

N42RF ERROR SUMMARY
20210829H1

Flight ID: 20210829H1

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	AccZfilterI-GPS.1
Altimeter	AltGPS.3
INE Selection	1
Differential Attack Pressure Probe	PDALPHA.1
Differential Sideslip Pressure Probe	PDBETA.1
Dynamic Attack Pressure Probe	PQALPHA.1
Dynamic Sideslip Pressure Probe	PQBETA.1

Flight Directory acdata/2021/MET/20210829H1

Local Met Data	Takeoff KLAL (1703Z)	Landing KLAL (0000Z)
Dynamic Corrections		Yes
AttackAngleIntercept		2.307
AttackAngleSlope		6.07515
SlipAngleIntercept		0.237
SlipAngleSlope		7.04607
AttackAngleIntercept2		2.06219
AttackAngleSlope2		5.99068
SlipAngleIntercept2		0.125
SlipAngleSlope2		6.9873

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.

Expendable Type -----	# deployed -----	# good -----	# transmitted -----
Dropsondes	18	18	18
Test sondes	0	0	0
AXBTs	7	7	0
AXCPs	0	0	0
AXCTDs	0	0	0
UAS	0	0	0

Flight Director: Hathaway
Phone #: 863-500-3911

ACAT-4 Version = 7.4

P-3 QC Checklist

Overall Assessment	Minor instrument issue(s) - minimal mission impact.
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Flight ID:	20210829H1	Pressure Comparison	
Flight Director(s):	Hathaway / Lundry		T/O
Mission:	Tasked/Operational	1013.9	Land
UWZ.d mean:	0.25	Aircraft	N/A
		Tower	KLAL - 1012.6

	Raw 1Hz Mean File Parameters				C File Parameters	
✓ Accelerometer	✓ AccAXI.1 ✓ AccAXI.2 ✓ AccAXI-GPS.1 ✓ AccAXI-GPS.2	✓ AccAYI.1 ✓ AccAYI.2 ✓ AccAYI-GPS.1 ✓ AccAYI-GPS.2	✓ AccAZI.1 ✓ AccAZI.2 ✓ AccAZI-GPS.1 ✓ AccAZI-GPS.2	✓ AccZfilter-GPS.1 ✓ AccZfilter-GPS.2	✓ AccZref	
✓ Altitude	✓ AltGPS.1 ✓ AltGPS.2 ✓ AltGPS.3 <input type="checkbox"/> AltGPS.4	✓ Alti-GPS.1 ✓ Alti-GPS.2	✓ AltPaADDU.1 ✓ AltBCADDU.1	✓ AltRA.1 ✓ AltRA.2	✓ ALTref ✓ ALTPA.d ✓ ALTGA.d	✓ AltRA1.c ✓ AltRA2.c
✓ Ground Speed	✓ GsXI-GPS.1 ✓ GsXI-GPS.2	✓ GsYI-GPS.1 ✓ GsYI-GPS.2	✓ GsZI-GPS.1 ✓ GsZI-GPS.2		✓ GSXref ✓ GSYref ✓ GSZref	
✓ Lat / Lon	✓ LatGPS.1 ✓ LatGPS.2 ✓ LatGPS.3 ✓ LatGPS.4	✓ LatI-GPS.1 ✓ LatI-GPS.2	✓ LonGPS.1 ✓ LonGPS.2 ✓ LonGPS.3 ✓ LonGPS.4	✓ LonI-GPS.1 ✓ LonI-GPS.2	✓ LATref ✓ LONref	
✓ Pressure	✓ PDALPHA.1 <input checked="" type="checkbox"/> PDALPHA.2 ✓ PDBETA.1 <input checked="" type="checkbox"/> PDBETA.2	✓ PQALPHA.1 ✓ PQBETA.1	<input checked="" type="checkbox"/> PQM.1 ✓ PQM.2 ✓ PQM.3 <input checked="" type="checkbox"/> PQM.4	✓ PSM.1 ✓ PSM.2 ✓ PTM.1	✓ PDALPHAref ✓ PDBETAref ✓ PQALPHAref ✓ PQBETAref	✓ PQMref ✓ PQ.c ✓ PSMref ✓ PS.c
✓ Air Speed	✓ CasADDU.1	✓ TasADDU.1	✓ IasADDU.1		✓ IAS.d	✓ TAS.d
✓ Pitch / Roll	✓ PitchI.1 ✓ PitchI.2 <input type="checkbox"/> PitchI.3	✓ PitchRateI.1 ✓ PitchRateI.2 <input type="checkbox"/> PitchRateI.3	✓ RollI.1 ✓ RollI.2 <input type="checkbox"/> RollI.3	✓ RollRateI.1 ✓ RollRateI.2 <input type="checkbox"/> RollRateI.3	✓ PITCHref ✓ ROLLref	
✓ Temp / Dewpt	✓ TTM.1 ✓ TTM.2 <input checked="" type="checkbox"/> TTM.3	<input checked="" type="checkbox"/> TDM.1 ✓ TDM.2 ✓ TDM.3	✓ TRadD.1 ✓ TRadS.1 <input type="checkbox"/> TRadU.1		✓ TD.c ✓ TDMref	✓ TTMref ✓ TA.d
✓ Misc. (Must check)					✓ UWZ.d ✓ DPJ_WSZ ✓ HUM	✓ WS.d ✓ WD.d

FLID_Mission_Documents.pdf:
<ul style="list-style-type: none"> ✓ Error Summary ✓ Crew Manifest ✓ QC Checklist ✓ Dropwindsonde Log(s) - AVAPS and FD if completed ✓ Flight Track ✓ Miscellaneous FD Notes

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

NOTES:
<ul style="list-style-type: none"> - PDAAlpha.2 has a large spike around hour 6 of flight. - PDBeta.2 has a large spike around hour 4 of flight. - PQM.1 and PQM.4 have a large unusual drop out around hour 6 in flight. - TDM.1 diverges from reference TDM.2 significantly between hours 3 through 6 of flight.

U.S. Department of Commerce / NOAA / OMAO / Aircraft Operations Center - N42RF Manifest

FLIGHT INFORMATION				CREW MANIFEST			MISSION INFORMATION				
FLT ID:	20210829H1	FLT #:	3	AC:	Rossi	Scientists:	Pressure		Dropsondes		
From:	KLAL	ETD:	100 L	CP(s):	Shaw	Rogers	A/C Takeoff		Good	Bad	Sent
To:	KLAL	ETA:	1800 L		Keith	Zhang			18	0	18
Block Time		Flight Time		NAV:	Utama		ASOS Takeoff		BTs		
In:	23:27	Land:	23:20	FE(s):	Sanchez				Good	Bad	Sent
Out:	16:52	T/O:	17:03	FD(s):	Hathaway	Flaherty	A/C Land	7	0	0	
Total:	6.6	Total:	6.3	SSA:	Richards T.	Visitors:	ASOS Land				
Sponsoring Org:	HRD			SEB:			Storm Number ID:		AL092021		
Program:	PHX						(ie: AL072012)				
Purpose:	Research Flight			MX:			TCPOD/WSPOD Mission		WC09A IDA		
						(ie: NOAA2 2418A SANDY)					
AS REQUIRED BY ORM				REMARK			OBSERVATIONS				
		Y	N				Fix Number	Obs Number	Fix Time	SLP	
VOLCANIC ASH			X				1				
SCIENCE MISSION WITHIN BDRY LAYER			X				2				
LACK OF PRECIPITATION			X				3				
RELATIVE HUMIDITY ≥ 80%		X					4				
LARGE AIR-SEA TEMP GRADIENT			X								
HIGH SURFACE WINDS		X									
LONG FETCH / DURATION OF SFC WND			X								
SEA SALT ACCRETION FORECAST			X								
SEA SALT ACCRETION OBSERVED			X				Pennies:	2			
*Highlighted items must be completed before departure.											
Remarks:											

AVAPS Drop Log

Project: '21 HWX

Mission: Hurricane Ida

Flight ID: 20210829H1

Take Off: 1700Z

Landing: _____

Flt Dir: Lundry

Launcher S/N: _____

Hathaway, Paul Flaherty

Drop #	Sonde Serial #	Rcvr #	Press Offset	Launch Time	Operator	Charge \$\$ To	Comments	Good ?
1	203310059	1	-0.2	1836Z	MAC	HRD	IP1 W-E Coastal Run	
2	203210091	2	Ø	1844Z		HRD	Bad GPS	X
3	203250049	3	-0.3	1845Z		HRD	W-E Drop 2	
4	205050316	4	-0.5	1847Z		HRD	W-E Drop 3	
5	204270005	5	-0.6	1907Z		HRD	W-E Drop 4 Late GPS	
6	204270048	6	-0.6	1911Z		HRD	W-E Drop 5	
7	204650359	7	-0.3	1915Z		HRD	W-E Last Drop	
8	204950415	8	-0.3	1928Z		HRD	W-E Last Drop	
9	205050320	1	-0.3	1932Z		ONR	Combo Pt 6	
10	204840483	2	-0.5	1949Z		ONR	Combo Pt 7	
11	204610674	3	-1.2	1957Z		ONR	Combo Pt 8	
12	205050308	4	-0.2	2004Z		ONR	Pt 9	
13	204840484	5	-0.2	2026Z		ONR	Pt 11	
14	204530503	6	Ø	2029Z		HRD	MIO OUT COMBO	
15	204270013	7	-1.1	2034Z		ONR	Pt 12 Combo	
16	203250061	8	-0.6	2045Z		ONR	Pt 13 Combo End Pt	
17	205050106	1	-0.5	2118Z		ONR	Microphysics Spiral	
18	204521410	2	-0.9	2121Z		ONR	microphys B/U	
19	203250061	8	Ø					
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								
31								

Drop #	Sonde Serial #	Rcvr #	Press Offset	Launch Time	Operator	Charge \$\$ To	Comments	Good ?
32								
33								
34								
35								
36								
37								
38								
39								
40								
41								
42								
43								
44								
45								
46								
47								
48								
49								
50								

Drop Station Operator Notes

Charge \$\$ To Options (**DO NOT USE FUNDING CODES**):
AOC, NWS, HRD, NESDIS, IR/SST, AR, STAN (Stanford), SAT (JPSS/NESDIS/HRD)

AVAPS Pre-Flight Check:

- If time-permits, verify cabin pressure sensor w/ lab standard
- Start AVAPS., then start Soundings and set the Project Name and Full Flight ID (example: 20120823N2).
- Verify the Frequency band allocation as required:
Band A: 53rd WRS - Band B: N42RF - Band C: N43RF - Band D: N49RF - Band E: Unallocated
- Select the **GPS Reference** tab from the **Soundings Displays** page and verify good GPS data
- Perform a prelaunch check on each channel, look for reasonable data and no CRC error status lights.
- Verify data is available on Remote AVAPS, then terminate the sonde.
- Verify the AVAPS Data mission folder has been created
- **Verify AVAPS PC Time is correct – if time is off by >4sec, no data will display**
- **Early launch detects are caused usually by remanufactured sondes with the chute riser line not properly coiled below the PCB ear. This may also cause fast falls. If this is suspected, repack the riser line as time permits**
- **Perform RH Regeneration on all sondes – Multiple RD41 sondes may be processed at once**

AVAPS Launch:

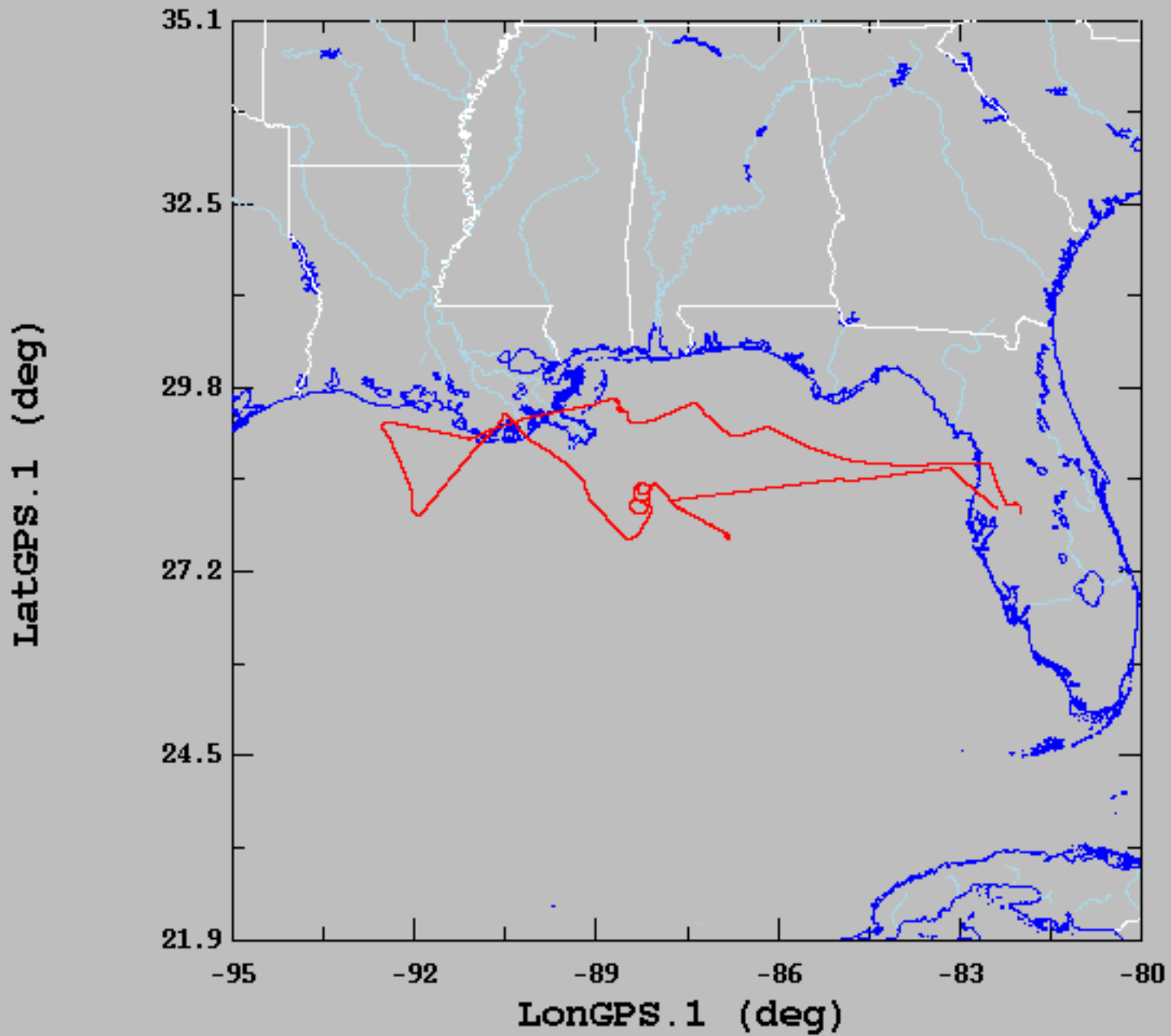
- Select a sonde frequency in the Green band and away from other sondes
- Enter sonde pressure error offset if 0.4mB or greater using cabin pressure sensor – warning, this can not be used during a climb
- **If the Cal lab pressure standard and the cabin pressure standard match, apply pressure offset +/- 0.1 mB**
- **Wait until GPS available (green) on the pre-launch screen before continuing.**
- Select "begin data collection" and verify good data with winds prior to putting sonde in launch tube
- On N42 & N43, remove about ½ of the ribbon. Do not shorten the ribbon on N49. Loosen ribbon and extend end of ribbon to near, but not over, the sensor end of the sonde. Place excess orange tape on end of ribbon to form a pocket.
- Place the sonde in the launch tube, sensor arm up, with the power pin socket facing right
- Verify the sonde is actively tracking GPS data prior to launch and **no early launch detect**

Drop #	Sonde ID	Time UTC	Lat (°N/S)	Long (°E/W)	Stc Pressure (mb)	Wind closest to		SST (C)	Eye/Ewall, Rainband, etc.	Ob #
						Dir/Spd (deg/kt)	Hgt (m)			
1 ✓	0079	1836	29.86	88.67	1058.7	135/43	10			
Comments: W-E cross run										
2 ✓	0091	1844	29.54	89.24	1053.6	145/48	10			
Comments: GIPS burst										
3 ✓	50079	1845	29.52	89.31	1053.2	140/41	10			
Comments: W-E 2nd drop										
4 ✓	50916	1847	29.507	89.36	1050.7	140/47/10				
Comments: W-E run inbound										
5 ✓	7005	1907	29.147	90.902	982	285/85	10			
Comments: W-E run eye wall										
6 ✓	10548	1911	29.108	91.198	990.7	305/58	10			
Comments: W-E run WTD after W eye wall drop										
7 ✓	0359	1915	29.15	91.426	998.9	320/46	10			
Comments: W-E mid										
8 ✓	0415	1928	29.33	92.41	1055.9	335/52				
Comments: W-E end point 2P for next run										
9	5030	1937	28.76	92.22	1054.6	320/28				
Comments: down wind mid P7 (Samba)										
10	40483	1949	28.07	97.87	1055.6	295/25				
Comments: mid IP End down wind (Samba)										

BT receiver: New Mark 21/05/03
 lookhead - maintain and replace receivers

Drop #	Sonde ID	Time UTC	Lat (°N/S)	Long (°E/W)	Sfc Pressure (mb)	Wind closest to		SST (°C)	Eye/Eyewall, Rainband, etc.	Ob #
						Dir/Spd (deg/kt)	Hgt (m)			
11 ✓	0674	1957	28.42	91.48	1000.1	285/43	10	28.3		
Comments	Mid in NW <u>Combo</u>									
12 ✓	0308	2054	28.79	91.12	998.6	280/58	10			
Comments	20MP in NW eye-wall maybe									
13 ✓	0484	2026	29.05	90.05	988.7	185/72	10			
Comments	Mid - close to eye-wall									
14 ✓	0503	2029	28.92	89.80	996.7	195/62	10	28.2		
Comments	Mid PT <u>Combo</u> - 844 - busy dump - ~14km apart									
15 ✓	0013	2034	28.74	89.49	1000	165/62	10	28.9		
Comments	End-PT <u>Combo</u>									
16 ✓	0061	2035	28.2	89.09	1007	160/40	10	29.8		
Comments	End-PT? <u>Combo</u>									
17 ✓	50106	2118	28.2	88.318	1900.6	155/22	10	28.2		
Comments	First sonde for spread module.									
18	-140	2121	28.048	88.441	1009.9	155/28	10			
Comments	2nd sonde backup for spread module									
19										
Comments										
20										
Comments										

2021-08-29, 17:03:29-23:13:52



	mean	sigma	min	max
— LatGPS.1 (deg), 1 s/sec	28.68	0.53	27.65	29.67
— LonGPS.1 (deg), 1 s/sec	-87.79	2.82	-92.52	-81.98