N42RF ERROR SUMMARY
20240926H1

Flight ID: 20240926H1

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/20240926H1

Local Met Data Takeoff KEFD (1952Z) Landing KLAL (1637Z)

Dynamic Corrections	Yes
AttackAngleIntercept	2.32804
AttackAngleSlope	6.09319
SlipAngleIntercept	0.25
SlipAngleSlope	6.641
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.

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.
SFMR TB, WS SFMR, and RAIN RATE SFMR data should be used with caution as additional assessment occurs
TTM.2 inop
TDM.1 oscillates for entire operation area; should not be used for analysis

Expendable Type	# deployed	# good	# transmitted

Dropsondes	23	22	22
Test sondes	0	0	0
AXBTs	7	3	3
AXCPs	0	0	0
AXCTDs	0	0	0
UAS	2	2	0

Flight Director: CARPENTER / ENGLERT
Phone #: 863-500-3901

ACAT-4 Version = 7.4

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

FLIGHT INFORMATION

FLT ID:	20240926H1	FLT #:	
From:	KEFD	ETD:	1500 CT / 2000Z
To:	KLAL	ETA:	2359 ET / 0359Z
Block Time		Flight Time	
Out:	19:46	T/O:	19:52
In:	03:00	Land:	02:54
Total:	7.2	Total:	7.0
Sponsoring Org:	NHC		
Program:	PRX		
Purpose:	Fix Landfall Mission / TDR / sUAS		

CREW MANIFEST

AC:	Abitbol	Other Crew:
CP(s):	Wood	Cione (HRD)
	Keith	Hazelton (HRD)
NAV(s):	Utama/Dunford	Chang (NESDIS)
FE(s):	Wysinger	Jelenak (NESDIS)
	Tyson	Fromm (UAS - BS)
FD(s):	Englert	Naeher (UAS - AOC)
	Carpenter	
SSA:	McAlister	
IFT(s):	Dykeman	
	Paul	
MX:	Decker	
	Sans Souci	

MISSION INFORMATION

sUAS		Dropsondes		
Type	Released	Good	Bad	Sent
S0	2	23	1	22

Other Expendables		Dropsonde Charge Codes
Type	Released	20 NWS, 4 HRD
ASWD	1	

AXBTs		
Good	Bad	Sent
3	4	3

Pennies	4 x HUR (1 CAT3, 3 CAT4)
Storm ID: (i.e., AL072012)	AL092024
Mission ID: (i.e., NOAA2 2418A SANDY)	NOAA2 1709A HELENE

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

OBSERVATIONS

Fix Number	Obs Number	Fix Time	SLP
1	5	2150z	948 mb
2	13	2246z	944 mb
3	22	0049z	943 mb
4			

*Highlighted items must be completed before departure.

P-3 QC Checklist

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

Flight ID:	20240926H1
Flight Director(s):	Carpenter / Englert
Mission:	Tasked/Operational
UWZ.d mean:	0.25

Pressure Comparison		
	Pre-flight	Post-flight
Aircraft	1009.3	1010.5
Airfield	1007.3	-

This form uses:
_A.nc

SFMR Serial Unit	#	3

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	
	x PitchI.3	x PitchRateI.3	x RollI.3	x RollRateI.3		
✓ Temperature, Dewpoint,	✓ TTM.1	x TDM.1	✓ TRadD.1		✓ TD.c	✓ TTMref
Radiometers	x TTM.2	✓ TDM.2	✓ TRadS.1		✓ TDMref	✓ TA.d
	x TTM.3	x TDM.3	x 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:
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TTM.2 inop
TDM.1 oscillates for entire operation area; should not be used for analysis

Dropwindsonde Scientist Log

Storm:	Helene	**Flight ID:**	20240926H1	**Mission ID:**	1709A	**Takeoff:**	1952Z	**Landing:**	HHMMZ

Dropsonde Scientist(s):	Sippel/Dahl	**AVAPS Operator:**	

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	233814522	2123	27.62	86.62	991	335/35	10		West End Point	01
Comments:										
2	233410954	2135	27.63	85.66	985	315/47	10		West Mid Point	02
Comments: Combo Drop										
3	233640730	2149	27.89	-84.57	948	190/08	10		Center	03
Comments:										
4	233640119	215559	27.899	-84.084	955	130/91	10		RMW E	04
Comments: E outbound RMW. Post-splash flag, artifact of sat dropouts. Nice downdraft around 900 mb. Flagged RH starting at t = 76.50 s.										
5	233814513	220027	27.897	-83.762	972	140/83	10			06
Comments: E outbound mid. Post-splash flag (artifact). Good sonde. (Note: VDM OB 05)										
6	235114824	221018	29.977	-83.083	987	155/75	10			07
Comments: E endpoint. Post-splash flag (artifact).										
7	233814525	222528	29.001	-83.383	987	105/55	10			08
Comments: NE IP. Good sonde.										
8	233631992	223447	28.621	-83.821	974	105/72	10			09

Comments: MP NE inbound. Sats squirrely again, otherwise good.										
9	233814604	223845.1	28.4588	-84.0068	962	100/93	10		EYEWALL NE	11
Comments: RMW NE inbound. Set end t = 176.25 s.										
10	233640695	223845.2	28.4588	-84.0068	964	100/79	10		EYEWALL NE	-
Comments: RMW NE inbound. Set end t = 174.25 s. Spotty sats. Doesn't look like TAG is accepting this one, guessing because of timestamp. Not transmitted, but saved. Marked OB 99.										

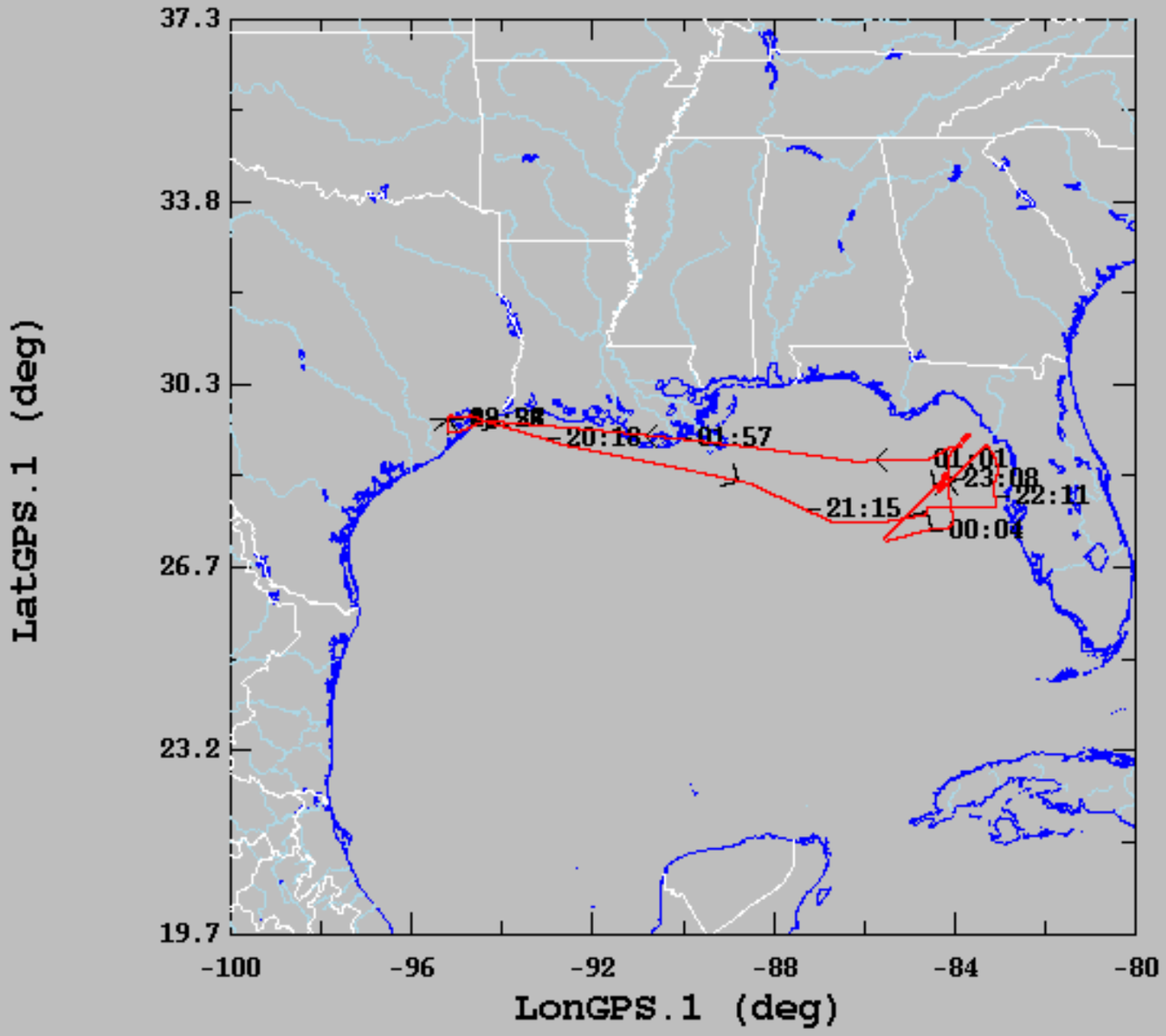
Drop #	Sonde ID	Time UTC	Lat (°N/S)	Lon (°E/W)	Sfc Pressure (mb)	Lowest Wind Direction/Speed (deg/kt)	Lowest Wind Height (m)	AXBT SST (°C)	Eye, Eyewall, Rainband, etc.	Ob #
	234220081	223852	28.451145	-84.0121	962	095/83	10		EYEWALL NE	-
Comments: RMW NE inbound. Sats less spotty. Good sonde. TAG isn't accepting this one either. Not transmitted, but saved. Marked OB 99.										
12	234220219	224727	28.316	-84.417	944	180/23	10	29.1	CENTER	10
Comments: Center sonde. BT combo. Good sonde.										
13	233640204	234519	27.658	-85.118	986	290/40	10	-		12
Comments: SW mid outbound. BT combo. no SST. Post-splash flag. Set end t = 180.00 s.										
14	233340904	235251	27.331	-85.489	991	300/45	10			14
Comments: SW endpoint. Good sonde. (Note: VDM OB 13)										

15	235051114	001138	27.638	-84.0328	986	225/52	10			15
Comments: S IP. Good sonde.										
16		0019								-
Comments: S midpt inbound. No launch detect.										
17	233814515	002011	28.260	-84.110	974	235/61	10	-		16
Comments: S midpt inbound backup for sonde 16. BT combo, no SST. Set end t = 179.00 s.										
18	233814514	003457	29.139	-83.869	948	085/108	10		EYEWALL NE	17
Comments: NE RMW outbound. Set end t = 204.25 s to remove some junk at the bottom.										
19	232051010	004242	29.170	-83.744	955	100/108	10		EYEWALL NE	18
Comments: NE RMW inbound. Set end t = 188.75 s.										
20	232320189	004257	29.162	-83.753	955	095/95	10		EYEWALL NE	-
Comments: NE RMW inbound. Set end t = 189.75 s. TAG wouldn't transmit. Saving locally.										

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 #
21	233814523	004313	29.153	-83.762	953	090/95	10			19
Comments: NE RMW inbound. Set end t = 208.75 s.										

22	233221004	005010	28.998	-84.188	943	285/09	10	-	CENTER	20
Comments: Center. BT combo, no SST. Set end t = 146.25 s. Good sats. Data at t = 146.50 s were flagged, but I unflagged the wind data (which agreed with the previous obs) in order to encode 10 m wind in tempdrop.										
23	233640671	010032	28.827	-84.870	982	315/51	10			21
Comments: W midpoint outbound. Set end t = 185.25 s.										
24	233630601	011611	28.779	-86.026	993	320/36	10			23
Comments: W endpoint outbound. Set end t = 193.25 s. Flagged RH up through t = 6.50 s to be safe. (Note: VDM OB 22)										

09/26/2024, 18:26:03-26:54:01



	mean	sigma	min	max
LatGPS.1 (deg), 1 s/sec	28.77	0.69	27.25	29.66
LonGPS.1 (deg), 1 s/sec	-88.65	4.53	-95.17	-83.02