

NOAA G-IV N49RF ERROR SUMMARY

HURRICANE 2010

29 Aug 2010 Hurricane Earl (HRD)

Flight ID: 100829N

<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 (1709z)	Landing (2307z)
Aircraft Static Pressure	1003.3 mb	1012.7mb
Tower Pressure (corrected)	1003.7 mb	1003.7mb

Notes:

All Inertial 2 (PITR) and Honeywell 2 GPS (SG2) values spiked to zero at 18, 19, 20, 21, 22 and 2300z. 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 on three occasions (at around 1724z, just prior to 1800z and 2006z, rather than repeatedly as seen with other recent missions) with 700-800 meter downward spikes (that gradually worked back to level). There were no spikes of several thousand meters as was also noted in other flights.

The Left Dew Point sensor (DPL) read far too high through the entire flight (consistently around 15C higher than DPR and the ambient temperature using AT3). There were some extended periods of supersaturation where DPR (the default) exceeded AT3, even after reaching cruise altitude and the instrument had a

chance to settle down. Around 1845z there was a period where the dew point erroneously exceeded the temperature by more than 10 degrees. Significant supersaturation of several degrees C was also noted around 1950z and 2038z. All three of these events during the cruise phase of flight (between 41K and 45K altitude) occurred in the CDO near the closest point to the center in the Star Pattern.

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).

All other flight level instruments worked optimally during the flight.

Thirty Two AVAPS I dropsondes (32) were deployed during the mission. There were 3 fast falls, and one bad sonde that recorded no GPS winds. The remaining 28 sondes were good and all were transmitted. Of the 28 transmitted TEMP DROP messages, 20 coded surface winds, 5 coded a LAST WIND remark of 14 meters or less, ob #2 contained a great deal of missing data at all levels, ob #3 had no winds below 914 mb and ob #26 had no winds below 850 mb.

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

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

Fit ID: 100828	From: TB/B	To: TB/B
Flt. No: 10 - 097	Blk In: 2310 Z	Time On: 2307 Z
ETD: 1730 Z	Blk Out: 1650 Z	Time Off: 1709 Z
ETE: 8 + 30	Blk Time: 6:20 (6.3) Hrs	Flt Time: 5:58 (6.0) Hrs
Sponsoring Org: HAED	Program: Research	Purpose: H. Earl Starbust

AOC Flight Crew

Aircraft Commander: Glomer	Data System: DeFeo
Co-Pilot: Twining	AVAPS: Carpenter
Navigator: Toth	System Eng: Miller
Flight Eng: /	A A: /
Flight Director: Parrish	A A: /
Avionics: Heenning	/

Participating Scientists / Visitors

Name (Last, First)	Activity on Aircraft	Affiliation
Aberson, Sim	P.I. - ASGN	HAED

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

Storm Name: **Earl3** 182 SK Tra 70 5K Tra 71 2230Z **Recco Times** **Fix #** **Fix Time**
Recco Times **Fix #** **Fix Time**

Mission ID: **WX07A EARL3**

Penetration number and time

Takeoff WX: 250/15 32/25 Q 1010 mb.
 Landing: 220/11 28/24 Q 1010 mb.

N49RF AVAPS DROP LOG

Project : Hurricane '10 Mission: Earl

Flight ID: 100829N

Take Off: 1709

Landing:

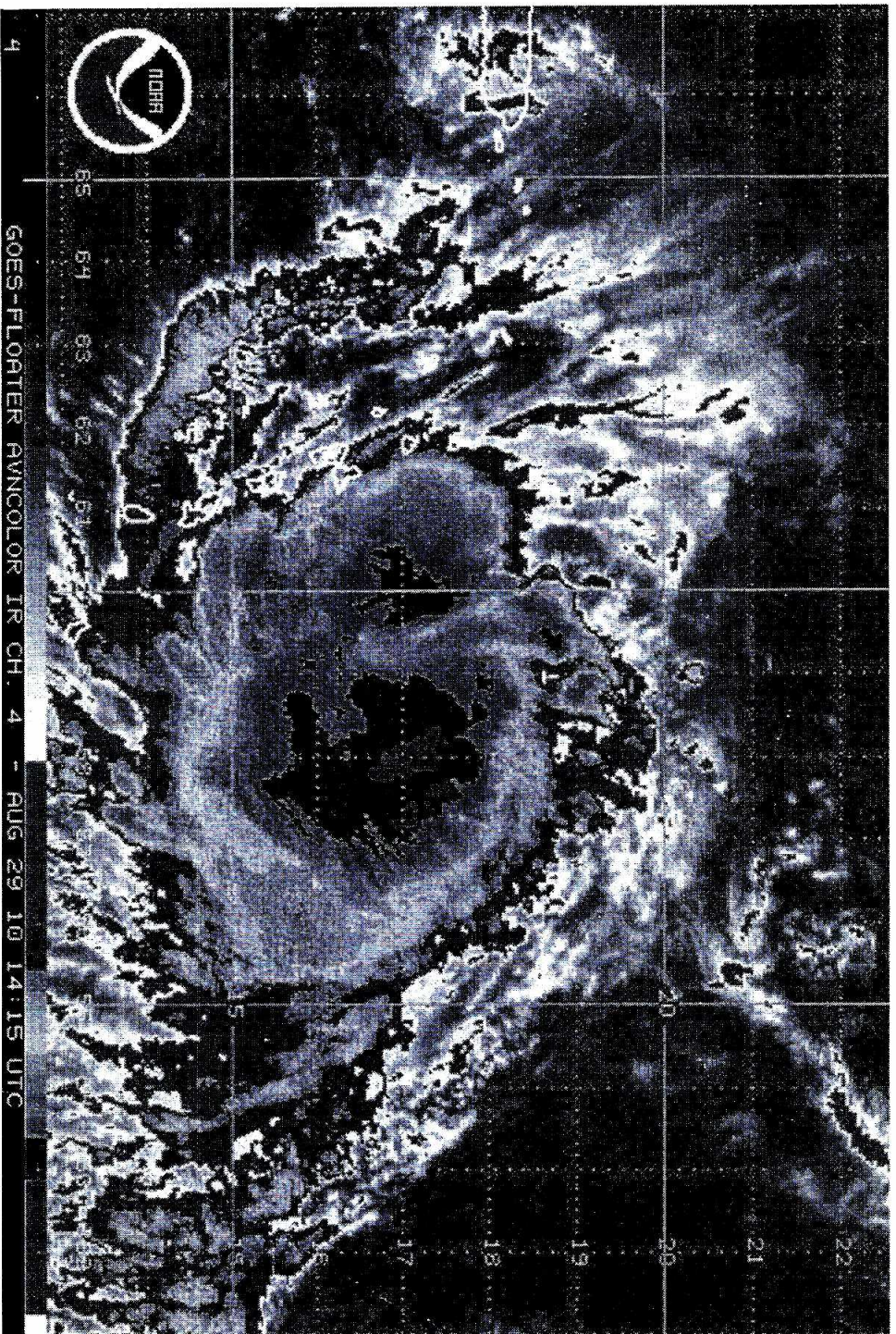
Flt Dir : PARTISH

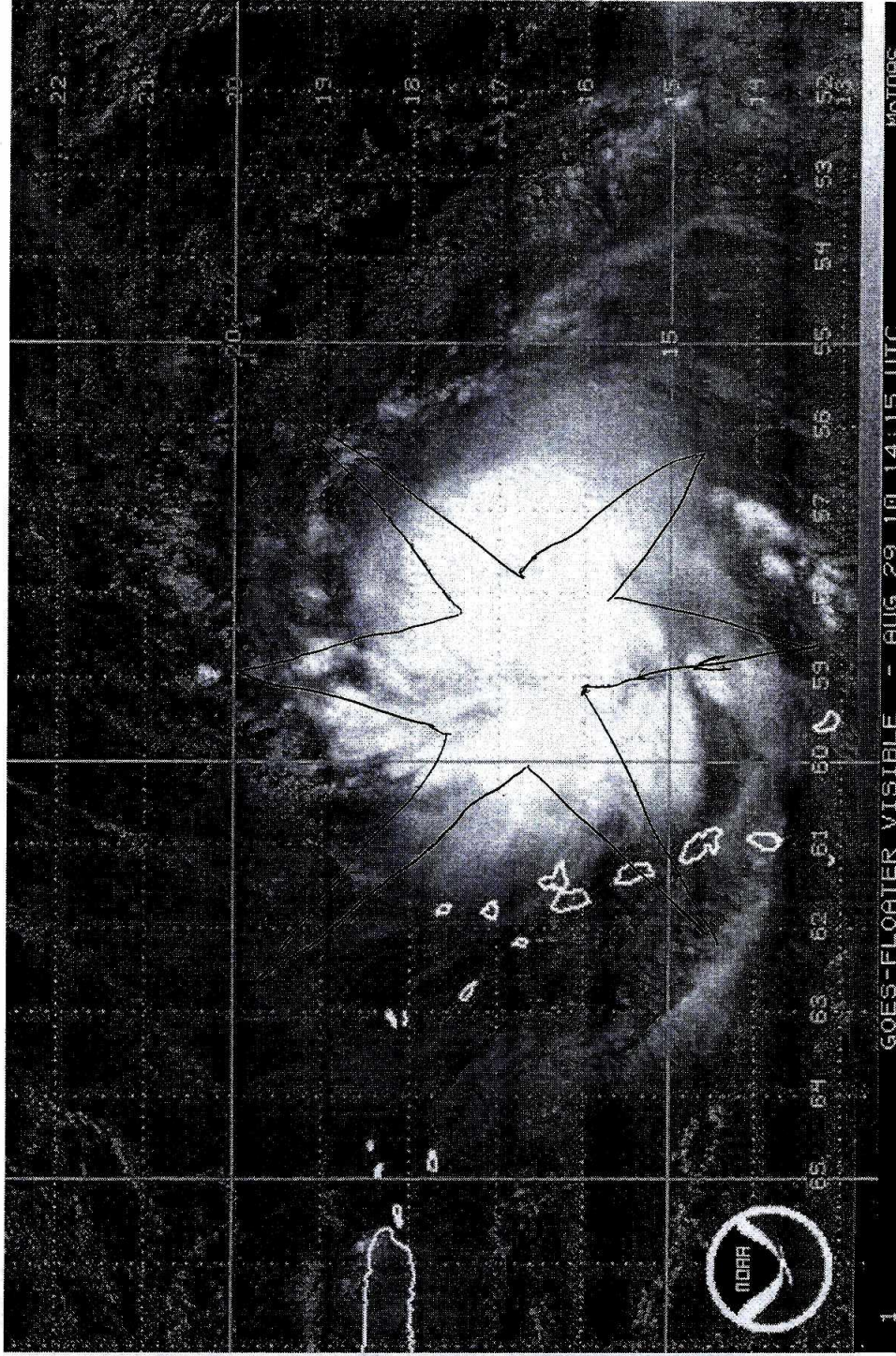
⑤ date missing date
 9/14/83
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 26
 ⑤

Drop 1 14 58 59 50 ~~140~~ 140
 Drop 2 16 43N 60 17W ~~140~~ 140
 Drop 3 16 17N 61 19W Fastfall
 Drop 4 16 10N 61 38W Backup
 Drop 5 15 47N 62 36W
 Drop 6 (143) 15 34N 63 25W
 Drop 7 16 54N 61 39W
 Drop 8 17 32N 60 52W PT4
 Drop 9 18 27N 61 39W
 Drop 10 19 11N 62 29W
 Drop 11 19 52N 63 16W
 Drop 12 20 35N 63 53W PT5
 Drop 13 19 28N 62 11W
 Drop 14 18 20N 60 12W PT6
 Drop 15 19 30N 60 03W
 Drop 16 20 26N 59 42W
 Drop 17 21 13N 59 35W PT7
 Drop 18 19 52N 59 21W 202837Z
 Drop 19 18 18N 58 52W
 Drop 20 205503Z 19 02N 57 42W
 Drop 21 2105Z 19 52N 56 42W
 Drop 22 211344Z 20 24N 55 51W
 Drop 23 213055Z 18.9N 57.47W FF
 Drop 24 213214Z 18.8N 57.55W
 Drop 25 214440Z 17.66N 58.60W FF
 Drop 26 214650Z 17.43 58.51W
 Drop 27 215350 16.82N 57.90
 Drop 28 210200 16.1N 57.19
 Drop 29 211000 15.41N 56.82
 Drop 30 220504S2 16.19 57.9
 Drop 31 223016Z 16.7N 58.9W
 Drop 32 224000 15.59N 59.34W

280 matedo. 9P4
 120 140
 60 70
 65 0

2307 land
 2310 blackw





Hurricane_2010, Flight #rf09

		mean	sigma	min	max
RELAT (deg)	1 c/sec	14.85	2.57	10.64	21.24
PHI.ON (deg)	1 c/sec	-52.80	1.04	-60.98	-41.06