N42RF ERROR SUMMARY
20240911H1

Flight ID: 20240911H1

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/20240911H1

Local Met Data	Takeoff KLAL (0806Z)	Landing KLAL (0000Z)
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.
PQM.4 has large spike on descent to on station 1008z for remainder of on station data collection
TDM.1 has large oscillations after descent to on station; stabilizes at
TDM.2 grossly unrepresentative and effects TDMref and TD.c; Humidity data suspect
SFMR TB, WS, SFMR, and RAIN RATE SFMR data should be used with caution as additional assessment occurs
2 Wave Drifters Deployed; both good

Expendable Type	# deployed	# good	# transmitted
Dropsondes	20	19	19
Test sondes	10	10	0
AXBTs	9	9	9
AXCPs	0	0	0
AXCTDs	0	0	0
UAS	2	1	0

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

ACAT-4 Version = 7.4

U.S. Department of Commerce / NOAA / OMAO / Aircraft Operations Center - N42RF Manifest

FLIGHT INFORMATION

FLT ID:	20240911H1	FLT #:	
From:	KLAL	ETD:	0400Z /0800Z
To:	KLAL	ETA:	1200L / 1600Z

Block Time		Flight Time	
In:	16:58	Land:	16:51
Out:	7:57	T/O:	8:06
Total:	**9.0**	Total:	**8.8**

Sponsoring Org:	NWS
Program:	PRX
Purpose:	HX FRANCINE TDR

CREW MANIFEST

AC:	Rannenberg	**Scientists:**
CP(s):	Wood	Hazelton
	Taraboletti / Ellis	Jelenak
NAV:	Schaefer / Saunders	Sapp
FE(s):	Tyson	Wadler
	Dittoe	Elston
FD(s):	Kalen	Kaisti
SSA:	McAlister	**Visitors:**
AVAPS:	Dykeman / Santoni	Carrier
SEB:	Underwood	
MX:		

MISSION INFORMATION

Pressure		Dropsondes / Streamsondes		
		Good	Bad	Sent
A/C Takeoff		19 / 10	1 / 0	19 / 0
ASOS Takeoff				
		BTs / sUAS / Wave Drifter		
		Good	Bad	Sent
A/C Land		9 / 1 / 2	0 / 1 / 0	9 / 0 / 0
ASOS Land				

Storm Number ID: (ie: AL072012)	**AL062024**
TCPOD/WSPOD Mission (ie: NOAA2 2418A SANDY)	**NOAA2 1306A FRANCINE**

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

Frist VDM sonde: no sfc data

OBSERVATIONS

Fix Number	Obs Number	Fix Time	SLP
1	3	1023Z	972mb extrap
2	14	1144Z	976mb
3	19	1321Z	977mb
4	22	1447Z	979mb
Pennies:	5, Cat 1		

*Highlighted items must be completed before departure.

Remarks:

P-3 QC Checklist

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

Flight ID:	20240911H1
Flight Director(s):	Kalen
Mission:	Tasked/Operational
UWZ.d mean:	0.15

Pressure Comparison		
	Pre-flight	Post-flight
Aircraft	1007.9	1008.9
Airfield	1007.2	1008.0

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		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:
I.3 for Pitch and Roll, TTM.3, and TDM.3 not operational.
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2 Wave Drifters Deployed; both good

AVAPS Drop Log

Project: Hurricane 2024 Mission: Francine Flight ID: 20240911H1

Take Off: 0806Z Landing: 1651Z Flt Dir: Kalen Launcher S/N: _____

Drop #	Sonde Serial #	Rcvr #	Press Offset	Launch Time	Operator	Charge $$ To	Comments	Good ?
1	240650321	1	-0.2	1000Z	BRD	NWS	IP1	✓
2	241420075	2	-0.4	1012Z	BRD	NWS	MP1 Combo	✓
3	240610539	3	-0.3	1019Z	BRD	HRD	RMW1 No HNM	
4	233340982	4	-0.3	1019Z	BRD	HRD	RMW1-2	✓
5	233814455	5	-0.5	1023Z	BRD	NWS	CP1 Combo BT	✓
6	233814512	6	-0.8	1032Z	BRD	HRD	RMW0 1	✓
7	240620823	7	-0.4	1037Z	BRD	NWS	MP0 1	✓
8	233640708	8	-0.2	1049Z	BRD	NWS	EP1	✓
9	241030396	1	0.0	1121Z	BRD	NWS	IP2 Sky Combo	✓
10	240520573	2	-0.4	1130Z	BRD	NWS	MP12 BT Combo	✓
11	233340979	3	-0.6	1144Z	BRD	NWS	CP2 BT Combo	✓
12	235051111	4	-0.4	1151Z	BRD	HRD	RMW0 6 Skyfora	✓
13	235115053	5	-0.3	1156Z	BRD	NWS	MP0 1 + Drifter	✓
14	233410959	6	-0.2	1208Z	BRD	NWS	EP2 + SKYFORA	✓
15	240610536	7	-0.2	1256	BRD	NWS	IP3 + SKYFORA	✓ 2nd Drifte
16	233340920	8	-0.3	1306	BRD	NWS	MP13 + BT	✓
17	233540554	1	-0.5	1320	BRD	NWS	CP3 + BT	✓
18	233814609	2	-0.4	1334	BRD	NWS	MP3 + BT	✓
19	233814520	3	-0.6	1345	BRD	NWS	EP3 + SkyFORA	✓
20	240610559	2	-0.2	1432	BRD	Comp	Drifter Drop	
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								
31								

A-WAVE DRIFTER 2
64139810

A-WAVE DRIFTER
SN: 64139880

Dropwindsonde Scientist Log

Storm:	Francine	**Flight ID:**	20240911H1	**Mission ID:**	1306A	**Takeoff:**	HHMMZ	**Landing:**	HHMMZ

Dropsonde Scientist(s):	Dunion	**AVAPS Operator:**	Dykeman

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"...

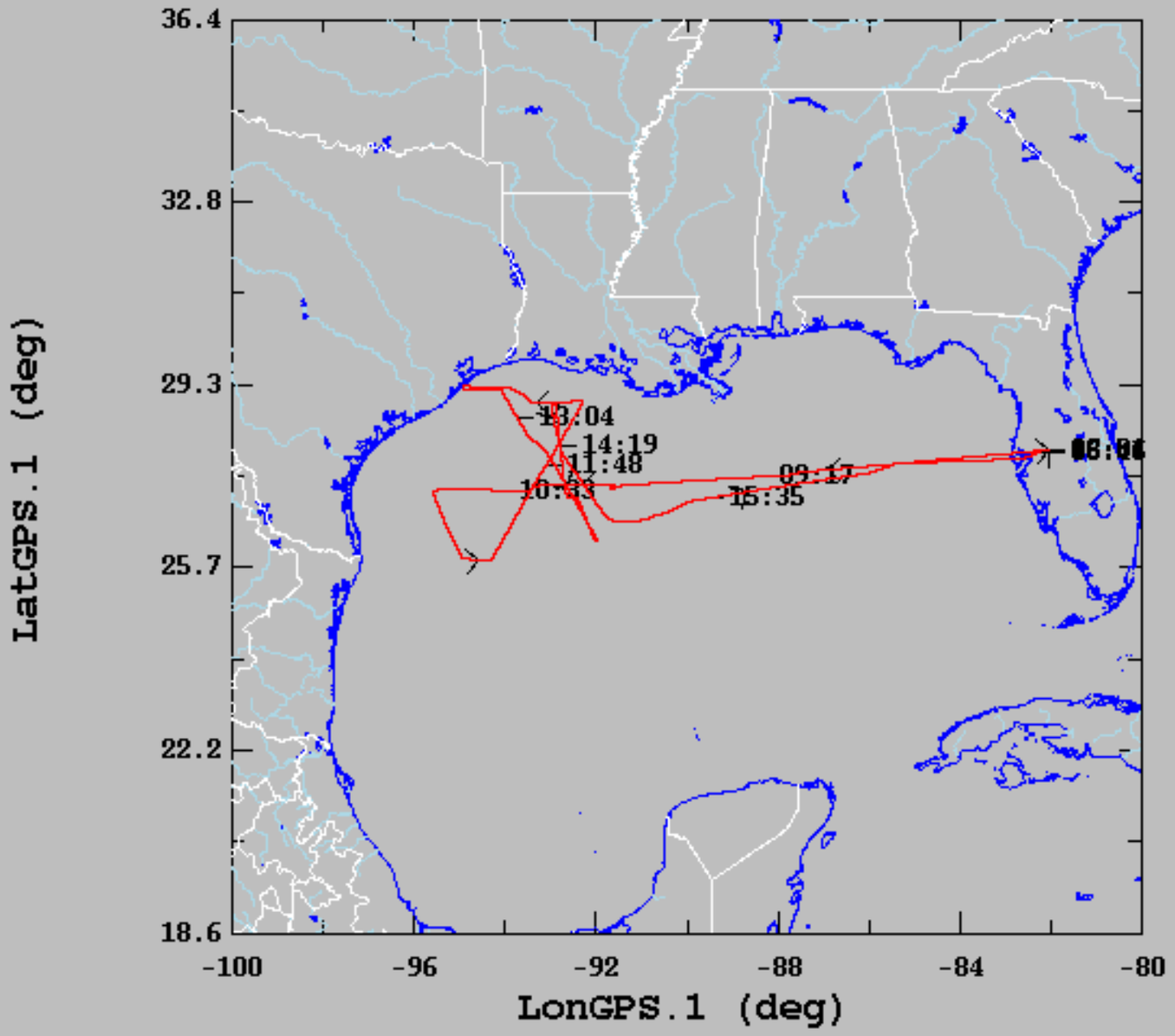
✓ Make synoptic map plots in ASPEN and copy them to the "FRD" folder on the workstation desktop for automated transmission to the ground for archival.
✓ Ensure ASPEN files have been sent to the ground by locating and verifying all files in the "FLIGHTID" folder within the "FRD" folder on the workstation 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	240650321	10027	27.323	91.701	1000.6	130/38	10			01
Comments: IP (WP1 east of ctr)										
2	241420075	101219	27.326	92.610	994.5	145/43	10	28.3		02
Comments: WP1-Ctr midpoint; BT Combo										
3		101831								X
Comments: WP1-Ctr RMW 1; no humidity…backed up										
4	233340982	101906	27.329	93.118	983.7	140/53	10			04
Comments: WP1-Ctr RMW 1; set end at 200.75s (0 sats at bottom); flagged all RH (100% saturated than drops to 20% below ~945 mb										
5	233814455	102333	27.234	93.426	n/a	n/a	n/a	28.6	center	05
Comments: WP 1-2 center; BT combo; set end at 167.25s (0 sats at bottom); marked as did not hit surface/set heights missing; lots of satellite drop outs - this one is ugly										
6	233814512	103233	27.227	94.095	993.3	345/50	10			06
Comments: Center-WP 2 RMW; set end at 201.25s (0 sats at bottom); saturated through profile										
7	240620823	103646	27.228	94.406	996.6	015/41	10	28.8		07
Comments: Ctr-WP2 midpoint; BT Combo; dry (53-65% RH) from ~825-900 mb										
8	233640708	104911	27.251	95.334	1002.8	025/24	10			08
Comments: WP 2 (west); keep getting post splash message in Aspen, but the data looks ok										
9	241030386	112112	26.048	94.161	1003.9	285/24	10			09
Comments: WP 3 (SW); Skyfora combo; set end at 206.00s (0 sats at bottom);										
10	240520573	113042	26.652	93.777	997.5	300/46	10	28.6		10
Comments: WP 3-Ctr midpoint; BT Combo; set end at 190.25s (0 sats at bottom);										

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	233340979	114414	27.468	93.250	975.7	360/07	10	28.4	center	11
Comments: WP 3-4 center; BT combo; set end at 17.25s (0 sats at bottom);										
12	235051111	115059	27.853	92.972	987.2	085/59	10			12
Comments: Center-WP 4 RMW										
13	235115053	115641	28.194	92.749	996.3	080/52	10		28.2	13
Comments: Center-WP 4 midpoint; BT Combo with wave drifter; set end at 195.25s (0 sats at bottom);										
14	233410959	120856	28.872	92.305	1004.3	070/34	10			15
Comments: WP 4 (NE); set end at 198.00s (0 sats at bottom);										
15	240610536	125628	29.109	94.026	1003.6	060/28	10			16
Comments: WP 5 (NW); post splash message in Aspen, but the data looks ok (lots of satellite dropouts to zero, but good intermittent data - QC looks ok										
16	233340920	130629	28.472	93.603	998.6	050/48	10	27.3		17
Comments: WP 5-Ctr midpoint; BT Combo; set end at 190.25s (0 sats at bottom);										
17	233540554	132056	27.750	92.913	976.7	110/10	10	29.1	center	18
Comments: WP 3-4 center; BT combo; keep getting post splash message in Aspen, but the data looks ok										
18	233814609	133435	26.966	92.402	995.6	210/67	10	29.7		20
Comments: Center-WP 6 midpoint; BT combo; keep getting post splash message in Aspen, but the data looks ok. Big Temp swings in profile that were also coincident with WSpd swings. WIth a lot of dry air aloft where these swings are happening, I wonder if we're seeing convectively driven downdrafts- decided not to flag T or RH										
19	233814520	134546	26.328	91.998	1005.0	205/32	10		LAST REPORT	21
Comments: WP 6 (SE); Skyfora combo; set end at 204.75s (0 sats at bottom); onion sounding (dry layer ~790-930 mb)										

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 #
20	240610559	142221	28.250	92.781	986.2	025/75	10			X
Extra sonde for research - targeting the A-sized wave drifter (charged to GOMO) - not transmitted to the GTS; flagged 160.50-160.75s (3 sats with bad data)										

09/11/2024, 06:46:06-16:51:17



	mean	sigma	min	max
LatGPS.1 (deg), 1 s/sec	27.65	0.72	25.88	29.24
LonGPS.1 (deg), 1 s/sec	-89.55	4.57	-95.56	-82.01