

U.S. Dep't. of Commerce / NMAO / NOAA / Aircraft Operations Center				
FLT ID: 100119n	From: RSTY	To: RSTY		
FLT #: 10-26	Blk In: 1540 Z	Lnd Time(on): 1536 Z		
ETD: 0800 Z	Blk Out: 0736 Z 8 1/4 min	T/O Time (off): 0744 Z		
ETE:	Total Blk: 8.1	Total Flt: 752 (7.9)		
Sponsoring Org: NCEP	Program: WSR-10	Purpose: Recon		
AOC Flight Crew				
Aircraft Commander: Hagan		Data System: J. Roles		
Co-Pilot: Glover, Toth		Avaps: M Rogers		
Navigator: /		System Engineer:		
Flight Eng: /		AA: J Greene		
Flt Director: Almeida, Williams		AA:		
Avionics:		Crew Chief:		
Participating Scientists, Visitors, & Add'l Aircrew on back.			# of people listed on back: 1	
	A/C - Takeoff	Wx Station - Takeoff	A/C - Land	
Pressure	1014.0	A3041	1013	
ATIS - Takeoff	0655 18005kt SKC 13/02 A3041			
ATIS - Land				
Data Source	Number	Data Disposition / Date / Quality / File Name(s)		
Flight Level Tapes				
Radar Tapes				
Dropsondes	21	Good: 20	Bad: 1 Sent: 20	
AXBT				
List other data sources on back in Remarks section.		Recco		
Remarks (Storm Name, Mission ID, Recco Times, Fix Times)		Times:	Fix # Fix Time	
Storm Name: _____ Mission ID: <u>NOAA9 04WSW TRACK99</u>				

HP

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

FLT ID: 100119n T/O Time: 0744 Z Lnd Time: 15367 Z

Name (Last, First)	Activity on Aircraft	Affiliation
<u>Reed, Charlie</u>	<u>Media</u>	<u>Stars and Stripes DOD</u>

Remarks:

NOAA G-IV N49RF
WSR-10
19 Jan 2010 NOAA9 04WSW



Flight ID: 100119n

<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 Air Speed	TAS2
Constants File	49cal092
Project Directory	/proj/1001

<u>Local Met Data:</u>	<u>Takeoff (0744Z)</u>	<u>Landing (1536Z)</u>
Aircraft Static Pressure	1014 mb	1013 mb
Tower Pressure (corrected)	1012 mb	1012 mb

Notes:

All IRS2 values (_PITR and _SG2 values) spike to zero @ 080000Z, 090000Z, and 140000Z. IRS1 is default.

PS1 stair steps up and down 1m from 082812Z – 084859Z. PS2 is default.

DAP1 spikes down ~25mb lower than DAP2 @ 081010Z and is erroneous for remainder of flight. Affects AKRD1 by causing a spike down 1 degree. AKRD2 is default.

Collins Altitude data (GPALT and GPGALT spike up ~ 60meters from 075853Z – 075916Z. Causes DVALUE to spike up ~ 60 meters. HGALT spikes from 075843Z – 080055Z and throughout flight. GPGALT is still the better source, so it is default.

DPL starts out 5C colder, still slow to respond and doesn't get any colder than -30 to -35C. DPR is default. RH > 100% from 075917Z – 080155Z during level out after climb.

PCAB spikes down ~ 20mb from 082746Z – 082753Z.

All other instruments worked optimally during the flight.

21 dropsondes launched: 20 good, 1 bad.

All 20 good drops successfully sent to NCEP and ingested into the 19/12Z model run.

Flight Director:
Phone #:

Jess Williams/Jackie Almeida
(813) 828-3310 ext. 3140

Flight: 100119n

Inertial Altitude

☒ ALT (m)
IRS Baro-Inertial
☒ Altitude
ALT_PITR (m)
IRS Baro-Inertial
☒ Altitude
ADCBCALT (m)
DADC Baro Corrected
Altitude

GPS Altitude

☒ GHALT_SG1 (m)
Honeywell GPS Altitude
☒ (MSL)
GHALT_SG2 (m)
Honeywell GPS Altitude
☒ (MSL)
GPALT (m)
Collins GPS Altitude
(MSL)

Pressure Altitude

☒ PALT (m)
NACA Pressure Altitude
☒ PALT (feet)
NACA Pressure Altitude
☒ ADCPALT (m)
DADC Pressure Altitude

Radar Altitude

☒ HGM232 (m)
Geometric (Radar)
Altitude

D-Value

☒ DVALU (m)
D-VALUE
Geopotential Alt Source - PALT)

Geopotential Altitude

☒ GPGALT (m)
Collins GPS
Geopotential Altitude
☒ HGALT (m)
APN-232 Radar
Geopotential Altitude

Pitch vs Alt

☒ PITCH (deg)
Aircraft Pitch Angle
☒ PITCH_PITR (deg)
Aircraft Pitch Angle

Roll vs Hdg

☒ ROLL (deg)
Aircraft Roll Angle
ROLL_PITR (deg)
Aircraft Roll Angle

Heading vs Trk

☒ THDG (deg)
IRS1
THDG_PITR (deg)
IRS2

Drift Angles

☒ AOCD (deg)
Computed Drift Angle
AOCD_PITR (deg)
Computed Drift Angle
DRFTA (deg)
IRS1 Drift Angle
DRFTA_PITR (deg)
IRS2 Drift Angle

Track vs DA

☒ AOCTK (deg)
Computed Aircraft Track
Angle from IRS1
AOCTK_PITR (deg)
Computed Aircraft Track
Angle from IRS2
TKAT (deg)
IRS1 Track Angle
TKAT_PITR (deg)
IRS2 Track Angle
TKAR (deg/s)
IRS1 Aircraft Track
Angle Rate
TKAR_PITR (deg/s)
IRS2 Aircraft Track
Angle Rate

Select the following variable references:

☒ 2 ATTACK	AKRD(1, 2)	☒ 2 QCX	QC(1, 2)M
☒ 3 ATX	AT(1, 2, 3, 4)	☒ 2 QCXC	QC(1, 2)C
☒ 1 DPX	DP(L, R)	☒ 1 SSLIP	SSRD(1, 2)
☒ 2 DPXC	DP(L, R)C	☒ 2 TASX	TAS(1, 2)
☒ 1 DVALU	(HG, GPG)ALT	☒ 3 TTX	TT(1, 2, 3, 4)
☒ 2 PSX	PS(1, 2)M	☒ 1 WI	IRS 1 or 2
☒ 2 PSXC	PS(1, 2)C	☒ 1 XLATC	IRS 1 or 2

☒ Print Trackline

Note: IRS = Inertial Reference System.
Equivalent to INS on P-3's. _PITR denotes IRS#2.

Flight: 100119n

Latitudes

☒ GHLATF_SG1 (deg)
Honeywell GPS
Latitude, Fine
☒ GHLATF_SG2 (deg)
Honeywell GPS
Latitude, Fine
☒ GHLAT_SG1 (deg)
Honeywell GPS Latitude
☒ GHLAT_SG2 (deg)
Honeywell GPS Latitude

☒ GPLAT (deg)
Collins GPS Latitude
☒ LAT (deg)
IRS1 Latitude
☒ LAT_PITR (deg)
IRS2 Latitude

XLATC (deg)
GPS-Corrected Inertial
Latitude

Longitudes

☒ GHLONF_SG1 (deg)
Honeywell GPS
Longitude, Fine
☒ GHLONF_SG2 (deg)
Honeywell GPS
Longitude, Fine
☒ GHLO_N_SG1 (deg)
Honeywell GPS
Longitude
☒ GHLO_N_SG2 (deg)
Honeywell GPS
Longitude

☒ GPLON (deg)
Collins GPS Longitude
☒ LON (deg)
IRS1 Longitude
☒ LON_PITR (deg)
IRS2 Longitude

XLONC (deg)
GPS-Corrected Inertial
Longitude

GPS Differences
☒ GDIF1
Position Difference
(Collins - IRS1)
☒ GDIF2
Position Difference
(Collins - IRS2)

Compare GPS lat/lon to
inertial lat/lon to see which
inertial did better during the
flight. Compare their
differences.

HDOP

☒ GHHODP_SG1 (none)
Honeywell GPS Horiz.
Dilution of Precision
☒ GHHODP_SG2 (none)
Honeywell GPS Horiz.
Dilution of Precision

VDOP

☒ GHVDOP_SG1 (none)
Honeywell GPS Vertical
Dilution of Precision
☒ GHVDOP_SG2 (none)
Honeywell GPS Vertical
Dilution of Precision

HFOM

☒ GHHFOM_SG1 (m)
Honeywell GPS Horiz.
Figure of Merit
☒ GHHFOM_SG2 (m)
Honeywell GPS Horiz.
Figure of Merit

VFOM

☒ GHVFOM_SG1 (m)
Honeywell GPS Vertical
Figure of Merit
☒ GHVFOM_SG2 (m)
Honeywell GPS Vertical
Figure of Merit

Flight: 100119n

Temperatures

Ambient Temperature

☒ AT1 (degC)
Ambient Temperature,
Top Left
☐ AT2 (degC)
Ambient Temperature,
Bottom Right
☒ AT3 (degC)
Ambient Temperature,
Top Right
☒ AT4 (degC)
Ambient Temperature,
Bottom Left
3 ☒ ATX (degC)
Ambient Temperature,
Reference

Total Temperature

☒ TT1 (degC)
Total Temperature, Left
Top
☐ TT2 (degC)
Total Temperature,
Right Bottom
☒ TT3 (degC)
Total Temperature, Left
Bottom
☐ TT4 (degC)
Total Temperature,
Right Top
3 ☒ TTX (degC)
Total Temperature
Reference

Dewpoint Temperature

☒ DPLC (degC)
Dew Point Temperature,
Left
☒ DPRC (degC)
Dew Point Temperature,
Right
P ☒ DPXC (degC)
Dew Point Temperature,
Reference
☒ DPL (degC)
Left Dew/Frost Point
Temperature
☒ DPR (degC)
Right Dew/Frost Point
Temperature
P ☒ DPX (degC)
Dew/Frost Point
Temperature, Reference

Air Temperature

☒ ADCSAT (degC)
☒ DADC Static Air
Temperature
☐ ADCTAT (degC)
DADC Total Air
Temperature

Potential Temperature

☒ THETA (K)
Potential Temperature
☒ THETA E (K)
Equivalent Potential
Temperature
☐ THETA V (K)
Virtual Potential Temperature

Hygrometers

☐ BCRYO (volts)
☒ CR-2 Hygrometer
Balance
☐ CRYO (degC)
CR-2 Hygrometer
☐ CRYOC (degC)
CR-2 Hygrometer,
corrected
☒ PCRYO (mb)
CR-2 Hygrometer
Pressure

Humidity

☒ RHODL (g/m3)
Absolute Humidity,
T-Electric Left
☐ RHODR (g/m3)
Absolute Humidity,
T-Electric Right
☒ RHUM (%)
Relative Humidity

Mixing Ratio

☐ MR (g/kg)
Mixing Ratio, T-Electric

Ambient Water Vapor Pressure

☒ EDP C (mb)
Ambient Water Vapor
Pressure, Reference

Flight: 100119n

Pressures

Dynamic Pressure

✓ QC1C (mb)
Corrected Dynamic
Pressure, Left
✓ QC1M (mb)
Left Raw Dynamic
Pressure
✓ QC2C (mb)
Corrected Dynamic
Pressure, Right
✓ QC2M (mb)
Right Raw Dynamic
Pressure
2 QCX (mb)
Raw Dynamic Pressure,
2 Reference
QCXC (mb)
Corrected Dynamic
Pressure, Reference

Attack (compare to pitch)

✓ AP1 (mb)
Left Vertical Differential
✓ Pressure
AP2 (mb)
Right Vertical
Differential Pressure
✓ DAP1 (mb)
Left Raw Dynamic
Attack Pressure
✓ DAP2 (mb)
Right Raw Dynamic
Attack Pressure
✓ ADCAOA (deg)
Air Data Computer
✓ Attack Angle
AKRD1 (deg)
Attack Angle,
✓ Left Side
AKRD2 (deg)
Attack Angle,
Right Side
ATTACK (deg)
Attack Angle,
Reference

Static Pressures

✓ PS1C (mb)
Corrected Static
Pressure, Top Fuselage
✓ PS1M (mb)
Raw Static Pressure,
Top Fuselage
✓ PS2C (mb)
Correct'd Static Pressure,
Bottom Fuselage
✓ PS2M (mb)
Raw Static Pressure,
Bottom Fuselage
2 PSX (mb)
Raw Static Pressure,
2 Reference
PSXC (mb)
Corrected Static
Pressure, Reference

Sideslip (compare to roll)

✓ BP1 (mb)
Top Horizontal
Differential Pressure
✓ BP2 (mb)
Bottom Horizontal
Differential Pressure
✓ DBP1 (mb)
Top Raw Dynamic Slip
Pressure
✓ DBP2 (mb)
Bottom Raw Dynamic
Slip Pressure
✓ SSDF1 (deg)
Sideslip Angle, Diff.
Pressure, Top
SSDF2 (deg)
Sideslip Angle, Diff.
Pressure, Bottom
✓ SSRD1 (deg)
Sideslip Angle,
Top
✓ SSRD2 (deg)
Sideslip Angle,
Bottom
SSLIP (deg)
Sideslip Angle,
Reference

Surface Pressure

✓ PSURF (mb)
Calculated Surface
Pressure

Cabin Pressure
✓ PCAB (mb)
Cabin Pressure

Horizontal Wind Direction

✓ IWD (deg)
Horizontal Wind
Direction (IRS)
✓ IWD_PITR (deg)
Horizontal Wind
Direction (IRS)
✓ WD (deg)
Horizontal Wind
Direction

Horizontal Wind Speed

✓ IWS (m/s)
Horizontal Wind Speed
(IRS)
✓ IWS_PITR (m/s)
Horizontal Wind Speed
(IRS)
✓ WS (m/s)
Horizontal Wind Speed
North/South Component
✓ VI (m/s)
Wind Vector, North
Component
East/West Component
✓ UI (m/s)
Wind Vector, East
Component

Vertical Winds

✓ WI (m/s)
Wind Vector, Vertical
Gust Component

UTAN/URAD Winds

✓ UX (m/s)
Wind Vector, UTAN
✓ Longitudinal Component
VY (m/s)
Wind Vector, Lateral
Component URAD

*spike
+ follows
IRS spikes*

Flight: 100119n

Groundspeeds

☒ GHGSF_SG1 (m/s)
Honeywell GPS Ground
Speed
☒ GHGSF_SG2 (m/s)
Honeywell GPS Ground
Speed
☒ GPGSPD (m/s)
Collins GPS Ground
Speed
☒ GSF (m/s)
Inertial Ground Speed

☒ GSF_PITR (m/s)
Inertial Ground Speed

East/West Component

☒ GHVEW_SG1 (m/s)
HoneyWell GPS Ground
Speed Vector E/W
☒ GHVEW_SG2 (m/s)
HoneyWell GPS Ground
Speed Vector E/W

☒ GPVEW (m/s)
Collins GPS Ground
Speed Vector E/W
VEW (m/s)
Inertial Ground Speed
Vector E/W
☒ VEW_PITR (m/s)
Inertial Ground Speed
Vector E/W

☒ XVEWC (m/s)
GPS-Corrc'd Inertial
Ground Spd Vector E/W

North/South Component

☒ GHVNS_SG1 (m/s)
HnyWll GPS Grnd Spd
Vector, Nrth/Sth Component
☒ GHVNS_SG2 (m/s)
HnyWll GPS Grnd Spd
Vector, Nrth/Sth Component
☒ XVNSC (m/s)
GPS-Corrc'd Inertial Ground
Spd Vector, North Component

Vertical Acceleration

☒ ACINS (m/s2)
Aircraft Vertical
Acceleration
☒ ACINS_PITR (m/s2)
Aircraft Vertical
Acceleration

Vertical Velocity

☒ GHVZI_SG1 (m/s)
HnyWll GPS Comp'd
aircraft Vert. Velocity
☒ GHVZI_SG2 (m/s)
HnyWll GPS Comp'd
aircraft Vert. Velocity

☒ GPVSPD (m/s)
Cllns GPS Comp'd
Aircraft Vertical Velocity
☒ VSPD (m/s)
IRS-Computed Aircraft
Vertical Velocity
☒ VSPD_PITR (m/s)
IRS-Computed Aircraft
Vertical Velocity

☒ WP3 (m/s)
Damped Aircraft Vertical
Velocity
☒ WP3_PITR (m/s)
Damped Aircraft Vertical
Velocity

Airspeeds

☒ ADCCAS (m/s)
DADC Computed
Airspeed
☒ IAS (Kts)
Aircraft Indicated
Airspeed
☒ ADCTAS (m/s)
DADC True Airspeed

☒ TAS1 (m/s)
Aircraft True Airspeed
#1
☒ TAS2 (m/s)
Aircraft True Airspeed
#2
☒ TASHC (m/s)
Aircraft True Airspeed,
Humidity Corrected
☒ TASX (m/s)
Aircraft True Airspeed,
Reference

Mach

☒ ADCMACH (none)
DADC Mach Number
☒ MACH (none)
Aircraft Mach Number
☒ XMACH2 (none)
Aircraft Mach Number
Squared

☒ GPVNS (m/s)
Cllns GPS Grnd Spd Vector,
Nrth/Sth Component
☒ VNS (m/s)
Inertial Ground Speed Vector,
North/South Component
☒ VNS_PITR (m/s)
Inertial Ground Speed Vector,
North/South Component

. RH > 100 075917Z - 080155Z - as ~~60210~~ we leveled out

All IRS2 values spike to 0 08Z (075958-080005), 09Z (085959-090004), 14Z
135959-140006

PSIC steps $\uparrow \downarrow$ 1mb from 082812Z - 084859Z

PCAB spikes down 20mb 082746Z - 082753Z

DAPI spikes down ~ 25 mb @ 081010Z $\rightarrow$ AKR01 spikes $\downarrow 10$

GPALT + GPGALT spike up ~ 60 metos 075853Z - 075916Z
 $\hookrightarrow$ DUALVE from -80 m to -5

HGALT 075843 - 080055Z spikes

N49RF AOC GPS Dropwindsonde Log

Flight ID: 100119

Flight Director: Alameda/Williams

Mission ID: N0449 CHUSU TRACK99

Storm/Track: _____

Pg ____ of ____

Ch. #	Drop #	Sonde ID	Drop Time (UTC)	Lat (°N)	Lon (°W)	Wx Cond.	L5/R5	SFC Pts (mb)	Ob #	R5 Lowest Winds (Ht, Ws, Wd)	L5 Lowest Winds (Ht, Ws, Wd)	Sent Time (UTC)
1	1	15119	082011	34.6	144.2	04R1-	R5	1031.3	1	SFC 3.55		084448
2	2	15125	084603	33.2	147.4		R5	1027.9	2	SFC 323		090039
1	3	6250	090011	31.6	150.0		R5	1025.6	3	SFC 309		092459
2	4	15124	090006	29.6	151.8		R5	1023.7	4	SFC 332		094914
3	5	15040	094109			NOCLAMCH						
3	6	15040	094138	27.4	153.5		R5	1042	5	SFC 325		100809
1	7	15072	100011	28.7	154.6	lost winds	R5	1023.3	6	SFC	halfway thru	103827
2	8	15156	102001	31.6	155.5		R5	1021	7	SFC		104343
1	9	15093	104602	30.6	158.5		R5	1020.1	8	SFC		110420
2	10	15084	110008	29.3	161.5		R5	1022.6	9	SFC		112151
1	11	15153	1120	27.6	164.0		R5	1022.5	10	SFC		115021
2	12	36293	114017	32.3	165.8		R5	1021	11	SFC 217		121514
1	13	36442	1200	34.3	164.7		R5	1021.3	12	SFC		122831
2	14	15053	122036	36.2	163.4		R5	1018	13	SFC 344	wind	124419
1	15	15091	124007	36.8	161.2		R5	1018.4	14	SFC		130109
1	16	15060	130005	36.9	158.7		R5	1018.3	15	SFC		134921
1	17	15057	132026	36.9	157.1		R5	1019.4	16	SFC		135136
2	18	15014	13410	36.9	153.4		R5	1023.2	17	SFC 206		140731
1	19	15086	1400	37.1	150.6		R5	1027.8	18	SFC		143429
2	20	6278	140945	37.2	148.2		R5	1030.5	19	SFC	Actu winds in	145433
1	21	15161	1440	37.2	145.2		R5	1031.9	20	SFC		150252

-4615

124830

152542

NOAA G-IV flight request for Tuesday 01/19/2010

Radio Call Sign: NOAA49

Planned take off: 01/19/2010 0800Z

Planned landing time: 01/19/2010 1600Z

Route of flight:

RJTY	35.75	139.35
KOGAR	36.12	139.69
TLE	36.02	140.21
CVC	35.73	140.8
5 34 10N 145 22E	34.17	145.37
6 32 07N 149 36E	32.07	149.36
7 26 45N 154 00E	26.75	154
8 31 48N 155 34E	31.8	155.57
9 28 28N 163 18E	28.47	163.3
10 32 34N 165 58E	32.57	165.97
11 36 45N 162 57E	36.75	162.95
12 36 53N 153 38E	36.88	153.33
13 37 18N 146 36E	37.3	146.6
JD	36.49	139.86
HATAR	36.34	139.61
RJTY	35.75	139.35

Planned Altitudes: FL390-450