.1	221.1	66.3	62.1	-0.49	land
23:55:35	4.1	8.4	8.4	221.1	221.1	66.3	62.1	-0.49	land
00:03:40	10.9	11.6	11.6	130.5	48.4	10.9	1.9	0.00	block in

① 3745
73 54

100903 N

D. Carpenter/

FLIGHT ID/Storm WY07A Earl 13 AVAPS OPERATOR M. Mascaro FLIGHT DIRECTOR Parrish/Hennin

near
3802/7210
MASS
MASS
MASS
Yan
↓

Drop#	Ob #	Launch Time	Sonde ID	Sig Wx	Splash Pressure	Transmission Time	Notes
①	1	1848	5242	undercast	985.6	192501	SW eyewall 320/57
②	2	1859	5775	undercast	962.2	192936	near eye 145/49
①	3	1908	5027	undercast	985.6	194853	east of G 150/57
③	4	1918	5166	undercast	998.8	195930	NE of G 135/35
①	5	1928	5140	undercast	1003.4	200730	NE of G 130/30
②	6	1939	5233	undercast	1005.7	202200	NE of G 100/18
①	7	1950	0147	undercast	1005.9	202338	NNE of G 155/16
③	8	1957	5271	undercast	1007.3	203453	NNE of G 170/16
②	9	2003	5046	undercast	1007.7	204258	E of MAW 185/10
①	10	2011	5201	undercast	1007.9	204716	SW Nam Scot 160/16
③	11	2019	5018	undercast	1007.4	205352	E Cape Cod 140/15
②	12	2029	5782	undercast	1010.0	210515	E out 42 155/14
④	13	2038	5191	undercast	1011.8	210805	eastmost 42 180/12
①	14	2049	5143	undercast	1011.9	211432	eastmost 40.5 170/16
②	15	2100	5802	undercast	1009.8	212628	E out 40.5 150/18
④	16	2111	5069	undercast	1006.6	214944	E 40.5 130/19
①	17	2124	5192	undercast	1003.1	215358	SE of G 165/44
②	18	2143	5030	broken	991.3	220841	S of G 190/58
	19						
	20						
	21						
	22						
	23						
	24						
	25						
	26						
	27						
	28						
	29						
	30						
	31						
	32						
	33						
	34						
	35						

N49RF AVAPS DROP LOG

Project: Hurricane '10 Mission: Earl

Flight ID: 100903N

Take Off : _____

Landing:

Flt Dir :

Parrish

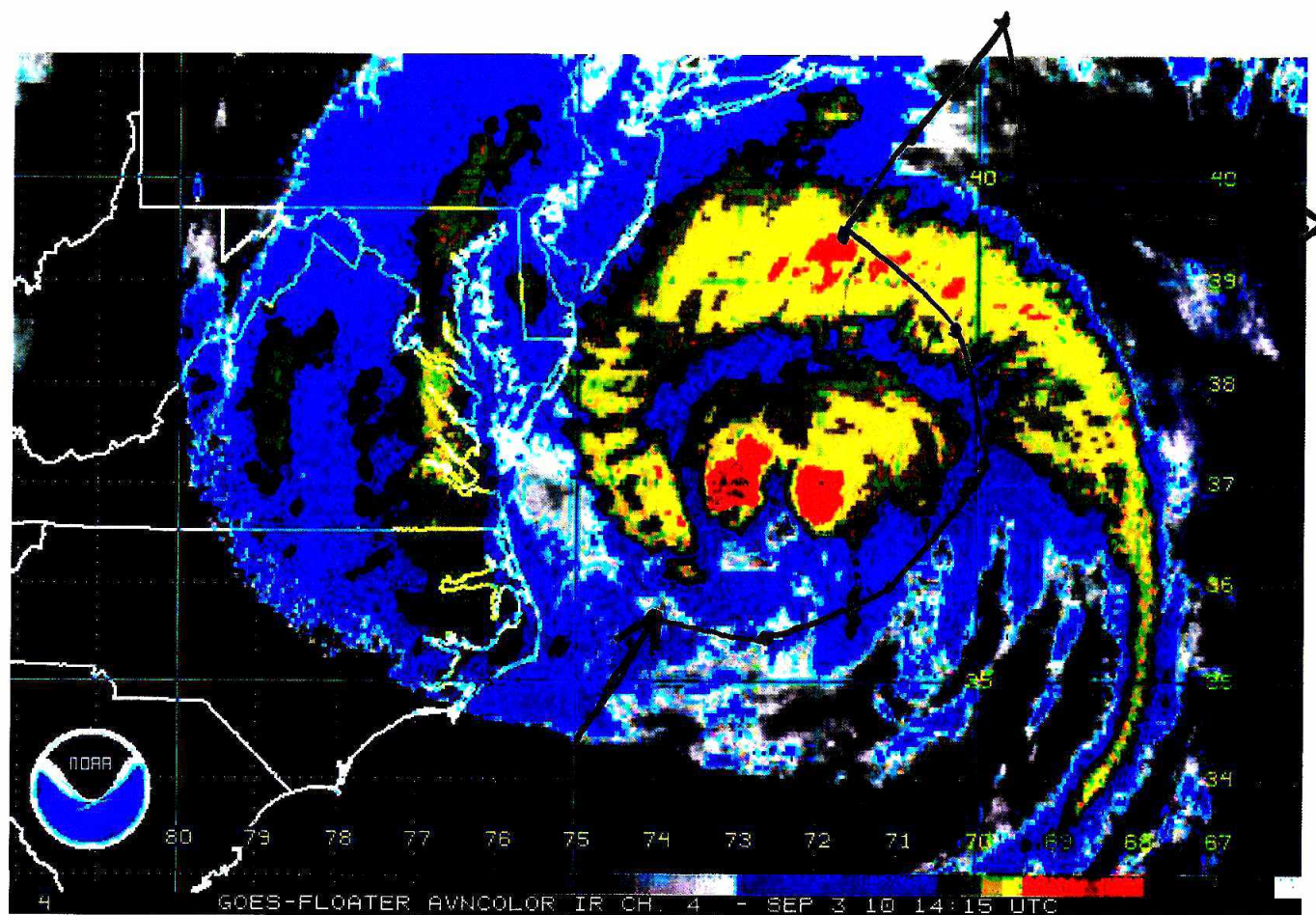
MISSION PLAN: EARL

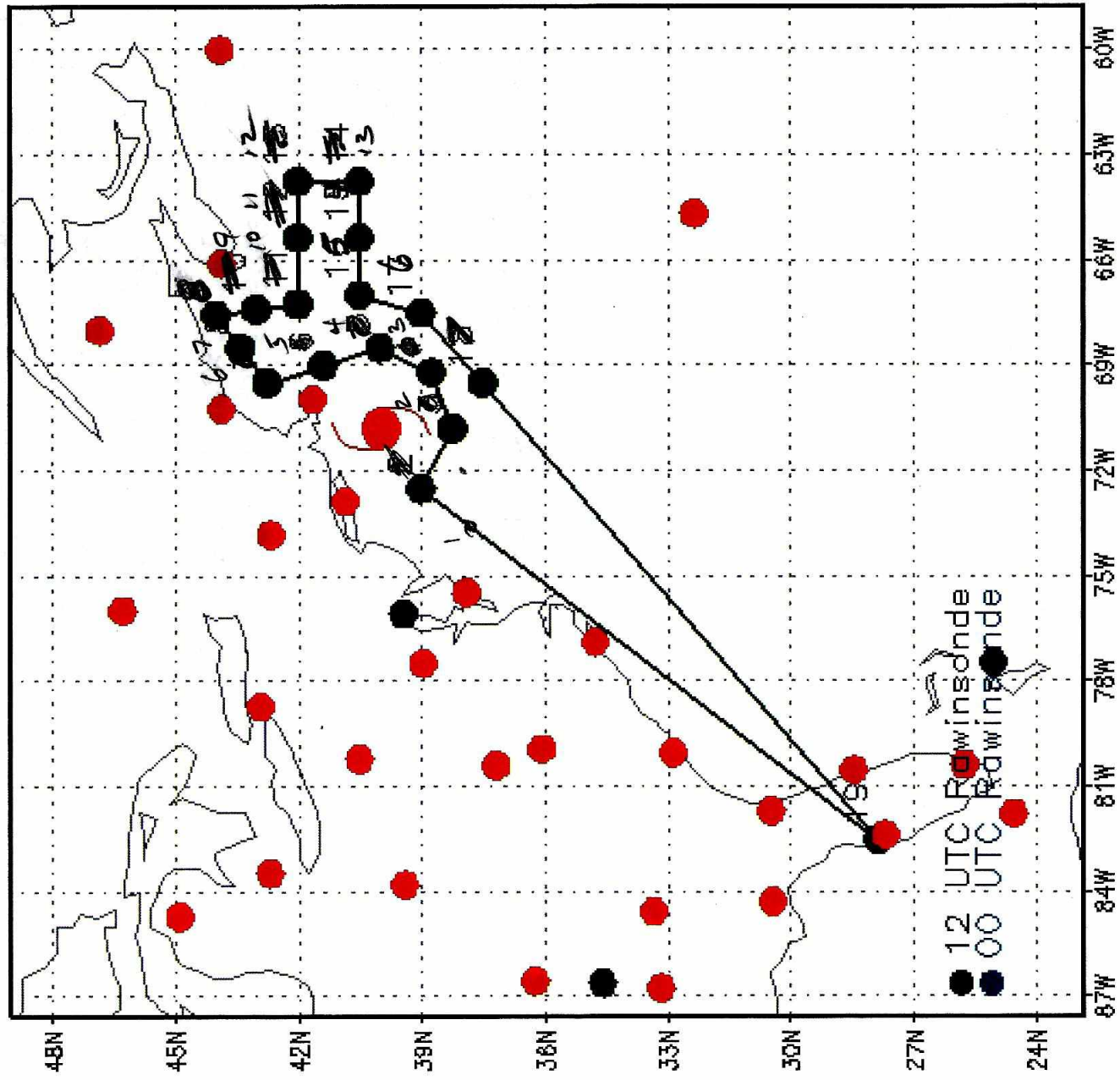
Prepared by the Hurricane Research Division File: current1.ftk

Aircraft: N49RF Proposed takeoff: 03/1730Z

DROP LOCATIONS

#	LAT (d m)	LON (d m)	RAD/AZM (nm/dg)	TIME (h:mm)
1	39 00	72 30		1:56
2	38 15	70 48		2:09
3	38 45	69 12		2:21
4	40 00	68 30		2:33
5	41 23	69 00		2:46
6	42 45	69 30		2:58
7	43 24	68 30		3:07
8	44 00	67 33		3:16
9	43 00	67 24		3:25
10	42 00	67 15		3:34
11	42 00	65 21		3:47
12	42 00	63 45		3:57
13	40 30	63 45		4:11
14	40 30	65 21		4:22
15	40 30	67 00		4:33
16	39 00	67 30		4:47
17	37 30	69 30		5:05





14
 99 840
 60
 240

37.87N 37.58N
 71.91W 71.51W

Hurricane_2010, Flight #FF14

09/03/2010, 16:29:38-24:10:33

This plot contains preliminary data

