NOAA G-IV N49RF ERROR SUMMARY
HURRICANE 2010
13 Sept 2010 AL92 (Pre Hurricane Karl)
HRD PHX TISX

Flight ID: 20100913N1

Sensor or system	Number or Name
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 (1719z)	Landing (0046z)
Aircraft Static Pressure	1009.2 mb	1010.3 mb
Tower Pressure (corrected)	1010.5 mb	1010.5 mb

Notes:

All Inertial 2 (PITR) and Honeywell 2 GPS (SG2) values spiked to zero at 18, 19, 20, 21, 22, 23, and 0000z. Inertial 1 is default.

Even with implementation of the new NIMBUS_PALT processing, the difference between DADC Pressure Altitude (ADCPALT) and NACA Pressure Altitude (PALT) was as much as 55 meters (PALT reading 55 meters lower than ADCPALT) through portions of the flight (ie: 2116-2127z). While this is still a significant improvement over the 100+ meters difference seen on most missions processed with earlier versions of NIMBUS, it is higher than what was seen on the previous flight on 12 Sept (which saw a difference no greater than about 20 m).

The APN-232 Radar derived Geopotential Altitude (HGALT) was lower than Collins GPS derived Geopotential Altitude (GPALT). HGALT also spiked occasionally with up to 500 meter downward spikes (that gradually worked back to level). However, there were no occurrences of the very large downward spikes of several thousand meters seen on many previous flights.

The Left Dew Point sensor (DPL) again read far too high through the entire flight At times it read as much as 15C higher than AT3, and up to 20C higher than DPR. There were four instances of slight supersaturation during the cruise portion of flight (between 1926z and 1936z, around 2008z, 2044z and 2325z) where the RH exceeded 100% when using the DPR.

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

The bottom Sideslip Angle (SSRD2) shows a +1.12 degree bias through the cruise portion of flight. SSRD1 (the top Sideslip Angle probe) is the default and displayed a mean value of -0.16 degrees.

Vertical Winds look fine during the cruise portion of flight (with a mean of -0.05) but then, as expected, show a significant high bias during descent prior to landing. There was one unexplained anomaly that occurred at 23:24:52z where the WI spiked down to -9.91M/s.

All other flight level instruments worked optimally during the flight.

There were 24 drop points assigned by HRD. Twenty-six AVAPS II dropsondes (26) were deployed during the mission. Of those 26 drops, 24 were good and transmitted to Miami. There was one sonde at Ob Pt #11 that failed to acquire winds but a backup sonde released at that point was good. The drop at 22:58:57z (at Ob Pt #24) was not transmitted due to poor data quality with questionable heights and surface pressure (most likely a fast fall). A substitute sonde was released just over seven minutes later and transmitted as Ob #24 (LAST REPORT).

Of the 24 good sondes, for the second consecutive G-IV flight using AVAPS II sondes, all 24 coded surface winds! ☺

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

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

Flt ID: 20100913N	From: TISX	To: TISX
Flt. No: 10-104	Blk In: 0047z	Time On: 0046z
ETD: 1730z	Blk Out: 1710z	Time Off: 1719z
ETE: 7.45	Blk Time: 7.6 Hrs	Flt Time: 7.5 Hrs
Sponsoring Org: HRD	Program: PHX (Research)	Purpose: DIST 92L

AOC Flight Crew

Aircraft Commander: GLOVER	Data System: DEFEO
Co-Pilot: TWINING / TOTH	AVAPS: SMITH MASCARO
Navigator: /	System Eng: GOLDSTEIN
Flight Eng: /	A A:
Flight Director: PARRISH / HENNING	A A:
Avionics:	Crew Chief: [redacted]

Participating Scientists / Visitors

Name (Last, First)	Activity on Aircraft	Affiliation
	26 SONDES RELEASED	
	1 BAD SONDE } 2 FAILURES	
	1 FAST FALL }	
	24 OBS TRANSMITTED	

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

Recco Times: 16.8 17.2

Fix # / Fix Time:

Storm Name:

Mission ID: NOAA9 WXWXA 92L4

Penetration number and time

TISX T/O 120/15 29/24 29.89

TISX landing altim 29.89

www.metservice.gov.jm/radar/IMAGE2.asp

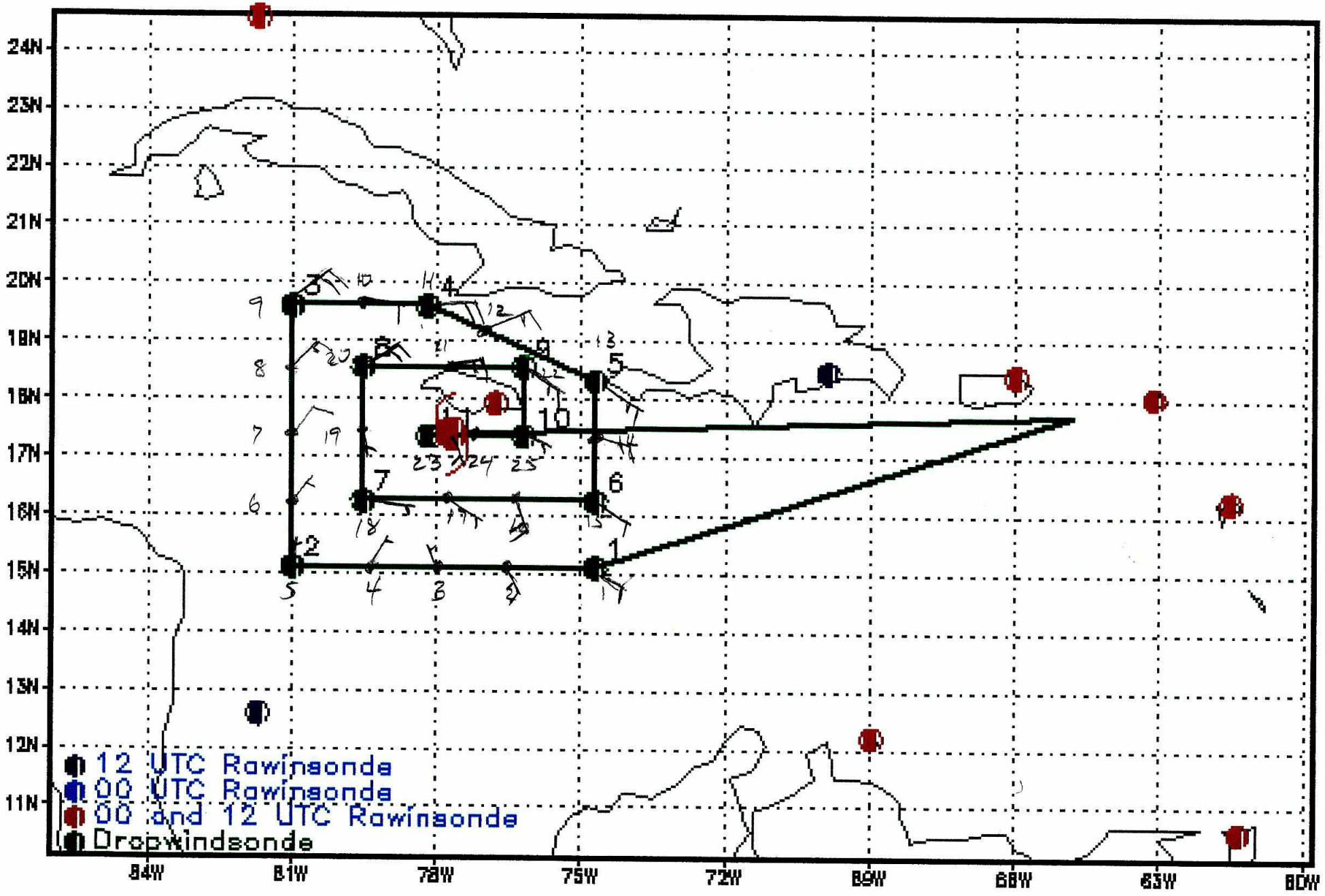
(See reverse for additional remarks)

NOAA9 WXWXA 92L4

FLIGHT ID/Storm 1009 13N AVAPS OPERATOR Parrish FLIGHT DIRECTOR Henning

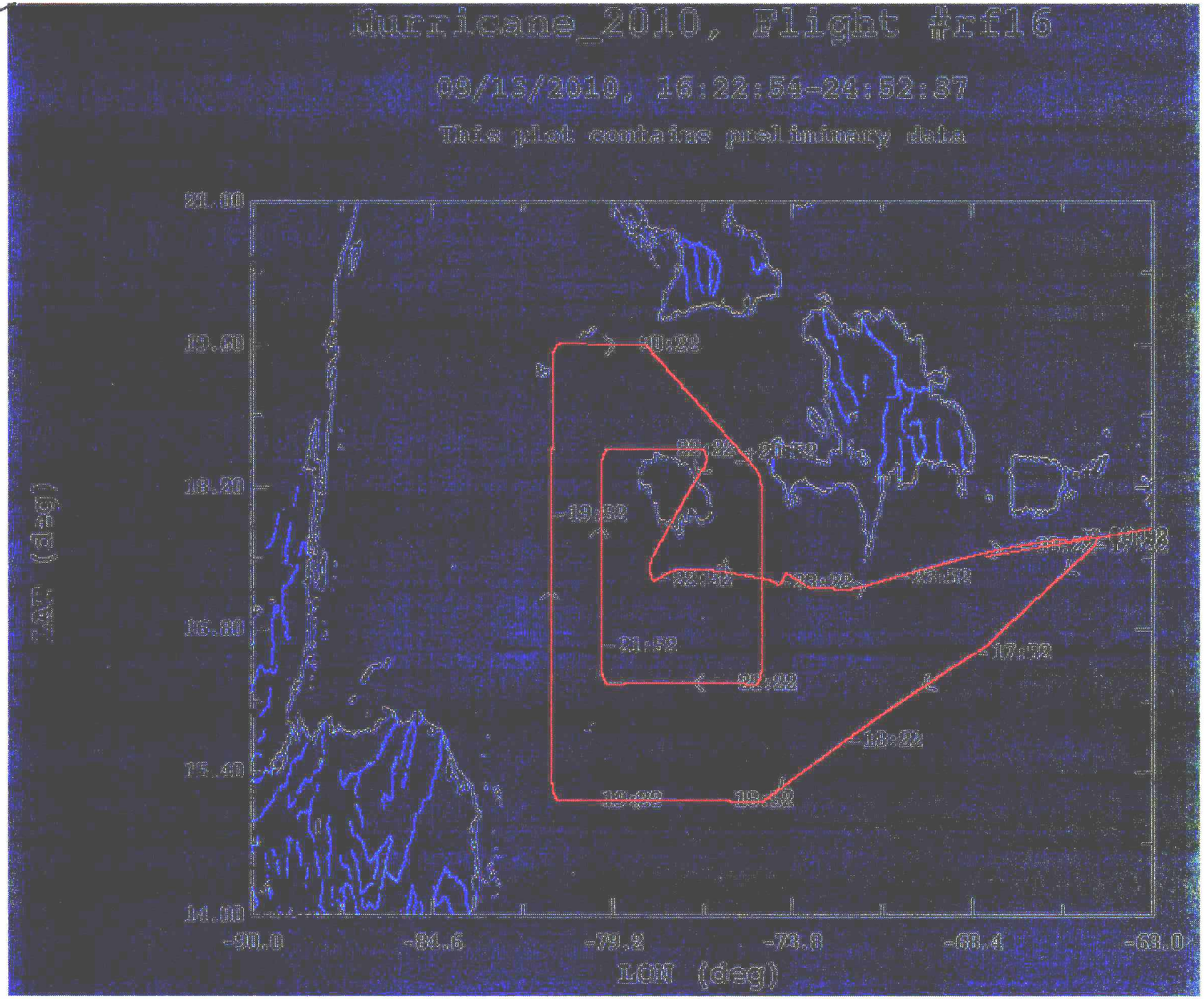
CH	Drop#	Ob #	Launch Time	Sonde ID	Sig Wx	Splash Pressure	Transmission Time	Notes	
1	1	01	184258	5007	BKN Tcu sl low	1008.1	190337	SFC 120/10	PT 1
2	2	02	185437	5138	Thin Cs below Sct As	1007.4	191224	SFC 155/14	
3	3	03	190627	5174	BKN As Sct Cu	1007.8	192614	345/03	
1	4	04	191859	5583	Cs undercast	1007.4	193828	030/07	
Turn 2	5	05	193027	0186	In thin Cs	1007.8	195037	005/04	Turn PT 2
3	6	06	193847	0169	Top of Cs	1007.5	195756	035/04	
1	7	07	194749	5721	In the Cs	1007.2	200630	040/11	
4	8	08	195737	5470	thin Cs blw	1007.8	201629	045/14	
Turn 2	9	09	200557	5130	In the Cs	1008.2	203240	050/18	Turn Pt 3
1	10	10	201650	5256	↓	1007.7	203758	095/09	
2	11	—	202830	5238	NO WINDS - BACKED UP				
Turn 4 3	12	11	203023	5206	In the Cs	1007.6	205010	SFC 090/19	Turn 4 heading
4	13	12	203842	5348	↓	1007.8	205754	075/13	
Turn 5 1	14	13	205738	5035	Thin Cs	1007.8	211728	120/13	Turn 5
2	15	14	210530	5386	Sct Cu	1008.4	212435	105/14	
Turn 6 3	16	15	211354	5336	Sct Tcu	1007.6	213347	120/09	Turn 6
4	17	16	212522	5055	Above thin Cs	1006.9	214415	155/20	
1	18	17	213829	0155	11	1006.9	215851	125/06	
Turn 7 2	19	18	215002	5030	Above As	1006.5	220859	100/07	Turn 7
3	20	19	215857	5711	11	1007.1	221858	170/06	
Turn 8 1	21	20	220855	5177	Top of Cs	1007.5	222917	065/20	Turn 8
2	22	21	222128	0167	Top of thin Cs	1007.6	224100	085/14	
Turn 9 3	23	22	233409	5303	Above Cs	1008.8	225621	120/15	Turn 9
Turn 11 1	24	23	225035	5010	↓	1007.2	231151	160/08	Turn 11
2	25	—	225857	5037	↓	1009.1??	possible ~~fast fall~~	120/13	~~fast fall~~
Turn 10 3	26	24	230635	5475	BKN Tcu	1008.7	233018	115/06	Turn 10 Last Drop
	27								
	28								
	29								
	30								
	31								
	32								
	33								
	34								
	35								

ETA 8:50pm Dropped 26. 24 Msgs Xmtd.



GrADS: COLA/IGES

2010-09-12-20:15


Hurricane_2010, Flight #rf16
09/13/2010, 16:22:54-24:52:37
This plot contains preliminary data
21.00
19.60
18.20
16.80
15.40
14.00
LAT (deg)
-90.0
-84.6
-79.2
-73.8
-68.4
-63.0
LON (deg)