

N42RF ERROR SUMMARY  
20200826H2

Flight ID: 20200826H2

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/2020/MET/20200826H2

Local Met Data	Takeoff KLAL (2051Z)	Landing KLAL (0501Z)
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

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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.

A few high peaks in HUM.

PQM.1 is slight outlier compared to PQM.2, PQM.3 and PQM.4. Not set as reference.

Cat 4 Hurricane Laura

Expendable Type -----	# deployed -----	# good -----	# transmitted -----
Drosondes	35	34	29
Test sondes	0	0	0

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

Flight Director: Lundry  
Phone #: 863-500-3898

ACAT-4 Version = 7.3

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

FLIGHT INFORMATION				CREW MANIFEST			MISSION INFORMATION				
FLT ID:	20200826H2	FLT #:	1	AC:	Rossi	Scientists:	Pressure		Dropsondes		
From:	KLAL	ETD:	1700L	CP(s):	Doremus		A/C Takeoff		Good	Bad	Sent
To:	KLAL	ETA:	0200L		Legidakes				<b>34</b>	<b>1</b>	<b>29</b>
Block Time		Flight Time		NAV:	Freeman		ASOS Takeoff		BTs		
In:	<b>508</b>	Land:	<b>501</b>	FE(s):	Heystek				Good	Bad	Sent
Out:	<b>2043</b>	T/O:	<b>2052</b>	FD(s):	Sanchez		A/C Land		<b>0</b>	<b>0</b>	<b>0</b>
Total:	<b>8.4</b>	Total:	<b>8.2</b>	SSA:	Richards						
Sponsoring Org:	NHC			AVAPS:	McAlister		Storm Number ID: (ie: AL072012)		<b>AL132020</b>		
Program:	PRX			SEB:							
Purpose:	NHC/EMC Tasking			MX:		OBSERVATIONS					
AS REQUIRED BY ORM			Y	N	REMARKS		Fix Number	Obs Number	Fix Time	SLP	
VOLCANIC ASH				x	FCF		<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>	5 cat 4			

\*Highlighted items must be completed before departure.

Remarks:


## P-3 QC Checklist

Overall Assessment	No instrument issues noted.
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Flight ID:	20200826H2
Flight Director(s):	Lundry
Mission:	Tasked/Operational
UWZ.d mean:	0.27

Pressure Comparison		
	T/O	Land
Aircraft	1013.2	1014.7
Tower	1010.9	1011.9

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

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 type="checkbox"/> Miscellaneous FD Notes

QC Key	
Not checked	<input type="checkbox"/>
Valid	<input checked="" type="checkbox"/>
Errors (note)	<input style="color: red;" type="checkbox"/> X

NOTES:
<p><b>PQM.1 is outlier</b></p> <p><b>A few peaks high peaks in HUM</b></p>

# AVAPS Drop Log

Project: 2020 Hurricane Season Mission: Hurricane Laura Flight ID: 2020826112

Take Off: 2100Z Landing: \_\_\_\_\_ Flt Dir: A Lundry Launcher S/N: \_\_\_\_\_

Drop #	Sonde Serial #	Rcvr #	Press Offset	Launch Time	Operator	Charge \$\$ To	Comments	Good ?
1	202520359	1	Ø	2240	MAC		IP1	
2	202340211	2	Ø	2254			MP1 IN	
3	202520416	3	Ø	2256			RMW	
4	202520403	4	Ø	2257			RMW	
5	202340183	6	Ø	2257			RMW	
6	202520358	7	Ø	2258			RMW	
7	202510273	8	Ø	2258			RMW	
8	202340217	1	-1.0	2258			RMW	
9	202340222	2	-1.0	2301			Center	
10	192620491	4	-0.2	—			RMW/no launch	X
11	192520542	3	-Ø	2304			RMW	
12	192040290	6	Ø	2319			MP1 out	
13	193120740	7	-0.2	2331			1 <sup>st</sup> End Point	
14	192410057	8	Ø	—			IP2, no launch	X
15	191920635	1	-0.2	2349			IP2	
16	192040304	2	Ø	2359			2 <sup>nd</sup> mid IN	
17	193430720	3	-0.3	0011			2 <sup>nd</sup> Center	
18	192610909	4	-0.2	0013			RMW	
19	193551241	6	-0.4	0020			2 <sup>nd</sup> mid out	
20	202520428	7	Ø	0027			2 <sup>nd</sup> End Point	
21	192410086	8	Ø	0033			NE repo	
22	202520411	1	-0.1	0040			IP3	
23	191920792	2	-0.3	0052			3 <sup>rd</sup> mid IN	
24	202520430	3	Ø	0057			3 <sup>rd</sup> Center	
25	193440206	4	-0.2	0111			3 <sup>rd</sup> mid out	
26	191930322	6	-0.2	0124			3 <sup>rd</sup> end point	
27	202311582	7	Ø	0147			4 <sup>th</sup> TA	
28	202311587	8	Ø	0201			4 <sup>th</sup> mid IN	
29	202311586	1	Ø	0210			4 <sup>th</sup> Center	
30	202520413	2	Ø	0223			4 <sup>th</sup> mid out	
31	202311495	3	Ø	0228	MAC		4 <sup>th</sup> END/5 <sup>th</sup> IP	

Drop #	Sonde Serial #	Rcvr #	Press Offset	Launch Time	Operator	Charge \$\$ To	Comments	Good ?
32	192610907	4	-0.3	0240			5 <sup>th</sup> MIDIN	
33	192631008	6	-0.2	0250			5 <sup>th</sup> Center	
34	193550044	7	-0.3	0252			Rmw	
35	192041004	8	0	0252			Rmw	
36	192050083	1	0	0253			Rmw	
<del>37</del>	<del>192631079</del>	<del>2</del>	<del>0</del>	<del></del>	<del></del>	<del></del>	<del>5<sup>th</sup> MIDIN</del>	
<del>38</del>	<del>192630761</del>	<del>3</del>	<del>-0.2</del>	<del></del>	<del></del>	<del></del>	<del></del>	
39								
40								
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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)

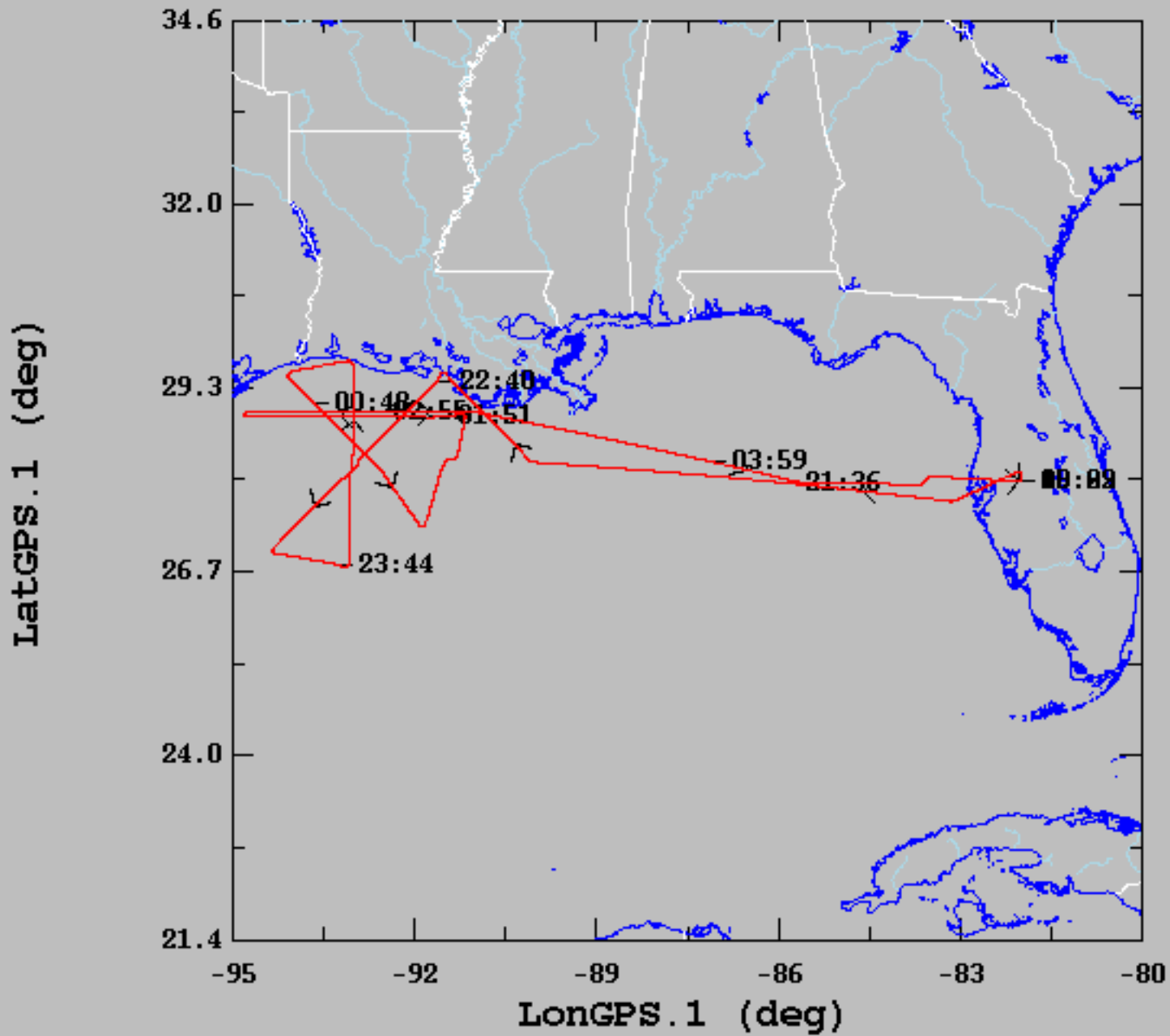
#### AVAPS Pre-Flight Check:

- 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: 53<sup>rd</sup> 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 1/2 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**

08/26/2020, 19:29:06-29:03:10



	mean	sigma	min	max
— LatGPS.1 (deg), 1 s/sec	28.31	0.61	26.73	29.71
— LonGPS.1 (deg), 1 s/sec	-88.96	4.51	-94.80	-81.96