N43RF ERROR SUMMARY
20200918I1

Flight ID: 20200918I1

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/20200918I1

Local Met Data	Takeoff TISX (2207Z)	Landing TISX (0304Z)
Dynamic Corrections		Yes
AttackAngleIntercept		0.122351
AttackAngleSlope		6.0273
SlipAngleIntercept		0.214857
SlipAngleSlope		7.10815

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.

Mission aborted early due to multiple instrument failure. Complete reboot of data system occurred at ~2200Z in-flight GPS.4 unavailable. PDAlpha.2, PDBeta.2, and PQM.4 all failed between 0040-0230Z likely due to icing. PSM.1 and PSM.2 exhibit 10-15 mb spread at altitude. TTM.2 deviates by ~5 degrees from TTM.1 between 0030 and 0130Z possibly due to icing. TRadU.1 inoperative.

Expendable Type	# deployed	# good	# transmitted
Dropsondes	9	8	8
Test sondes	0	0	0
AXBTs	2	0	0
AXCPs	0	0	0
AXCTDs	0	0	0

UAS	0	0	0

Flight Director: Carpenter / Parrish
Phone #: 863-500-3901
ACAT-4 Version = 7.3

U.S. Department of Commerce / NOAA / OMAO / Aircraft Operations Center - N43RF Manifest

FLIGHT INFORMATION

FLT ID:	20200918I1	**FLT #:**	20-81
From:	TISX	**ETD:**	2200Z
To:	TISX	**ETA:**	0500Z
Block Time		**Flight Time**	
In:	3:09	Land:	3:05
Out:	20:34	T/O:	20:40
Total:	6.6	Total:	6.4
Sponsoring Org:	HRD		
Program:	PHX		
Purpose:	Hurricane Teddy research mission 2		

CREW MANIFEST

AC:	Rossi	**Scientists:**
CP(s):	Doremus	Dunion, Jason
NAV:	Freeman	
FE(s):	Heystek	
	Sanchez	
FD(s):	Carpenter	
	Parrish	
SSA:	Richards/T	**Visitors:**
AVAPS:	McAlister	
SEB:		
MX:		

MISSION INFORMATION

Pressure		**Dropsondes**		
A/C Takeoff	1008.0	Good	Bad	Sent
		8	1	8
ASOS Takeoff	TISX 2040Z 1006.9 mb	**BTs**		
A/C Land	1008.6	Good	Bad	Sent
ASOS Land	TISX 0305Z 1008.9 mb	0	2	0
Storm Number ID: (ie: AL072012)		AL202020		
TCPOD/WSPOD Mission (ie: NOAA2 2418A SANDY)		NOAA3 WG20A TEDDY		

OBSERVATIONS

Fix Number	Obs Number	Fix Time	SLP
1			
2			
3			
4			
Pennies:	1 Hurricane Pennie		

AS REQUIRED BY ORM

	Y	N
VOLCANIC ASH		X
SCIENCE MISSION WITHIN BDRY LAYER		X
LACK OF PRECIPITATION		X
RELATIVE HUMIDITY ≥ 80%	X	
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

REMARKS

*Highlighted items must be completed before departure.

Remarks:

P-3 QC Checklist

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

Flight ID:	20200918I1
Flight Director(s):	Carpenter / Parrish
Mission:	Non-tasked Science Collection/Research
UWZ.d mean:	-0.06

Pressure Comparison		
	T/O	Land
Aircraft	1008.0	1008.6
Tower	TISX 2040Z 1006.9 mb	TISX 0305Z 1008.9 mb

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

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

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

NOTES:
Complete reboot of data system at ~2200Z in-flight. Mission aborted early due to multiple instrument failure.
GPS.4 unavailable.
PDAlpha.2, PDBeta.2, and PQM.4 failure due to icing between 0040-0230Z.
10-15 mb difference between PSM.1 and PSM.2, most pronounced at altitude.
TTM.2 deviates ~5 degrees from TTM.1 periodically between 0030-0130Z, possibly due to icing.
TRadU.1 inoperative.

AVAPS Drop Log

Project: 2020 Season Mission: Hurricane Teddy Flight ID: 20200918I1

Take Off: _____ Landing: _____ Flt Dir: Carpenter Launcher S/N: _____

Drop #	Sonde Serial #	Rcvr #	Press Offset	Launch Time	Operator	Charge $$ To	Comments	Good ?
1	20144027~~8~~	1	-0.3	2225	MAC	ONR	IP1	
2	20141087~~0~~	2	-0.3	2241	MAC	ONR	Mid IN 1 / Combo	
3	20144028~~2~~	3	-0.3	2253			1st IN RMW 1	
4	20143014~~2~~	4	-0.3	2253			1st IN RMW 2	
5	2014401~~3~~5	6	-0.6	2253			1st IN RMW 3	
6	201440529	7	-0.2	2255			1st Center	
7	20144052~~6~~	8	-0.2	2259			1st OUT RMW 1	
8	20143000~~7~~	1	-0.3	2259			1st OUT RMW 2	
9	20144050~~5~~	2	-0.1	0117			20K drop	
10		~~3~~	~~-0.2~~					
11		4						
12		6						
13		7						
14		8						
15		1						
16		2						
17		3						
18		4						
19		6						
20		7						
21		8						
22		1						
23		2						
24		3						
25		4						
26		6						
27		7						
28		8						
29		1						
30		2						
31		3						

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)

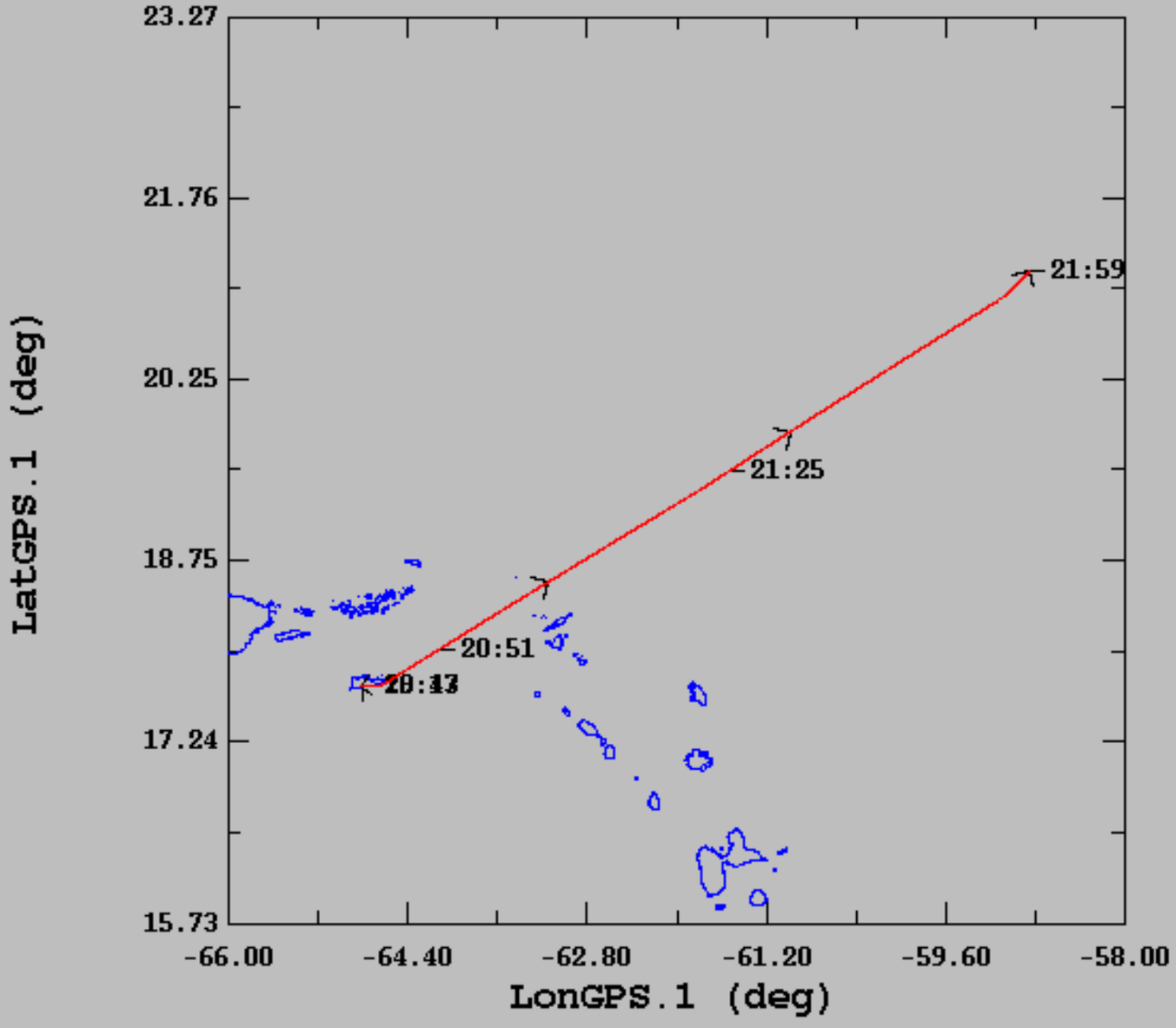
AVAPS Pre-Flight Check:

- 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:

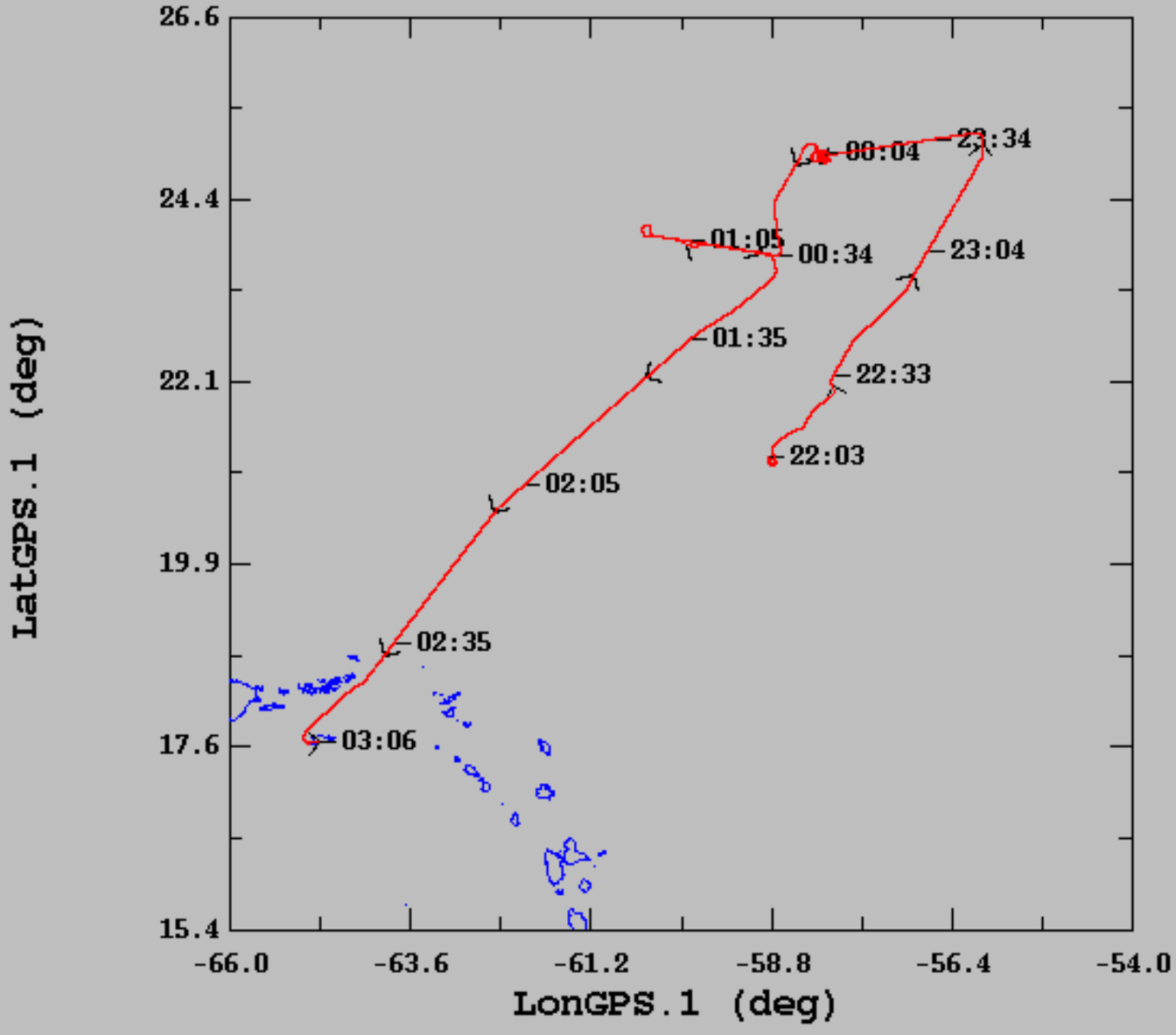
- Select a sonde frequency in the Green band and away from other sondes
- Enter sonde pressure error offset if 0.4mB or greater using cabin pressure sensor – warning, this can not be used during a climb
- If the Cal lab pressure standard and the cabin pressure standard match, apply pressure offset +/- 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

09/18/2020, 19:43:49-21:59:11



	mean	sigma	min	max
LatGPS.1 (deg), 1 s/sec	18.64	1.11	17.70	21.15
LonGPS.1 (deg), 1 s/sec	-63.09	1.97	-64.82	-58.84

09/18/2020, 22:03:37-27:06:09



	mean	sigma	min	max
LatGPS.1 (deg), 1 s/sec	22.57	2.15	17.68	25.17
LonGPS.1 (deg), 1 s/sec	-59.59	2.50	-65.01	-55.98