

N49RF ERROR SUMMARY  
20210820N2

Flight ID: 20210820N2

Sensor or System	Number or Name
Static Pressure Probe	PSM.2
Dynamic Pressure Probe	PQM.2
Total Temperature Probe	TTM.1
Dewpoint Temp. Probe	TDM.2
Vertical Accelerometer	AccZI.1
Altimeter	AltGPS.3
INE Selection	1
Differential Attack Pressure Probe	PDALPHA.2
Differential Sideslip Pressure Probe	PDBETA.2
Dynamic Attack Pressure Probe	PQALPHA.2
Dynamic Sideslip Pressure Probe	PQBETA.2

Flight Directory acdata/2021/MET/20210820N2

Local Met Data	Takeoff KLAL (1750Z)	Landing KLAL (0155Z)
Dynamic Corrections		Yes
AttackAngleIntercept		6.4652
AttackAngleSlope		7.59375
SlipAngleIntercept		0.925
SlipAngleSlope		6.56381
AttackAngleIntercept2		5.05753
AttackAngleSlope2		5.52397
SlipAngleIntercept2		0.931
SlipAngleSlope2		6.57562

Notes:

There were no edits made in the measured parameters used to calculate meteorological and navigational parameters.

Takeoff/Landing data: Data during landing and takeoff are potentially suspect. It is recommended that ground data not be used for scientific analysis.

.1 and .2 GPS parameters data "stair steps"

PDBETA.1 & PDBETA.2 unrepresentative due to spare radome

PQBETA.1 & PQBETA.2 unrepresentative due to spare radome

All flight level wind speed and direction suspected errors due to spare radome

TTM.3 oscillates

TTM.4 has large spike at 00:16 and 00:18; all other data representative

TDM.1 unrepresentative

Expendable Type	# deployed	# good	# transmitted
Dropsondes	39	36	36
Test sondes	0	0	0
AXBTS	0	0	0

AXCPs	0	0	0
AXCTDs	0	0	0
UAS	0	0	0

Flight Director: Kalen / Henning  
Phone #: 863-500-3962

ACAT-4 Version = 7.3

## U.S. Department of Commerce / NOAA / OMAO / Aircraft Operations Center - N49RF Manifest

FLIGHT INFORMATION				CREW MANIFEST			MISSION INFORMATION				
FLT ID:	20210820N2	FLT #:		AC:	Waddington	Scientists:	Pressure		Dropsondes		
From:	KLAL	ETD:		CP(s):	De Triquet		A/C Takeoff		Good	Bad	Sent
To:	KLAL	ETA:		NAV:					<b>36</b>	<b>3</b>	<b>36</b>
Block Time		Flight Time		FE(s):			ASOS Takeoff		BTs		
In:	<b>0203Z</b>	Land:	<b>0155Z</b>	FD(s):	Henning		A/C Land		Good	Bad	Sent
Out:	<b>1742Z</b>	T/O:	<b>1751Z</b>	SSA:	Miller	Visitors:	ASOS Land				
Total:	<b>8.4</b>	Total:	<b>8.1</b>	AVAPS:	Patel		Storm Number ID:				
Sponsoring Org:	NWS			SEB:			(ie: AL072012)				
Program:				MX:			TCPOD/WSPOD Mission		<b>WA07A GRACE</b>		
Purpose:	Hurricane Research						(ie: NOAA2 2418A SANDY)				
AS REQUIRED BY ORM				Y	N	REMARKS	Fix Number	Obs Number	Fix Time	SLP	
VOLCANIC ASH					x		<b>1</b>				
SCIENCE MISSION WITHIN BDRY LAYER					x						
LACK OF PRECIPITATION					x		<b>2</b>				
RELATIVE HUMIDITY ≥ 80%					x						
LARGE AIR-SEA TEMP GRADIENT					x		<b>3</b>				
HIGH SURFACE WINDS					x						
LONG FETCH / DURATION OF SFC WND					x		<b>4</b>				
SEA SALT ACCRETION FORECAST					x						
SEA SALT ACCRETION OBSERVED					x		<b>Pennies:</b>				

\*Highlighted items must be completed before departure.

Remarks:

## G-IV QC Checklist

<b>Flight ID:</b>	<b>20210820N2</b>
<b>Flight Director(s)</b>	<b>Kalen / Henning</b>

Pressure Comparison		
	T/O	Land
<b>Aircraft</b>	<b>1009.9</b>	<b>1009.8</b>
<b>Tower</b>	<b>1011.4</b>	<b>1009.1</b>

<b>UWZ.d mean:</b>	<b>0.12</b>
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	Raw 1Hz Mean File Parameters					C File Parameters	
<input checked="" type="checkbox"/> Accelerometer	<input checked="" type="checkbox"/> AccAXI.1	<input checked="" type="checkbox"/> AccAYI.1	<input checked="" type="checkbox"/> AccAZI.1			<input checked="" type="checkbox"/> AccZref	
	<input checked="" type="checkbox"/> AccAXI.2	<input checked="" type="checkbox"/> AccAYI.2	<input checked="" type="checkbox"/> AccAZI.2				
	<input checked="" type="checkbox"/> AccAXI.3	<input checked="" type="checkbox"/> AccAYI.3	<input checked="" type="checkbox"/> AccAZI.3				
<input checked="" type="checkbox"/> Altitude	<input checked="" type="checkbox"/> AltGPS.1	<input checked="" type="checkbox"/> AltI.1	<input checked="" type="checkbox"/> AltPaADDU.1	<input checked="" type="checkbox"/> AltBCADDU.1		<input checked="" type="checkbox"/> ALTref	
	<input checked="" type="checkbox"/> AltGPS.2	<input checked="" type="checkbox"/> AltI.2	<input checked="" type="checkbox"/> AltPaADDU.2	<input checked="" type="checkbox"/> AltBCADDU.2		<input checked="" type="checkbox"/> ALTPA.d	
	<input checked="" type="checkbox"/> AltGPS.3	<input checked="" type="checkbox"/> AltI.3	<input checked="" type="checkbox"/> AltRA.1			<input checked="" type="checkbox"/> ALTGA.d	
<input checked="" type="checkbox"/> Ground Speed	<input checked="" type="checkbox"/> GsXI.1	<input checked="" type="checkbox"/> GsYI.1	<input checked="" type="checkbox"/> GsZI.1	<input checked="" type="checkbox"/> GsGPS.1		<input checked="" type="checkbox"/> GSXref	
	<input checked="" type="checkbox"/> GsXI.2	<input checked="" type="checkbox"/> GsYI.2	<input checked="" type="checkbox"/> GsZI.2	<input checked="" type="checkbox"/> GsGPS.2		<input checked="" type="checkbox"/> GSYref	
	<input checked="" type="checkbox"/> GsXI.3	<input checked="" type="checkbox"/> GsYI.3	<input checked="" type="checkbox"/> GsZI.3	<input type="checkbox"/> GsGPS.3		<input checked="" type="checkbox"/> GSZref	
	<input checked="" type="checkbox"/> GsXGPS.1	<input checked="" type="checkbox"/> GsYGPS.1	<input checked="" type="checkbox"/> GsZGPS.1				
	<input checked="" type="checkbox"/> GsXGPS.2	<input checked="" type="checkbox"/> GsYGPS.2	<input checked="" type="checkbox"/> GsZGPS.2				
	<input type="checkbox"/> GsXGPS.3	<input type="checkbox"/> GsYGPS.3	<input type="checkbox"/> GsZGPS.3				
<input checked="" type="checkbox"/> Lat / Lon	<input checked="" type="checkbox"/> LatGPS.1	<input checked="" type="checkbox"/> LatI.1	<input checked="" type="checkbox"/> LonGPS.1	<input checked="" type="checkbox"/> LonI.1		<input checked="" type="checkbox"/> LATref	
	<input checked="" type="checkbox"/> LatGPS.2	<input checked="" type="checkbox"/> LatI.2	<input checked="" type="checkbox"/> LonGPS.2	<input checked="" type="checkbox"/> LonI.2		<input checked="" type="checkbox"/> LONref	
	<input checked="" type="checkbox"/> LatGPS.3		<input checked="" type="checkbox"/> LonGPS.3				
<input checked="" type="checkbox"/> Pressure	<input checked="" type="checkbox"/> PDALPHA.1	<input checked="" type="checkbox"/> PQALPHA.1	<input checked="" type="checkbox"/> PQM.1	<input checked="" type="checkbox"/> PSM.1		<input checked="" type="checkbox"/> PDLAPHaref	<input checked="" type="checkbox"/> PQMref
	<input checked="" type="checkbox"/> PDALPHA.2	<input checked="" type="checkbox"/> PQALPHA.2	<input checked="" type="checkbox"/> PQM.2	<input checked="" type="checkbox"/> PSM.2		<input checked="" type="checkbox"/> PDBETAref	<input checked="" type="checkbox"/> PQ.c
	<input checked="" type="checkbox"/> PDBETA.1	<input checked="" type="checkbox"/> PQBETA.1				<input checked="" type="checkbox"/> PQALPHaref	<input checked="" type="checkbox"/> PSMref
	<input checked="" type="checkbox"/> PDBETA.2	<input checked="" type="checkbox"/> PQBETA.2				<input checked="" type="checkbox"/> PQBETAref	<input checked="" type="checkbox"/> PS.c
<input checked="" type="checkbox"/> Air Speed	<input checked="" type="checkbox"/> CasADDU.1	<input checked="" type="checkbox"/> TasADDU.1				<input checked="" type="checkbox"/> IAS.d	<input checked="" type="checkbox"/> TAS.d
<input checked="" type="checkbox"/> Pitch / Roll	<input checked="" type="checkbox"/> PitchI.1	<input checked="" type="checkbox"/> PitchRateI.1	<input checked="" type="checkbox"/> RollI.1	<input checked="" type="checkbox"/> RollRateI.1		<input checked="" type="checkbox"/> PITCHref	
	<input checked="" type="checkbox"/> PitchI.2	<input checked="" type="checkbox"/> PitchRateI.2	<input checked="" type="checkbox"/> RollI.2	<input checked="" type="checkbox"/> RollRateI.2		<input checked="" type="checkbox"/> ROLLref	
	<input checked="" type="checkbox"/> PitchI.3	<input checked="" type="checkbox"/> PitchRateI.3	<input checked="" type="checkbox"/> RollI.3	<input checked="" type="checkbox"/> RollRateI.3			
<input checked="" type="checkbox"/> Temp / Dewpt	<input checked="" type="checkbox"/> TTM.1	<input checked="" type="checkbox"/> TTM.4	<input checked="" type="checkbox"/> TDM.1			<input checked="" type="checkbox"/> TD.c	<input checked="" type="checkbox"/> TTMref
	<input type="checkbox"/> TTM.2		<input checked="" type="checkbox"/> TDM.2			<input checked="" type="checkbox"/> TDMref	<input checked="" type="checkbox"/> TA.d
	<input checked="" type="checkbox"/> TTM.3						
<input checked="" type="checkbox"/> Misc. (Must check)						<input checked="" type="checkbox"/> UWZ.d	<input checked="" type="checkbox"/> WS.d
						<input checked="" type="checkbox"/> DPJ_WSZ	<input checked="" type="checkbox"/> WD.d
						<input checked="" type="checkbox"/> HUM	

FLID_Mission_Documents.pdf:	
<input checked="" type="checkbox"/>	Error Summary
<input checked="" type="checkbox"/>	Crew Manifest
<input checked="" type="checkbox"/>	QC Checklist
<input checked="" type="checkbox"/>	Dropwindsonde Log(s) - AVAPS and FD if completed
<input checked="" type="checkbox"/>	Flight Track
<input checked="" type="checkbox"/>	Miscellaneous FD Notes

QC Key	
Not checked	<input type="checkbox"/>
Valid	<input checked="" type="checkbox"/>
Errors (note)	<input checked="" type="checkbox"/>

### NOTES:

.1 and .2 GPS parameters data "stair steps"  
**PDBETA.1 & PDBETA.2 unrepresentative due to spare radome**  
**PQBETA.1 & PQBETA.2 unrepresentative due to spare radome**  
**All flight level wind speed and direction suspected errors due to spare radome**  
**TTM.3 oscillates**  
**TTM.4 has large spike at 00:16 and 00:18; all other data representative**  
**TDM.1 unrepresentative**

AOC GPS Dropwindsonde Log (updated Mar 2019)

Flight ID: 20210820N2 ASPEN Operator/Flight Director(s): KALEN / HENNING

Mission ID: 0508A Storm Name/Track: HENRI PG 1 of 1

Sonde #	Ob #	Launch Time HHMMSS (Z)	Sonde ID (min last 5)	Ch # used	Lat (°N)	Lon (°E)	Prominent Wx Cond.	SFC Prs (mb)	Comments / Issues / QC / ASPEN Edits	KWBC #	Sonde Issues?
1	1	182849	20650	1	29.0	77.8	CDO	1011.5	<u>SURFACE WIND</u> 250/15	1849	✓✓
2	2	184200	30030	2	30.0	76.4	CDO	1010.1	340/23	1903	✓✓
3	3	185154	20649	3	29.1	75.5	CDO	1010.8	270/23	1909	✓✓
4	4	190128	36061	4	28.6	74.4	CDO	1010.8	190/32	1920	✓✓
5	5	191157	30721	1	28.5	73.0	CDO	1013.0	220/30	1947	✓✓
6	6	192448	40286	2	27.7	71.5	BKN	1015.1	200/22	1950	✓✓
7	7	193612	30065	3	28.2	70.1	SCT	1015.3	140/34	1956	✓✓
8	8	195144	30041	4	29.2	71.7	UCST	1011.4	180/28	2018	✓✓
9	9	200116	50403	1	30.2	71.0	UCST	1012.7	175/35	2023	✓✓
10				2			SCT		NO LAUNCH DETECT		
11	10	201853	40494	3	30.6	68.5	SCT	1016.0	180/17	2050	✓✓
12	11	202846	30665	4	30.7	67.2	SCT	1017.3	160/14	2054	✓✓
13	12	204222	31823	1	32.1	66.8	SCT	1016.9	160/21	2116	✓✓
14	13	205358	41151	2	32.0	68.4	SCT	1014.9	165/23	2119	✓✓
15	14	211135	40501	3	31.8	70.7	SCT	1013.1	160/25	2138	✓✓
16	15	212014	30051	4	32.7	70.9	SCT	1012.4	160/25	2141	✓✓
17	16	213724	50137	1	33.5	68.5	SCT	1015.7	175/25	2157	✓✓
18	17	214742	20652	2	33.9	67.1	SCT	1016.7	185/11	2210	✓✓
19	18	220131	30066	3	35.0	68.5	SCT	1015.5	185/23	2236	✓✓
20	19	221428	30643	4	35.9	70.0	SCT	1013.7	185/17	2238	✓✓
21	20	223532	30654	1	34.0	71.9	SCT	1011.7	170/19	2301	✓✓
22	21	224507	20012	2	34.4	73.0	SCT	1011.6	115/15	2304	✓✓
23	22	225453	30048	3	34.4	74.4	SCT	1009.3	095/21	2320	✓✓
24				4			SCT		NO LAUNCH DETECT		
25	23	230748	30676	1	33.6	75.8	BKN	1009.5	070/16 FLOATER	2333	✓✓
26	24	231458	40954	2	32.9	76.2	SCT	1009.6	050/14	2337	✓✓
27	25	232534	30653	3	32.6	74.7	UCST	1007.4	065/20	2349	✓✓
28	26	233333	50134	4	33.0	73.7	UCST	1008.5	125/20	2353	✓✓
29	27	234131	41008	1	32.5	72.7	UCST	1008.7	130/37	0001	✓✓
30	28	235110	20083	2	31.5	72.2	CDO	1008.2	150/34	0012	✓✓
31				3			CDO		NO LAUNCH DETECT		
32	29	000142	20638	4	30.3	72.7	CDO	1008.3	225/38 BIKES@936	0023	✓✓
33	30	001354	31815	1	29.5	73.8	CDO	1010.6	220/24	0047	✓✓
34	31	002502	30053	2	30.5	74.8	CDO	1008.5	270/24	0055	✓✓
35	32	003336	30108	3	31.4	75.2	—	1006.5	335/31	0057	✓✓
36	33	004502	30051	4	31.5	76.7	—	1010.3	330/21	0109	✓✓
37	34	005825	21011	1	32.3	78.3	—	1010.0	005/7	0120	✓✓
38	35	010930	50404	2	31.3	79.3	—	1011.6	265/3	0131	✓✓

ASPEN Operator will ensure this form is delivered to the AOC Flight Director to be archived

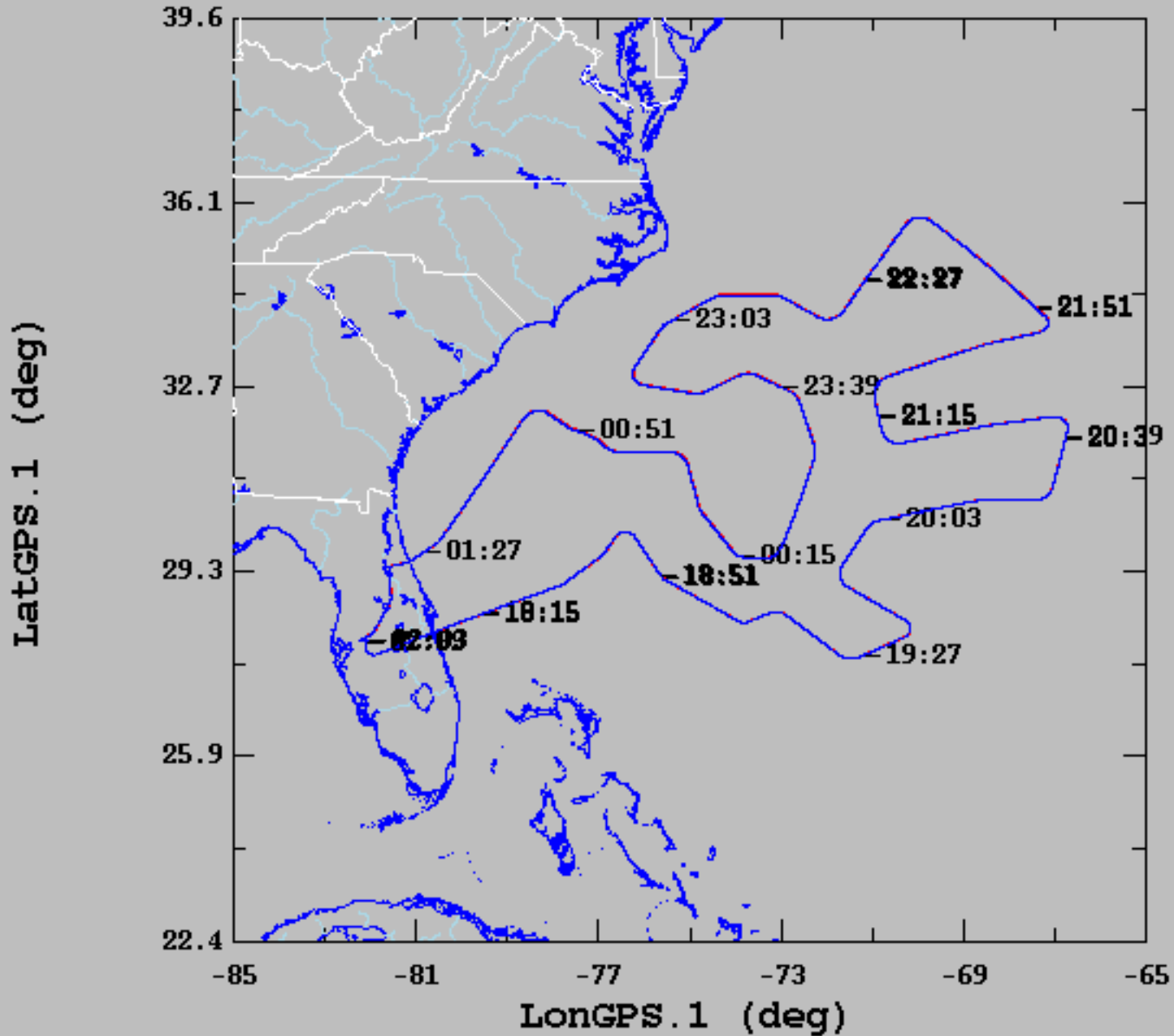
COMMENTS:

39/36 012051 40124 3 30.2 80.2 — 1012.7

Obs Xmitted 36 Obs Missed 0 # of sondes launched 39 # of bad sondes 3

230/2 ↖ 0140 LAST REPORT

2021-08-20, 17:03:16-26:03:03



	mean	sigma	min	max
— LatGPS.1 (deg), 1 s/sec	30.84	2.32	27.66	35.86
— LongGPS.1 (deg), 1 s/sec	-74.50	4.81	-82.20	-66.69
— LatI.1 (deg), 1 s/sec	30.85	2.32	27.66	35.87
— LonI.1 (deg), 1 s/sec	-74.50	4.80	-82.18	-66.69