

**NOAA G-IV N49RF ERROR SUMMARY**  
**HURRICANE 2010**  
**3 Nov 2010 TS Tomas (NHC Surveillance (PHS))**  
**KMCF>>TISX**

**Flight ID: 20101103N1**

<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 (0545z)	Landing (1402z)
Aircraft Static Pressure	unavailable	1009.0 mb
Tower Pressure (corrected)	1016.1 mb	1011.2 mb

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**Notes:**

The data system froze just after 6:09z (during climb to initial cruising altitude of 41K). System restored just after 6:20z. All Inertial 2 (PITR) and Honeywell 2 GPS (SG2) values spiked to zero at 12z. Inertial 1 is default.

DADC Pressure Altitude (ADCPALT) was approx 35 meters higher than NACA Pressure Altitude (PALT) during cruise at 41K and 40 meters higher at 45K.

The APN-232 Radar derived Geopotential Altitude (HGALT) was 120 meters or more lower than Collins GPS Geopotential Altitude (GPALT) during cruise.

The Left Dew Point sensor (DPLC) again read far too high through the entire flight. At times it read 10-15C or more higher than AT3, and 15-20C or more higher than DPRC (which compared more favorably to rawinsonde data). There were two intervals of significant supersaturation using DPRC (RH exceeding 100%) from 10:53z – 11:07z and 12:13-13:00z.

The Air Data Computer Attack Angle (ADCAOA) was again consistently 0.5 to 0.6 degrees higher than the Left and Right Attack Angle sensors (AKRD1 and AKRD2).

All other flight level instruments worked optimally during the flight.

- 26 Drop Points assigned by NHC
- 27 AVAPS II dropsondes deployed
- Of those 27 drops, 26 were good enough to send operational WMO message (there was one fast fall (Drop Pt #8 where backup was good), HOWEVER, 4 of the 26 showed problems (limiting their research value): #1 had no FL Data (so no heights or reliable surface pressure and winds), #10 and #24 lost data before reaching surface (so no heights or sfc data), #23 displayed PTU oscillation
- Of the 26 transmitted sondes, 22 coded surface winds. Drop #22 coded a "LAST WIND" remark of 31 meters. The other three were mentioned above.
- 26 sondes were transmitted for ingestion into the 03/1200z model runs.

Flight Directors: Richard Henning and Jessica Williams (813) 828-3310 ext. 3086



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

Flt ID: 20101103N1	From: KMCF	To: TISX
Flt No: 11 - 007	Blk In: 1405 z	Time On: 1402 z
ETD: 0530z	Blk Out: 0533 z	Time Off: 0545 z
ETE: 8 + 20	Blk Time: 8.5 Hrs	Flt Time: 8.3 Hrs
Sponsoring Org: NHC	Program: PHS NHC Surveillance	Purpose: TS TOMAS 6

ADC Flight Crew

Aircraft Commander: Glover	Data System: Rogers
Co-Pilot: Twining, Toth	AVAPS: Carpenter
Navigator: /	System Eng: /
Flight Eng: /	A.A.: Richards
Flight Director: Henning, Williams	A.A.: /
Avionics: /	Crew Chief: Negron

Participating Scientists / Visitors

Name (Last, First)	Activity on Aircraft	Affiliation
<div style="border: 2px solid black; border-radius: 50%; padding: 20px; text-align: center;">                     27 sondes                      1 fast fall, <del>26 sondes</del>                      26 GOOD and transmitted                 </div>		

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

Storm Name: NOAA9 1021A TOMAS

Mission ID: /

Recco Times

~~seconds~~

Fix # · Fix Time

HowX 30.01 21/19  
land 29.91 27/23



# N49RF AOC GPS Dropwindsonde Log

08/11/03

13.2 75.2

Flight ID: 20101103N1

Flight Director: Williams/Henning

Mission ID: N06A9 1021A

Storm/Track: TONAS

Pg 1 of 1

Drop #	Ob #	Sonde ID	Drop Time (UTC)	Lat (°N)	Lon (°E)	Wx Cond.	L5/R57	SFC Pts (mb)	Last Wind Alt (m)	Comments	Ch #	SatComm failures	KWBC #
1	1	45041	061312	27.5	-85		C	1010.5	N/A	NO FL Data - W	2		063716
2	2	5168	06036	27.5	-87.5		R	1020.8	516		2		065836
3	3	5036	0658	27.5	-90		R	1010.5	516		3		071941
4	4	0162	0718	27.4	-92.4		R	101.3	512		4		074000
5	5	5079	0741	25	-91.2		R	1010	512		1		080021
6	6	5307	0751	24.9	-88.7		R	1010.9	516		2		083019
7	7	5204	0819	23.0	-87		L5	1011	512		5		083858
8	8	5748											
9	9	5196	0843	22.9	-85.1		R5	1009.8	512				090540
10	10	405	0851	22.7	-84.0		R5	1009.8	512				091145
11	11	5101	0906	20.3	-82		R5	N/A	N/A	lost data before 7.85			092859
12	12	5218	0924	19.7	-79.6		R5	1008.7	512				095736
13	13	5186	1000	18.9	-75.5		R5	1007.7	512				103112
14	14	5186	1011	17	-75.5		R5	1007.7	512				1055
15	15	5242	1028	16.9	-76		R5	1007.4	512				1104
16	16	5286	1039	16.3	-78		R5	1007	512				1107
17	17	5205	1051	15.3	-78.8		R5	1007.1	512				1117
18	18	5840	1103	14	-75.4		R5	1007.2	512				1127
19	19	5049	1114	12.7	-78.4		R5	1006.5	512				1142
20	20	5105	1125	11.6	-77.9		R5	1006.5	512				1150
21	21	5048	1136	11.1	-76.7		R5	1007.8	512				1202
22	22	5214	1147	11.3	-75.5		R5	1007.8	512				1210
23	23	5216	1157	11.8	-74.4		R5	1006.3	512				1225
24	24	5170	1209	12.9	-73.4		R5	1007.1	512				1231
25	25	5165	1221	14	-73.1		R5	N/A	N/A	lost data before 7.85			1248
26	26	5163	1232	15.3	-73.4		R5	1008	512				1303
27	27	5187	1241	16.3	-74.1		R5	1008	512				1305
28													
29													
30													

no wind



## NOAA • AOC • SED

N49RF AVAPS DROP LOG

Lead Tech: Gabe Defeo

Project : Hurricane '10

Mission : 101103NFlight ID : N49RFTake Off : 0145L

Landing : \_\_\_\_\_

Flt Dir : William S  
Henning

Launcher S/N: \_\_\_\_\_

Drop #	Sonde Serial #	Rcvr #	Press Offset	Launch Time z	Operator	Charge \$\$ To	Comments /	Good ?
1	094 645 044	1	0	0613 Z	TMR	PHS	400.70	+
2	095 035 168	2	0	0636			401.70	+
3	100 145 036	3	.4	0658			402.7	+
4	094 120 162	4	0	0718			403.7	+
5	095 035 079	1	0	0741			400.7	+
6	100 145 307	2	0	0757			401.7	+
7	100 145 209	3	0	0819			402.7 / accidental stop	+
8	094 735 748	4	0	0840			403.7 / scattered data	-
9	095 035 196	1	0	0843			400.7	+
10	095 335 005	2	.2	0851			401.7	+
11	095 035 101	3	.3	0906			402.7	+
12	093 736 158	4	.6	0921			404.7 / NO GFS	-
13	094 645 118	1	0	0924			400.7	+
14	095 035 186	2	0	1000			401.7	+
15	094 735 533	3	0	1017			402.7	+
16	095 035 242	4	.6	1028			403.7	
17	094 735 786	1	0	1039			404.7	
18	095 035 205	2	.7	1051			400.7	
19	094 735 540	3	0	1103			402.7	
20	095 035 049	4	0	1114			403.7	
21	094 645 105	1	0	1125			404.7	
22	094 645 098	2	0	1136			400.7	
23	102 125 214	3	.8	1147			402.7	
24	102 125 216	4	.5	1157			401.7	
25	095 035 170	1	0	1209			404.7	
26	094 355 065	2	.8	1221			400.7	
27	095 035 163	3	0	1232			403.7	
28	102 135 187	4	.6	1241			402.7	
29								
30								
31								
32								
33								
34								







0214 TOMAS

NOAA G-IV Flight Track Drop Locations for TOMAS (AL212010)

On 2010110312 the storm was centered at 14.2;-74.9

