

NOAA G-IV N49RF ERROR SUMMARY
WINTER STORMS 2011
21 Jan 2011 Modified TRACK77 (08WSW)
NCEP (PWT) RJTY →RJTY

Flight ID: 20110121N1

<u>Sensor or system</u>	<u>Number or Name</u>
Accelerometer	AccZI.1
Altitude	AltGPS.3
Attack Angle	AA.2
Dew Point Probe	TD.2
Dynamic Pressure	PQF.2
Geopotential Altitude	AltGPS.3
Inertial Selected	INE1
Static Pressure	PSF.2
Slip Angle	SA.1
Temperature Probe	TTM.3
True Airspeed	TASF.3
Constants File	49cal102
Flight Directory	acdata/2011/MET/20110121N1

Local Met Data	Takeoff (0732z)	Landing (1520z)
Aircraft Static Pressure	997.8 mb	999.7 mb
Tower Pressure (corrected)	999.7 mb	1000.4 mb

Notes:

The only data gaps were in AltRa.1 from the APN-232 radar altimeter:
7:49:30-7:50:29z (multiple gaps during this interval)
14:57:47z-14:57:48z

The ALTPA.1 (NACA Pressure Altitude) ran about 65 meters lower than a tight clustering of Air Data Computer and ADC Baro Corrected sources.

Angle of Attack sources: AaADDU.1 (from the Air Data Computer) was consistently about 0.5 degrees higher than either AA.1 or AA.2, or AaADDU.2. Spike in AA.1 just under 10 seconds prior to takeoff at 7:31:23z (from -186.7 to +20.4 degrees). Similar AA.1 spike just after landing at 15:20:46z (from -150.0 to +81.7 degrees).

GDIFF check: Mean of 1293 meters of drift for INE #1 (with respect to the Novatel) 2014 meters for INE#2. In creation of higher MET parameters, INE #1 was selected.

The Left Dew Point sensor (TD.1) again read far too high through the entire flight (well above ambient temperature). TD.2 did a reasonably good job (staying well below ambient temperature) but is still too high during the cruise portion of flight at or above 41,000 feet (where sondes suggest an RH near 5% and the dew points generated by TD.2 yield an RH around 25%).

For a large portion of cruise, the inertial sources of absolute altitude ran about 400 meters higher than a cluster of the two Honeywell systems and the Novatel. At some portions of cruise, the inertials flipped from 400 meters higher to 150 meters lower than the others.

When plotting PS.1 and PS.2 with PSF.1 and PSF.2 at takeoff, the same small peak in PS.1 and PS.2 appears just after takeoff as seen on all previous WSR-11 missions using AAMPS. On landing approach, there is premature loss of PS.1 and PS.2 correction (associated with the dynamic pressure correction threshold setting). At cruise altitudes, PS.2 (the default) runs about 2 mb higher than PS.1.

Vertical Winds during the cruise portion of flight showed a small low bias (with a mean UZW.1 of -0.13 m/s). As expected, UWZ.1 shows a significant high bias during descent prior to landing.

All other flight level instruments worked optimally during the flight.

- 18 drop points assigned by NCEP
- 20 AVAPS I dropsondes deployed
- Of those 20 drops, 18 were good enough to create a WMO message and were transmitted for ingestion into the 21/12z models. However, two of the good drops were transmitted with no heights: Drop Pt 1 at 08:07:02z failed at 981.5 mb and Drop Pt 7 at 09:47:46z failed at 949.6 mb. There were two Fast Falls (in both cases the backup was good): Pt 12 at 11:17:48z and Pt 13 at 11:39:17z.
- Of the 18 good sondes, 16 coded surface winds.

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

U.S. Dep't. of Commerce / NMAO / NOAA / Aircraft Operations Center

FLT ID: 20110121N1	From: RJTY	To: RJTY
FLT #: 11-28	Blk In: 1523 Z	Lnd Time(on): 1520 Z
ETD: 0800 Z	Blk Out: 0726 Z	T/O Time (off): 0732 Z
ETE: 8+00	Total Blk: 7+57 (8.0)	Total Flt: 7+48 (7.8)
Sponsoring Org: NCEP	Program: PWT (WSR11)	Purpose: TRACK77 modified

AOC Flight Crew

Aircraft Commander: GLOVER	Data System: DEFE O
Co-Pilot: TWINING	Avaps: RICHARDS / MILLER
Navigator: /	System Engineer:
Flight Eng: /	AA:
Flt Director: WILLIAMS HENNING	AA:
Avionics:	Crew Chief:

Participating Scientists, Visitors, & Add'l Aircrew on back.

of people listed on back:

	A/C - Takeoff	Wx Station - Takeoff	A/C - Land	Wx Station - Land
Pressure	PS.2 997.8	altim 30.00 STA 999.7	999.7 999.7	altim 30.02 (14z) 1000.4

ATIS - Takeoff

ATIS - Land

11455Z CALM UNL FEWISSO 00/M08 A3002

Data Source	Number	Data Disposition / Date / Quality / File Name(s)
Flight Level Tapes		
Radar Tapes		
Dropsondes	20	Good: 18 Bad: 2 Fast Falls Sent:
AXBT		

List other data sources on back in Remarks section.

Remarks (Storm Name, Mission ID, Recco Times, Fix Times)	Recco Times:	Fix #	Fix Time
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Storm Name: _____

Mission ID: NOAA9 08WSW TRACK77 Drop#11 37.6
171.8

7:20AM SAKURAJIMA 20/2220Z TK
KIZIMEN 280/39 10K
280/94 20K
280/150 30K

drops.txt pt.11

would not take into waypoints.

RJSM MISAWA
RJOI IWACUNI MCAS
something →
AAMAS/temp/w
said
check/doc and Stgs/Owner/

N49RF AOC GPS Dropwindsonde Log

Flight ID: 20110121N1

Flight Director: HENNINGS

Mission ID: N0449 08WSW TRK77 Storm/Track: W88-11

Pg of

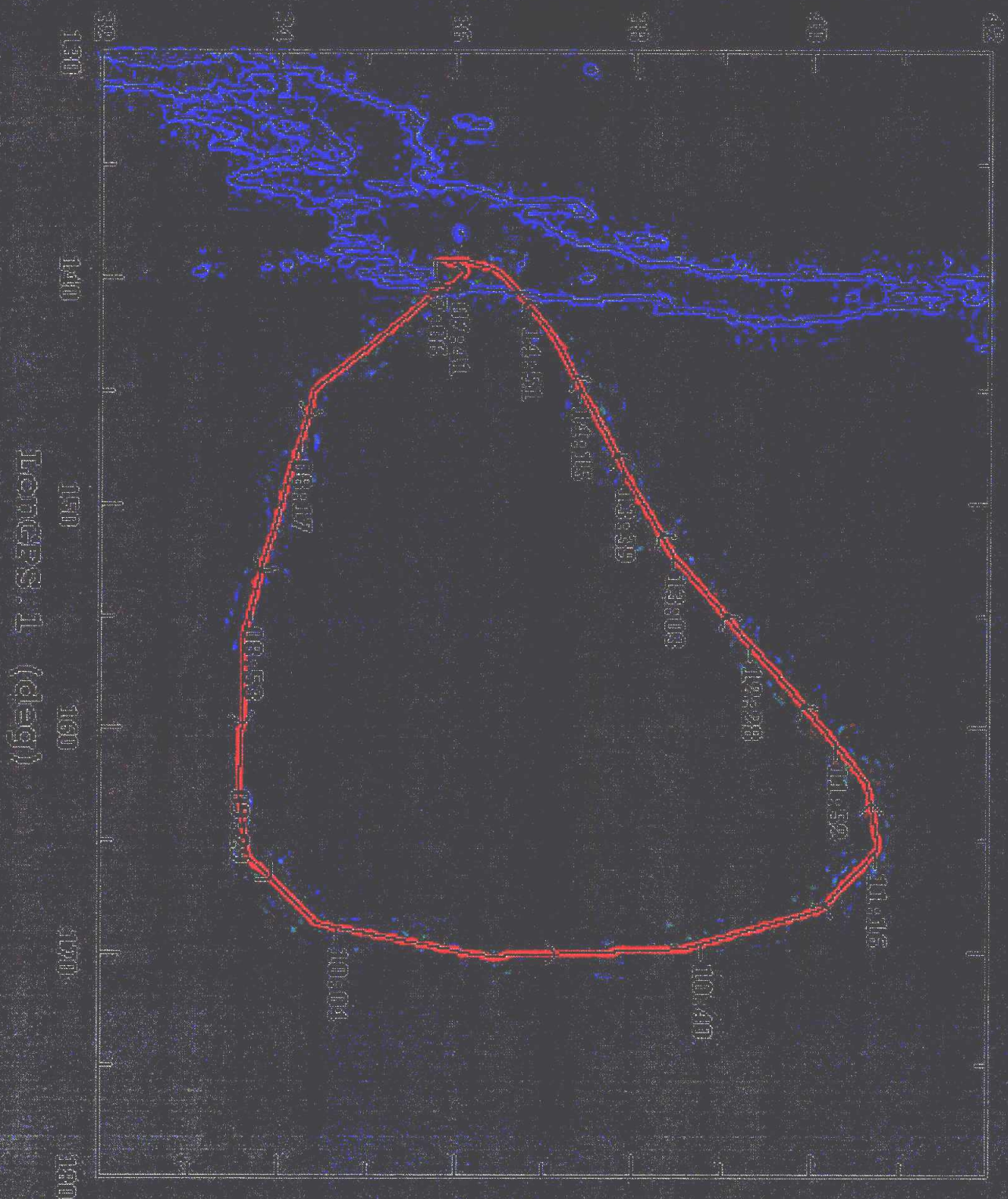
Drop #	Ob #	Sonde ID	Drop Time (UTC)	Lat (°N)	Lon (°E)	Wx Cond.	LS/R57	SFC Pres (mb)	Last Wind Alt (m)	Comments	Ch #	SatComm failures	KWBC #
1	1	9090	080702	34.4	145.0	—	RS	—	—	died at 981.5	1	112740	083028
2	2	9178	082621	34.1	149	—	RS	1012.9 SFC	315/22	305/28	2	—	084854
3	3	9054	084358	33.8	152.7	—	RS	1010.6 SFC	305/28	315/38	3	—	090405
4	4	9088	090042	33.6	156.1	—	RS	1009.2 SFC	315/38	315/38	4	—	092457
5	5	9070	091804	33.6	159.6	—	RS	1005.9 SFC	275/33	275/33	1	—	094010
6	6	9053	093304	33.6	162.7	—	RS	1002.1 SFC	295/39	295/39	2	✓ 112909	095242
7	7	9063	094746	33.7	165.79	—	RS	—	—	died at 949.6	3	—	101035
8	8	9071	100318	34.5	168.75	—	RS	995.1 SFC	270/24	270/24	4	—	104506
9	9	9008	101926	36.3	170.2	—	RS	991.4 SFC	255/35	255/35	1	✓ 113039	104715
10	10	9052	103811	38.6	169.8	—	RS	989.3 SFC	335/16	335/16	2	—	110038
11	11	9174	105701	40.1	168.1	—	RS	988.2 SFC	280/21	280/21	5	—	112147
12	12	9011	111748	40.75	165.4	—	RS	FAST	FAST	FAST	4	—	—
13	13	9064	111831	40.75	165.3	—	RS	989.2 SFC	265/23	265/23	1	✓ 123239	113759
14	14	9127	113917	40.6	162.4	—	RS	FAST	FAST	FAST	2	—	—
15	15	9068	118959	40.6	162.3	—	RS	992.1 SFC	295/31	295/31	3	—	121209
16	16	9050	120239	40	159.4	—	RS	996.2 SFC	310/32	310/32	4	—	122747
17	17	9128	123015	39.85	156.1	—	RS	1002.1 SFC	300/35	300/35	1	—	125255
18	18	9116	130240	38.5	152.5	—	RS	1007.8 SFC	315/23	315/23	2	—	132952
19	19	9095	133509	37.9	148.9	—	RS	1011.7 SFC	300/31	300/31	1	—	135840
20	20	9057	141414	37.4	145	—	RS	1015.1 SFC	290/24	290/24	2	—	144039
21													
22													
23													
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25													
26													
27													
28													
29													
30													

RS Force

P77 drop points modified.txt

1	34	24	145	00
2	34	06	149	02
3	33	50	152	40
4	33	36	156	06
5	33	36	159	38
6	33	33	162	42
7	33	40	165	44
8	34	26	168	45
9	36	20	170	12
10	38	34	169	52
11	40	06	168	08
12	40	45	165	24
13	40	37	162	28
14	40	00	159	27
15	39	15	156	06
16	38	27	152	28
17	37	56	149	00
18	37	24	145	00

1.260PS.1 (deg)



01/21/2011, 07:06:09-15:26:53