N49RF ERROR SUMMARY
Tropical Storm Delta

Flight ID: 20201007N1

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/2020/MET/20201007N1

Local Met Data	Takeoff KLAL (0527Z)	Landing KLAL (1320Z)
Dynamic Corrections		Yes
AttackAngleIntercept		3.97801
AttackAngleSlope		3.86172
SlipAngleIntercept		1.258
SlipAngleSlope		6.69941
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.
AltRA.1 has multiple significant dropouts it should not be used as absolute altitude.
PQBeta.1 and PQBeta.2 are unrepresentative with unusual drop outs.
When examined at high resolution, data from the three inertials (IRUs) shows "stairstepping" for all parameters w intervals generally less than 15 seconds
TDM.1 & TDM.2 were unrepresentative for the cruise portion of the mission above 41K and also for intervals at low altitudes.
Consider all relative humidity values to be considered suspect.
TTM.3 has a small amplitude (magnitude 0.2 - 0.3 deg C) unnatural oscillation with a period of roughly 30 seconds.
TTM.1 was used for calculation of Ambient Temperature (TA)
Takeoff/Landing data: Data during landing and takeoff are potentially suspect. It is recommended that ground data not be used for scientific analysis.

Expendable Type	# deployed	# good	# transmitted
Dropsondes	34	32	32
Test sondes	0	0	0
AXBTs	0	0	0
AXCPs	0	0	0
AXCTDs	0	0	0
UAS	0	0	0

Flight Director: Henning
Phone #: (863) 500-3982

ACAT-4 Version = 7.3

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

FLIGHT INFORMATION

FLT ID:	20201007N1	**FLT #:**	
From:	KLAL	**ETD:**	0530z
To:	KLAL	**ETA:**	1330z
Block Time		**Flight Time**	
In:	1326	Land:	1320
Out:	0515	T/O:	0527
Total:	8.2	Total:	7.9
Sponsoring Org:	NHC		
Program:	PHS		
Purpose:	TS DELTA		

CREW MANIFEST

AC:	Waddington	**Scientists:**
CP(s):	Norman	
	Varwig	
NAV:		
FE(s):		
FD(s):	Henning	
	Kalen	
SSA:	Miller	**Visitors:**
AVAPS:	Underwood	
SEB:		
MX:		

MISSION INFORMATION

		Dropsondes		
Pressure		Good	Bad	Sent
A/C Takeoff		32	2	32
ASOS Takeoff		**BTs**		
A/C Land		Good	Bad	Sent
ASOS Land				
Storm Number ID: (ie: AL072012)		AL262020		
TCPOD/WSPOD Mission (ie: NOAA2 2418A SANDY)		NOAA9 0726A DELTA		

OBSERVATIONS

Fix Number	Obs Number	Fix Time	SLP
Pennies:			

AS REQUIRED BY ORM	Y	N
VOLCANIC ASH		x
SCIENCE MISSION WITHIN BDRY LAYER		
LACK OF PRECIPITATION		
RELATIVE HUMIDITY ≥ 80%		
LARGE AIR-SEA TEMP GRADIENT		
HIGH SURFACE WINDS		
LONG FETCH / DURATION OF SFC WND		
SEA SALT ACCRETION FORECAST		
SEA SALT ACCRETION OBSERVED		

REMARKS

*Highlighted items must be completed before departure.

Remarks:

G-IV QC Checklist

Overall Assessment	Minor instrument issue(s) - minimal mission impact.

Flight ID:	20201007N1
Flight Director(s):	Henning / Kalen
Mission:	Tasked/Operational
UWZ.d mean:	0.17

Pressure Comparison		
	T/O	Land
Aircraft	1010.5	1011.4
Tower	1009.9	1011.3

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

FLID_Mission_Documents.pdf:
☑ Error Summary
☑ Crew Manifest
☑ QC Checklist
☑ Dropwindsonde Log(s) - AVAPS and FD if completed
☑ Flight Track
☑ Miscellaneous FD Notes

QC Key	
Not checked	☐
Valid	☑
Errors (note)	X

NOTES:

AltRA.1 has multiple significant dropouts and should not be used as absolute altitude.
PQBeta.1 and PQBeta.2 are unrepresentative with unusual drop outs.
When examined at high resolution, data from the three inertials shows "stairstepping" for all parameters for brief intervals (generally less than 15 seconds).
TDM.1 & TDM.2 were unrepresentative for the cruise portion of the mission above 41K and also for intervals at low altitudes. Consider all relative humidity values to be considered suspect.
TTM.3 has a small amplitude (magnitude 0.2 – 0.3 deg C) unnatural oscillation with a period of roughly 30 seconds.
TTM.1 was used for calculation of Ambient Temperature (TA) and other derived parameters.
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.

AOC GPS Dropwindsonde Log (updated Mar 2019)

32/34

Flight ID: 20201007N1

ASPEN Operator/Flight Director(s): Kalen / Henning

Mission ID: NOAA9 0726A

Storm Name/Track: Hurricane Delta

PG ___ of ___

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	054550	30528	1	27.99	-84.01		1012.9	09518	70602	N
2	2	060038	50546	2	27.9	-85.89		1012.2	/////	70625	N
3	3	061803	40437	3	25.98	-86.01		1010.3	08023	70638	N
4	4	063550	30213	4	24.00	-86.62		1007.4	07525 / FLW Bad	70655	N
5	5	064429	30215	1	24.02	-87.78		1006.9	07526	70710	N
6	6	070005	40387	2	26.02	-87.99		1010.5	06020	70719	N
7	7	071512	10699	3	27.92	-88.14		1011.4	06015	70737	N
8	8	072911	21043	4	27.89	-89.90		1012.6	08517	70749	N
9	9	074527	30019	1	26.09	-90.11		1009.5	08019	70808	N
10	10	075923	20858	2	26.10	-91.90		1011.1	05517	70821	N
11	11	081337	30054	3	27.91	-92.12		1012.5	04019	70834	N
12	—	082724	20829	4	—	—	—	—	No RH	—	Y
13	12	082904	50900	1	27.74	-93.58		1012.6	04017	70845	N
14	13	084521	30062	2	25.96	-93.99		1011.3	04514	70907	N
15	14	090258	20833	3	23.98	-94.00		1006.7	08005	70925	N
16	15	092016	10768	4	22.08	-93.87		1007.9	35515	70941	N
17	16	093458	40653	1	22.11	-92.08		1007.5	02516	70954	N
18	17	094933	30547	2	23.91	-91.87		1008.7	04519	71008	N
19	18	100342	70134	3	23.89	-90.09		1007.7	04020	71023	N
20	19	101643	70178	4	22.52	-89.79		1005.8	02013 / FLW Bad	71039	N
21	20	102403	40051	1	23.07	-89.09		1004.4	04519	71044	N
22	21	103519	50896	2	22.17	-88.21		1002.4	02024	71058	N
23	22	104418	10816	3	22.47	-87.18		1002.7	07030	71105	N
24	23	105356	30214	4	22.03	-86.12		1000.1	09041 / Post Splash? / FLW Bad	071114	N
25	24	110424	20550	1	20.98	-85.58		1000.8	16037	71123	N
26	—	111428	10756	2	—	—	—	—	FAST FALL	—	Y
27	25	111544	30211	3	19.84	-86.30		1000.4	21537	71135	N
28	26	112225	20531	4	19.38	-86.94		1002.2	24029 / FLW Bad	71144	N
29	27	113309	30023	1	18.21	-86.46		1005.4	24028 / FLW Bad	71154	N
30	28	114340	50894	2	18.67	-85.32		1007.3	225/26	71205	N
31	29	115500	40395	3	19.72	-84.50		1007.2	18525 / FLW Bad	71219	N
32	30	120615	70486	4	21.03	-84.18		1006.7	15526 / FLW Bad	71235	N
33	31	122807	70669	1	23.35	-85.27		1006.3	11025	71248	N
34	32	124841	10811	2	25.45	-83.67		1010.5	11520 / LAST Report / FLW BAD	71307	N
35											
36											
37											
38											

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

COMMENTS:

Obs Xmitted	Obs Missed	# of sondes launched	# of bad sondes

2020-10-07, 05:30:13-13:20:26