N43RF ERROR SUMMARY
20240816I1

Flight ID: 20240816I1

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.1
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/20240816I1

Local Met Data Takeoff KILM (1243Z) Landing KLAL (2007Z)

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.

I.3 for Pitch and Roll, TTM.3, and TDM.3 not operational.
TRadU.1 has erroneous data throughout the flight and should not be used.
PDALPHAref, PDBETAref, PQALPHAref, PQBETAref, and DPJ_WSZ are not provided since _AC file is not produced; all other "C" file parameters checked are from the _A file.
PQM.1 trends ~10 mb high
SFMR TB, WS SFMR, and RAIN RATE SFMR data should be used with caution as additional assessment occurs

Expendable Type	# deployed	# good	# transmitted
Dropsondes	18	17	17
Test sondes	0	0	0
AXBTs	3	0	0
AXCPs	0	0	0
AXCTDs	0	0	0
UAS	2	2	0

Flight Director: KALEN
Phone #: 863-500-3962

ACAT-4 Version = 7.4

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

FLIGHT INFORMATION

FLT ID:	20240816I1	FLT #:	
From:	KILM	ETD:	0900L / 1300Z
To:	KLAL	ETA:	1800L / 2200Z
Block Time		Flight Time	
In:	20:13	Land:	20:07
Out:	12:37	T/O:	12:44
Total:	**7.7**	Total:	**7.4**
Sponsoring Org:	HRD		
Program:	PHX		
Purpose:	TAC REPO w/ sUAS RESEARCH ERNESTO		

CREW MANIFEST

AC:	Abitbol	**Scientists:**
CP(s):	Wood	Zhang, J (HRD)
	Taraboletti	Montgomery (HRD)
NAV:	Schaefer / Dunford	Elston (sUAS)
FE(s):	Stokes	Fromm (sUAS)
	Dittoe	Naeher (sUAS)
FD(s):	Kalen	
SSA:	McAlister	**Visitors:**
AVAPS:	Keller / Underwood	Hathaway (PM)
SEB:		Utama (PM)
	Carrion (MX)	
MX:	Moreno	

MISSION INFORMATION

Pressure		Dropsondes		
		Good	Bad	Sent
A/C Takeoff		17	1	17
ASOS Takeoff		BTs / sUAS		
		Good	Bad	Sent
A/C Land		0 / 2	3 / 0	0 / 0
ASOS Land				
Storm Number ID: (ie: AL072012)		**AL052024**		
TCPOD/WSPOD Mission (ie: NOAA2 2418A SANDY)		**NOAA3 WD05A ERNESTO**		

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

OBSERVATIONS

Fix Number	Obs Number	Fix Time	SLP
1	7	15:00Z	969 mb
2	13	15:57Z	969 mb
3	20	17:03Z	970 mb
4			
Pennies:	3, Cat 2		

*Highlighted items must be completed before departure.

Remarks:

P-3 QC Checklist

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

Flight ID:	20240816I1
Flight Director(s):	Kalen
Mission:	Non-tasked Science Collection/Research
UWZ.d mean:	0.07

Pressure Comparison		
	Pre-flight	Post-flight
Aircraft	1017.9	1012.0
Airfield	1017.8	1014.8

This form uses:
_A.nc

SFMR Serial Unit	2

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, Radiometers	✓ TTM.1	✓ TDM.1	✓ TRadD.1		✓ TD.c	✓ TTMref
	✓ 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
✓ 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:

I.3 for Pitch and Roll, TTM.3, and TDM.3 not operational.

TRadU.1 has erroneous data throughout the flight and should not be used.

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PQM.1 trends ~10 mb high

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

AVAPS Drop Log

Project: HX 2024 Mission: HX Ernesto Flight ID: 20240816I1

Take Off: 1244Z Landing: _____ Flt Dir: Kalen Launcher S/N: _____

Drop #	Sonde Serial #	Rcvr #	Press Offset	Launch Time	Operator	Charge $$ To	Comments	Good ?
1	23174 1345	1	-0.8	1437	RK	NWS	IP1	✓
2	2306207871	2	-0.7	1447	RK	NWS	MP	✓
3	2250245476	3	-0.7	1454	RK	HRD	Combo deluxe	✓
4	2306100360	4	-0.3	1500	RK	NWS	Center mark	✓
5	2335602271	5	-0.5	1508	RK	HRD	RMW	✓
6	2307105621	6	-0.5	1510	RK	NWS	MP	✓
7	2334610071	7	-0.9	1522	RK	NWS	EP1	✓
8	2307106266	8	-0.5	1534	RK	NWS	IP2	✓
9	2336585341	1	-0.4	1544	RK	NWS	MP	✓
10	2335505394	2	-0.6	1550	RK	HRD	RMW	✓
11	2307106491	3	-0.9	1557	RK	NWS	Center	✓
12	2303400551	4	-1.0	1610	RK	NWS	MP (bad dew point)	X
13	2305308401	5	-0.8	1611	RK	NWS	Backup	✓
14	2335405551	6	-1.5	1617	RK	NWS	EP2	✓
15	2335405671	7	-0.7	1623	RK	HRD	Super combo	✓
16	2323200631	8	-1.1	1638Z	NGL	NWS	IP3	✓
17	2303516061	1	-0.7	1647Z	"	"	MP	✓
18	2320100461	2	-0.7	1703Z	"	"	Center	✓
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								
31								

Dropwindsonde Scientist Log

Storm:	ERNESTO	**Flight ID:**	20240816I1	**Mission ID:**	WD05A	**Takeoff:**	1244	**Landing:**	HHMMZ

Dropsonde Scientist(s):	Ko	**AVAPS Operator:**	Keller

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.

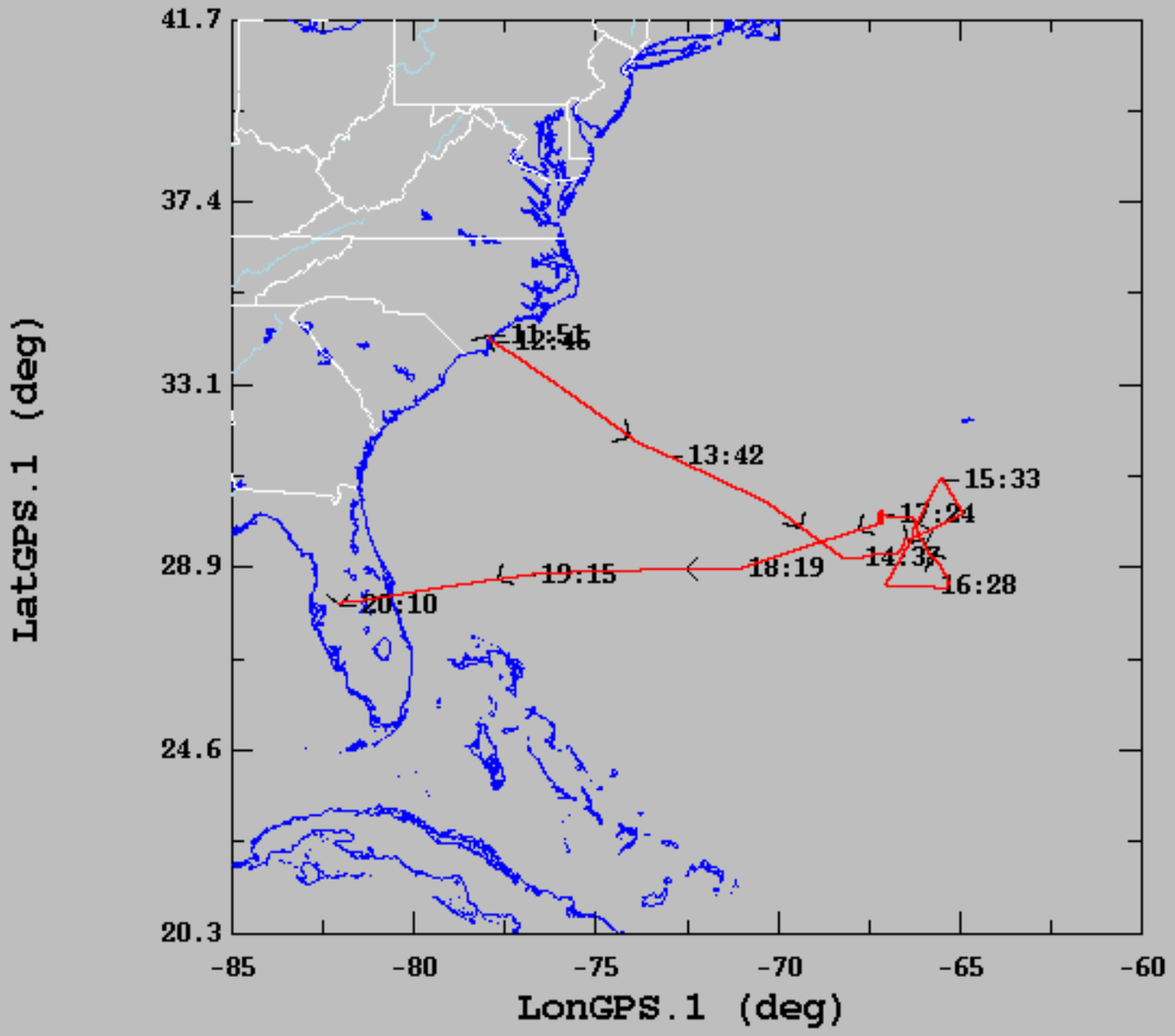
Once “science is complete”...

✓ 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.

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	231741345	1437	29.09	-68.14	1001	320/33	10		IP W	1
Comments: no manual qc										
2	230620787	1447	29.15	-67.39	993	320/41	10		MP W	2
Comments: no manual qc										
3	225024546	1454	29.19	-66.76	976	300/49	10			3
Comments: This sonde was dropped between rmw and center.										
4	230610036	1500	29.51	-66.49	969	140/14	10		**center**/eye	4
Comments: combo										
5	233560227	1508	29.68	-65.95	978	130/70	10		RMW E	5
Comments: set end time 2 frame up (marked as **EYEWALL**)										
6	230710562	1510	29.75	-65.77	984	125/71	10		MP E	6
Comments: set end time at 164.00										
7	233461007	1522	30.08	-64.95	1001	140/56	10		EP E	8
Comments: set end time at 181.50										
8	230710626	1534	30.92	-65.52	1007	080/32	10		IP2 NE	9
Comments: no manual qc										
9	233658534	1544	30.34	-65.90	994	100/67	10		MP NE	10
Comments: no manual qc										
10	233550539	1550	30.05	-66.04	982	095/47	10		RMW NE	11
Comments: did not mark eyewall (wind lower than MP)										

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	230710649	1557	29.63	-66.24	969	275/03	10		**center**/eye	12
Comments:										
12		1610								
Comments: bad drop: bad dew point possibly due to oversaturation? Not sending this sonde.										
13	230530840	1611	28.83	-66.76	994	265/67	10		MP SW	14
Comments: ignore T and RH for additional 1 sec (7 sec in total).										
14	233540555	1617	28.52	-66.97	1001	255/46	10		EP SW	15
Comments: set end drop time a frame up (201.00)										
15	233540567	1623	28.41	-66.62	1000	245/44	10			16
Comments: HRD S0 combo drop ; post-splash sonde detected. set end time at 206.00										
16	232320063	1638	28.53	-65.28	1002	195/57	10		IP3 SE	17
Comments: ignore T and RH up till 6.5 sec (additional 0.5 sec)										
17	230351606	1647	29.01	-65.52	991	200/55	10		MP SE	18
Comments: no manual qc										
18	232010046	1703	29.91	-66.19	970	285/08	10		**center**	19
Comments: no manual qc; last drop but did not mark in ASPEN. (<QK-N43-FD> copy 8i can do a recco. no need to correct)										
19		1714								
Comments: bad										
20										
Comments:										

08/16/2024, 11:51:26-20:10:28



	mean	sigma	min	max
LatGPS.1 (deg), 1 s/sec	30.25	1.92	27.98	34.28
LonGPS.1 (deg), 1 s/sec	-71.69	5.15	-82.07	-64.90