N42RF ERROR SUMMARY
20241008H1

Flight ID: 20241008H1

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/20241008H1

Local Met Data Takeoff KLAL (2012Z) Landing KMOB (0301Z)

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.

Some questionable oscillations in TDM.2 (thus in TDMref, TD.c, and HUM) between 0205 and 0225 UTC, but it occurs during transit from the storm to KMOB

One TDM.1 spike between 2109 and 2123 UTC, but doesn't affect any other variables; additional spread in TDM.1 (against TDM.2) later in the flight on the transit from the storm to KMOB

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

Expendable Type	# deployed	# good	# transmitted
Dropsondes	26	25	20
Test sondes	0	0	0
AXBTs	3	3	0
AXCPs	0	0	0
AXCTDs	0	0	0
UAS	1	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:	20241008H1	FLT #:	FY25-
From:	KLAL	ETD:	1600L / 2000Z
To:	KMOB	ETA:	0000L / 0400Z
Block Time		Flight Time	
Out:	20:03	T/O:	20:12
In:	03:20	Land:	03:01
Total:	7.3	Total:	6.8
Sponsoring Org:	NHC		
Program:	PRX		
Purpose:	TDR Mission + sUAS + CHAOS		

CREW MANIFEST

AC:	Wood	Other Crew:
CP(s):	Keith	Kethryn Sellwood (HRD)
	Ellis	Sim Aberson (HRD)
NAV(s):	Meier	Zorana Jelenak (NESDIS)
FE(s):	Tyson	Joe Sapp (NESDIS)
	Wysinger	Mikal Montgomery (NWS)
FD(s):	Zawislak	Jack Elston (Black Swift)
SSA:	McAlister	
IFT(s):	Dykeman	
	Keller	
MX:	Grimes	
	Rivera	
	Moreno	

MISSION INFORMATION

sUAS		Dropsondes		
Type	Released	Good	Bad	Sent
Black Swift	1	25	1	20

Other Expendables		Dropsonde Charge Codes
Type	Released	21 NWS, 4 HRD, 1 GOMO
ASWD	2	

AXBTs		
Good	Bad	Sent
3	0	3

Pennies	4 x CAT 5
Storm ID: (i.e., AL072012)	AL142024
Mission ID: (i.e., NOAA2 2418A SANDY)	NOAA2 1714A MILTON

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

Peter Dodge (HRD) Burial at Sea (2nd pass)

all UM AXBTs

Rivera first pennies

possible interference in sondes from Black Swift equipment

OBSERVATIONS

Fix Number	Obs Number	Fix Time	SLP
1	OB03	22:05:49 22.83N, 87.24W	904 mb 215 / 17 kt
2	OB06	23:12:12 22.95N, 87.03W	910 mb 340 / 23 kt
3	OB12	00:20:17 23.08N, 86.82W	913 mb 085 / 03 kt
4	OB14	01:16:40 23.20N, 86.69W	extrap 913 mb

*Highlighted items must be completed before departure.

P-3 QC Checklist

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

Flight ID:	20241008H1
Flight Director(s):	Zawislak
Mission:	Tasked/Operational
UWZ.d mean:	0.08

Pressure Comparison		
	Pre-flight	Post-flight
Aircraft	1001.5	Not reported
Airfield	1001.3	1004.0

This form uses:
_B.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	
	inop PitchI.3	inop PitchRateI.3	inop RollI.3	inop RollRateI.3		
✓ Temperature, Dewpoint,	✓ TTM.1	X TDM.1	✓ TRadD.1		X TD.c	✓ TTMref
Radiometers	✓ TTM.2	X TDM.2	✓ TRadS.1		X TDMref	✓ TA.d
	inop TTM.3	inop TDM.3	inop TRadU.1		X 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:
Some questionable oscillations in TDM.2 (thus in TDMref, TD.c, and HUM) between 0205 and 0225 UTC, but it occurs during transit from the storm to KMOB
One TDM.1 spike between 2109 and 2123 UTC, but doesn't affect any other variables; additional spread in TDM.1 (against TDM.2) later in the flight on the transit from the storm to KMOB
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 Milton Flight ID: 20241008H1

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

Drop #	Sonde Serial #	Rcvr #	Press Offset	Launch Time	Operator	Charge $$ To	Comments	Good ?
1	2335413140	1	-0.7	2141	RK	NWS	IP	✓
2	233251075	2	-1.0	2155	RK	NWS	MP	✓
3	2342207103	3	-0.4	2209	RK	NWS	RMW 1	✓
4	233541320	4	-0.5	2206	RK	NWS	CP/SØ	✓
5	234220084	5	-0.4	2207	RK	NWS	RMWO 1-1	✓
6	234220163	6	-0.4	2207	RK	HRD	RMWO 1-2	✓
7	2336408146	7	-0.4	2207	RK	HRD	RMWO 1-3	✓
8	235144589	8	-0.6	2216	RK	NWS	MP 2	✓
9	234830541	1	-0.6	2227	RK	NWS	EP 2	✓
10	2348501638	2	-0.6	2248	BRD	NWS	IP COMBO 28.8	✓
11	235134469	3	-0.5	2257	BRD	NWS	MP 1	✓
12	2334108117	2	-0.7	2258		NWS	RMW 2-1	✓
13	2351445911	4	-0.5	2310		HRD	RMW 2-2	✓
14	2329507116	5	-0.7	2310		HRD	RMW 2-3	✓
15	235154187	6	-0.7	2312		NWS	CP2 BT COMBO	✓
16	234830504	7	-0.7	2313		NWS	RMWO 1	✓
17	235154185	8	-0.7	2324		NWS	MPO2 BT COMBO	✓
18	235154186	1	-0.7	2336		NWS	EP2	✓
19	2351445900	2	-0.7	2351	BRD	NWS	IP3	✓
20	235144634	3	-0.9	0006	RK	NWS	MP3-1	✓
21	235270154	4	-0.6	0019	RK	NWS	RMW	✓
22	235154002	5	-0.7	0020	RK	NWS	CP	✓
23	235154019	6	-0.9	0022	RK	NWS	RMW	✓
24	2336408146	7	-0.6	0032	RK	NWS	MP3-2	✓
25	2338144511	8	-0.9	0045	RK	NWS	EP3	✓
26	233541314	1	-0.2	0130	RK	GOMO	drifter overflight	✓
27								
28								
29								
30								
31								

1st drifter 04231510

2nd drifter 04231500

26

3 sondes w/ popped chutes

Dropwindsonde Scientist Log

Storm:	Milton	**Flight ID:**	20241008H1	**Mission ID:**	1714A	**Takeoff:**	2012Z	**Landing:**	0301Z

Dropsonde Scientist(s):	Dunion	**AVAPS Operator:**	Dykeman/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"...

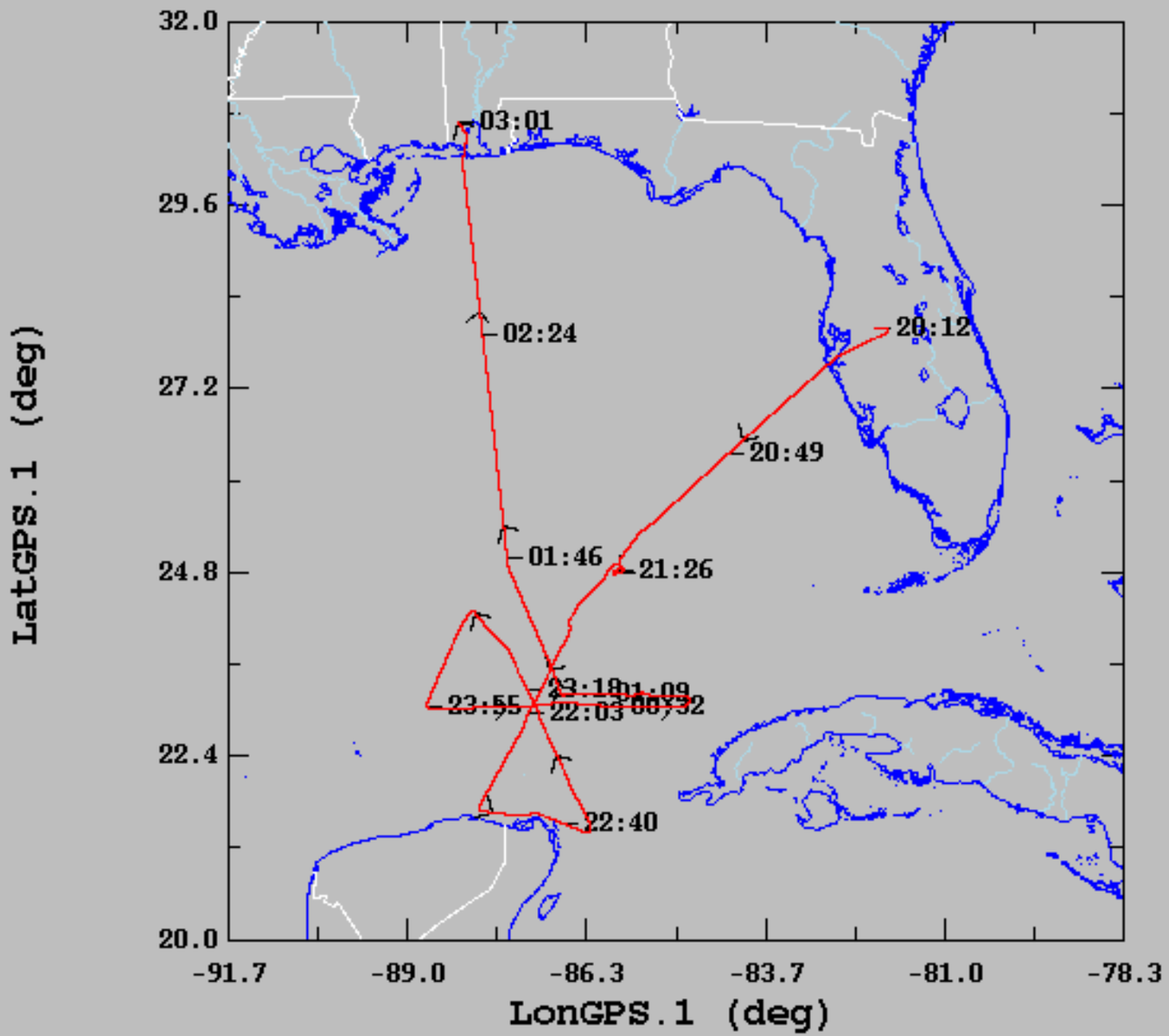
✓ Make synoptic map plots in ASPEN and copy them to the "FRD" folder on the workstation desktop for automated transmission to the ground for archival.
✓ Ensure ASPEN files have been sent to the ground by locating and verifying all files in the "FLIGHTID" folder within the "FRD" folder on the workstation 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	233541316	214133	24.262	86.514	995.9	070/30	10			01
Comments: IP (WP 1 NE of center); set end at 205.75s (0 sats at bottom)										
2	233251075	215510	23.448	86.900	991.0	100/32	10			02
Comments: WP1-Ctr midpoint; noisy data w/ lots of sat dropouts; Dfile has no header- FD emailed the "P" file and I was able to process										
3	234220763	220427	22.9176	87.206	933.2	360/122	10		RMW NE	04
Comments: WP 1-Center RMW; flagged RH 170s to surface…suspect too low;										
4	233541320	220559	22.823	87.242	904.5	215/17	10		CENTER	05
Comments: WP 1-2 center;										
5	234220084	220721	22.744	87.279	926.4				RMW NE	X
Comments: Center-WP2 RMW #1; fast fall…perhaps recovered at ~900 mb…flagged all winds; flagged RH 845.3 mb and below;										
6		220736							RMW NE	X
Comments: Center-WP2 RMW #2; constant sat drop outs…ugly										
7		220749							RMW NE	X
Comments: Center-WP2 RMW #3; no Dfile header info…can't process										
8	235144589	221624	22.260	87.590	991.7	280/39	10			06
Comments: Ctr-WP2 midpoint; set end at 187.50s (0 sats at bottom)										
9	234830541	222719	21.670	87.830	996.3	270/26	10			07
Comments: WP 2 (SW)										
10	234850638	224809	21.552	86.288	997.4	215/35	10			08
Comments: WP 3 (SE)										

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	235134469	225719	22.096	86.604	993.9	220/41	10	28.8		09
Comments: WP3 (SE)-Ctr midpoint; set end at 193.00s (22 sats at bottom)										
12		225847							RMW SE	X
Comments: WP3- Center RMW #1; set end at 838.50s - likely early launch detect - I'm now 150 sondes behind and skipping this tricky QCing - this one needs TLC										
13	235144591	231024	22.847	87.00	927.4	155/160	10		RMW SE	10
Comments: WP 3 (SE) - Center RMW #2;										
14	233950710	231041	22.859	87.006	917.7	185/136	10		RMW SE	X
Comments: WP3 (SE) - Center RMW #3; set end at 155.75s (0 sats at bottom); only sending Drop 3 RMW since TAG will not accept 2 drops with the same HHMM										
15	233950710	231216	22.951	87.028	909.6	340/23	10	24.5	CENTER	11
Comments: WP 3-4 center; set end at 144.00s (0 sats at bottom)										
16	234830504	231337	23.032	87.070	N/A	42/128	N/A		RMW NW	X
Comments: Center-WP 4 (NW) RMW; data dropped out after ~200 m;										
17	235154185	232439	23.665	87413	992.3	010/49	10	25.8		13
Comments: Ctr-WP 4 (NW) midpoint; SST came in late (240 s)										
18	235154186	233617	24.247	87.965	997.5	050/34	10			15
Comments: WP 4 (NW); set end at 144.00s (0 sats at bottom)										
19	235144590	235731	23.023	88.516	997.3	345/32	10			16
Comments: WP 5 (W);										
20	235144634	000656	23.028	87.778	993.1	355/41	10			17
Comments: WP5 (W)-Ctr midpoint;										

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	234220154	001911	23.076	86.902	932.9	315/129	10		RMW W	18
Comments: WP5 (W)-Ctr RMW										
22	235154002	002025	23.086	86.811	913.2	085/03	10		CENTER	19
Comments: WP 5-6 center;										
23	235154019	002210	23.086	86.686	940.9	090/132	10		RMW E	20
Comments: Ctr-WP 6 RMW										
24	233640846	003351	23.035	85.862	992.5	165/49	10			21
Comments: Ctr-WP6 (W) midpoint;										
25	233814451	004536	23.030	84.968	996.6	170/37	10			22
Comments: WP 6 (E);										
26	233541314	013014	23.9956	87.062	993.7	025/42	10			23
Comments: back toward center ASWD intercept; set end at 178.50s (24 sats at bottom); LAST REPORT										

10/08/2024, 20:12:00-27:01:18



	mean	sigma	min	max
LatGPS.1 (deg), 1 s/sec	24.61	2.27	21.39	30.69
LonGPS.1 (deg), 1 s/sec	-86.58	1.52	-88.71	-81.82