N43RF ERROR SUMMARY
20240924I1

Flight ID: 20240924I1

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/2024/MET/20240924I1

Local Met Data	Takeoff KLAL (0809Z)	Landing KLAL (1543Z)
Dynamic Corrections		Yes
AttackAngleIntercept		0.179211
AttackAngleSlope		5.88163
SlipAngleIntercept		0.15
SlipAngleSlope		6.89472

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.

CAM required restart, which led to a brief data outage between 08:35:38 and 08:38:02 UTC (affects many quantities), but this did not occur in storm (occurred on transit to storm)

SFMR TB, WS SFMR, and RAIN RATE SFMR data should be used with caution as additional assessment occurs

Expendable Type	# deployed	# good	# transmitted
Dropsondes	15	15	15
Test sondes	0	0	0
AXBTs	5	2	2
AXCPs	0	0	0
AXCTDs	0	0	0
UAS	0	0	0

Flight Director: Zawislak
Phone #: 305-707-4359

ACAT-4 Version = 7.4

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

FLIGHT INFORMATION			
FLT ID:	20240924I1	FLT #:	FY24-
From:	KLAL	ETD:	0400L / 0800Z
To:	KLAL	ETA:	1200L / 1600Z
Block Time		Flight Time	
Out:	07:56	T/O:	08:09
In:	15:51	Land:	15:43
Total:	7.9	Total:	7.6
Sponsoring Org:	NHC		
Program:	PRX		
Purpose:	TDR Mission + HRD Research Module		

CREW MANIFEST		
AC:	Rannenberg	Other Crew:
CP(s):	Palmer	Jun Zhang (HRD)
	Ellis	Kathryn Sellwood (HRD)
NAV(s):	Meier / Saunders	Sophie Talbert (AOC PA)
FE(s):	Ripp	
	Dittoe	
FD(s):	Zawislak	
SSA:	Richards	
IFT(s):	Hunsinger	
	Vargas	
	Underwood	
MX:		

MISSION INFORMATION				
sUAS		Dropsondes		
Type	Released	Good	Bad	Sent
		15	0	15
Other Expendables		Dropsonde Charge Codes		
Type	Released	15 NWS		
		AXBTs		
		Good	Bad	Sent
		2	3	2
Pennies		5 x TS		
Storm ID: (i.e., AL072012)		AL092024		
Mission ID: (i.e., NOAA2 2418A SANDY)		NOAA3 0409A TDR		

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		

REMARKS
2 UM AXBTs good, 1 no data
Both AOC AXBTs had no data
Flew APHEX VAM module for an extra leg, NE-SW

OBSERVATIONS			
Fix Number	Obs Number	Fix Time	SLP
1	1st fix 19.40N, 83.04W		EXTRAP 1000 mb
2	2nd fix 19.56N, 83.16W		EXTRAP 1000 mb
3	3rd fix 19.48N, 83.44W		EXTRAP 1001 mb
4			

*Highlighted items must be completed before departure.

P-3 QC Checklist

Overall Assessment	Minor instrument issue(s) - no mission impact.

Flight ID:	20240924I1
Flight Director(s):	Zawislak
Mission:	Tasked/Operational
UWZ.d mean:	0.01

Pressure Comparison		
	Pre-flight	Post-flight
Aircraft	1008.2	Not reported
Airfield	1008.1	1009.8

This form uses:
_A.nc

SFMR Serial Unit	1

Parameters	Raw				Derived, Corrected & Reference	
✓ Acceleration	✓ 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	
	✓ 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	
✓ Location	✓ 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			
	✓ LatGPS.4		✓ LonGPS.4			
✓ Pressure Sensors	✓ PDALPHA.1	✓ PQALPHA.1	✓ PQM.1	✓ PSM.1	✓ PQMref	
	✓ PDALPHA.2	✓ PQBETA.1	✓ PQM.2	✓ PSM.2	✓ PQ.c	
	✓ PDBETA.1		✓ PQM.3	✓ PTM.1	✓ PSMref	
	✓ PDBETA.2		✓ PQM.4		✓ 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	
	inop PitchI.3	inop PitchRateI.3	inop RollI.3	inop RollRateI.3		
✓ Temperature, Dewpoint,	✓ TTM.1	✓ TDM.1	✓ TRadD.1		✓ TD.c	✓ TTMref
Radiometers	✓ TTM.2	✓ TDM.2	✓ TRadS.1		✓ TDMref	✓ TA.d
	inop TTM.3	inop TDM.3	inop TRadU.1		✓ HUM	
✓ Wind and Pressure		X CH 1 TB	X CH 4 TB		✓ UWZ.d	✓ WS.d
X SFMR	SFMR	X CH 2 TB	X CH 5 TB		✓ PSURF	✓ WD.d
		X CH 3 TB	X CH 6 TB		X WS SFMR	X RAIN RATE SFMR

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

QC Key:	
Valid	✓
Errors (see NOTES)	X
Sensor Inoperative	inop

NOTES:
CAM required restart, which led to a brief data outage between 08:35:38 and 08:38:02 UTC (affects many quantities), but this did not occur in storm (occurred on transit to storm)
SFMR TB, WS SFMR, and RAIN RATE SFMR data should be used with caution as additional assessment occurs

AVAPS Drop Log

Project: _____ Mission: PTC 9 Flight ID: 20240924I1

Take Off: 0400 Landing: _____ Flt Dir: Jon Launcher S/N: _____

Drop #	Sonde Serial #	Rcvr #	Press Offset	Launch Time	Operator	Charge $$ To	Comments	Good ?
1	233241088	2	0	0955	JH	NWS	MP	✓
2	231830076	1	.2	0942	JH	NWS	IP	✓
3	233150160	3	-0.3	1003	JH	NWS	CNT	✓
4	233150158	4	-0.3	1016	JH	NWS	MP	✓
5	233241091	2	-0.5	1028	JH	NWS	EP 1	✓
6	233550503	1	-0.5	1050	JH	NWS	IP 2	✓
7	233150168	3	-0.4	1111	JH	NWS	MP	✓
8	231830021	2	-0.1	1126	JH	NWS	CNT	✓
9	231821653	4	-0.3	1140	JH	NWS	MP	✓
10	233140462	1	-0.5	1147	JH	NWS	EP 2	✓
11	233140744	2	0.3	1210	JH	NWS	IP 3	✓
12	233140650	3	-0.5	1222	JH	NWS	MP	✓
13	233241089	4	-0.6	1233	JH	NWS	CNT	✓
14	233150229	5	-0.7	1248	JH	NWS	MP	✓
15	233140457	6	-0.7	1301	JH	NWS	EP	✓
~~16~~	~~232320013~~	~~1~~	~~-0.2~~		~~JH~~	~~NWS~~		
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
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31								

Dropwindsonde Scientist Log

Storm:	Tropical Storm Helene	**Flight ID:**	20240924I1	**Mission ID:**	0409A TDR	**Takeoff:**	0809z	**Landing:**	1543z

Dropsonde Scientist(s):	Kaplan	**AVAPS Operator:**	Vargas/Hunsinger

Pre-flight

✓ Discuss the pattern with the Lead Project Scientist (LPS) and ensure that enough dropsondes are onboard.
✓ Complete the appropriate pre-flight set-up of your workstation and ASPEN (see Dropsonde Processing Guide).

In-flight

✓ Ensure the Flight Director is aware of upcoming drops and whether a backup is requested in case of failure.
✓ Ensure the AVAPS operator has determined that the dropsonde is (or is not) transmitting a good signal.
✓ Prioritize processing of center drops and report MSLP and surface wind speed and direction to the Flight Director.
✓ Fill in the Dropwindsonde Scientist log as drops are released and processed.
✓ Copy completed ASPEN files (e.g., FRD, netCDF, Skew-t, WMO txt, BUFR) into the “FRD” folder on the workstation desktop for automated transmission to the ground for archival.

Once “science is complete”...

✓ Make synoptic map plots in ASPEN and copy them to the “FRD” folder on the workstation desktop for automated transmission to the ground for archival.
✓ Ensure ASPEN files have been sent to the ground by locating and verifying all files in the “FLIGHTID” folder within the “FRD” folder on the workstation desktop.
✓ Archive ASPEN_DATA and RAW_DATA into a folder named with the FLIGHTID within the “Season Dropsonde Archive” folder on the workstation desktop and upload the same directories into StormName/FLIGHTID/Dropsonde/ folder on Drive.
✓ Download this Dropwindsonde Scientist Log as “PDF” and upload completed PDF and Google Doc to the StormName/FLIGHTID/Dropsonde/ folder within the “Mission Reports” directory in the HFP Google Drive.

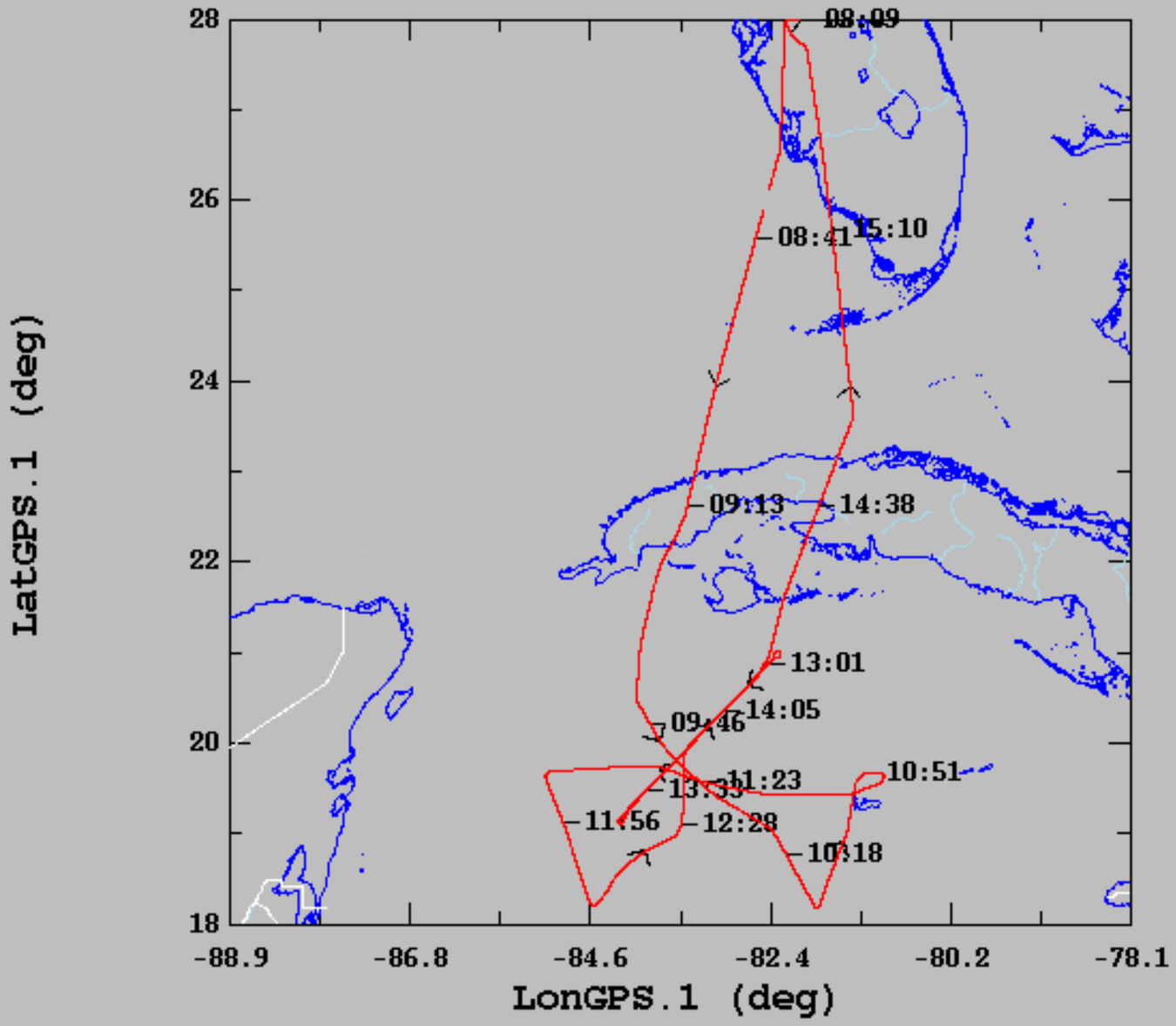
Storm: <<HELENE>> **Flight ID: <<20240924I1>>** **Mission ID: << 0409A TDR>>**

Drop #	Sonde ID	Time UTC	Lat (°N/S)	Lon (°E/W)	Sfc Pressure (mb)	Lowest Wind Direction/Speed (deg/kt)	Lowest Wind Height (m)	AXBT SST (°C)	Eye, Eyewall, Rainband, etc.	Ob #
1	231830076	0942	20.46	80.05	1003.2	82/24	10	30.5		1
2	233241088	0955	83.48	19.75	1001.8	63/16	10			2
Set end of drop to 248.25										
3	233150160	1003	19.39	83.01	1001.4	188/20	10			3
Changed end of drop to 245.0										
4	233150158	1016	18.88	82.28	1004.0	154/29	10			4
Set end of drop at 240.25										
5	233241091	1028	18.22	81.88	1004.4	148/29	10			5
Winds were noisy near top above 740 mb but ASPEN flagged them. Winds looked okay below that level so winds were sent as is below that level.										
6	233550503	1050	19.63	81.30	1006.8	122/28	10			6
7	233150168	1111	19.42	82.26	1004.9	147/26	10			7
Set end of drop at 234.75										
8	231830021	1126	19.63	83.42	1001.2	210/13	10			8
9	231821653	1140	19.71	84.46	1003.4	37/19	10			9
10	233140462	1147	19.69	85.05	1003.2	34/19	10			10
Set t and Td mission down to 9 sec.										

Storm: <<HELENE>> **Flight ID: <<20240924I1>>** **Mission ID: << 0409A TDR>>**

Drop #	Sonde ID	Time UTC	Lat (°N/S)	Lon (°E/W)	Sfc Pressure (mb)	Lowest Wind Direction/Speed (deg/kt)	Lowest Wind Height (m)	AXBT SST (°C)	Eye, Eyewall, Rainband, etc.	Ob #
11	233140744	1210	18.24	84.46	1003.7	295/10				11
12	233140650	1222	18.86	83.79	1002.9	305/17	10			12
Set end of drop at 243.75. Sfc p 1002.9										
13	233241089	1233	19.49	83.44	1002.3	159/6	10			13
14	233150229	1250	20.39	82.92	1004.8	129/42	10			14
WL 150 130/43 kt.										
15	233140457	1301	20.90	82.38	1007.3	115/22	10			15
ASPEN noted that the sonde contained post splash data which appeared to be correct. Thus, the end of drop was set at 251.25										

09/24/2024, 08:09:00-15:43:14



	mean	sigma	min	max
LatGPS.1 (deg), 1 s/sec	21.48	2.83	18.18	28.00
LonGPS.1 (deg), 1 s/sec	-82.87	0.98	-85.12	-81.03