

TDM.1 suspect due to in flight issues with data system, however data during eye penetrations appears sound
SFMR TB, WS, SFMR, and RAIN RATE SFMR data should be used with caution as additional assessment occurs

Expendable Type	# deployed	# good	# transmitted
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Dropsondes	17	15	15
Test sondes	6	4	0
AXBTS	0	0	0
AXCPs	0	0	0
AXCTDs	0	0	0
UAS	1	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				CREW MANIFEST			MISSION INFORMATION				
FLT ID:	20240910H1	FLT #:		AC:	Rannenberg	Scientists:	Pressure		Dropsondes / Streamsondes		
From:	KLAL	ETD:	0400L / 0800Z	CP(s):	Wood	Hazelton	A/C Takeoff		Good	Bad	Sent
To:	KLAL	ETA:	1200L / 1600Z		Taraboletti / Ellis	Sapp			15 / 4	2 / 2	15 / 0
Block Time		Flight Time		NAV:	Schaefer / Saunders	Elston	ASOS Takeoff		BTs / sUAS		
In:	16:39	Land:	16:34	FE(s):	Tyson	Kaisti			Good	Bad	Sent
Out:	8:26	T/O:	8:35	FD(s):	Dittoe		A/C Land	0 / 1	0 / 0	0 / 0	
Total:	8.2	Total:	8.0	SSA:	McAlister	Visitors:	ASOS Land				
Sponsoring Org:	NWS			AVAPS:	Dykeman / Santoni		Storm Number ID:		AL062024		
Program:	PRX			SEB:	Underwood		(ie: AL072012)				
Purpose:	TS FRANCINE TDR			MX:			TCPOD/WSPOD Mission		NOAA2 0706A FRANCINE		
							(ie: NOAA2 2418A SANDY)				
AS REQUIRED BY ORM				Y	N	REMARKS	Fix Number	Obs Number	Fix Time	SLP	
VOLCANIC ASH					X	Data System Hard Restart at 1030Z	1	5	1134Z	990mb	
SCIENCE MISSION WITHIN BDRY LAYER					X						
LACK OF PRECIPITATION					X		2	13	1247Z	988mb	
RELATIVE HUMIDITY ≥ 80%				X							
LARGE AIR-SEA TEMP GRADIENT					X		3	18	1350Z	989mb	
HIGH SURFACE WINDS					X						
LONG FETCH / DURATION OF SFC WND					X		4				
SEA SALT ACCRETION FORECAST					X						
SEA SALT ACCRETION OBSERVED					X		Pennies:				
							*Highlighted items must be completed before departure.				
Remarks:											

P-3 QC Checklist

Overall Assessment	Minor instrument issue(s) - minimal mission impact.
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Flight ID:	20240910H1
Flight Director(s):	Kalen
Mission:	Tasked/Operational
UWZ.d mean:	0.02

Pressure Comparison		
	Pre-flight	Post-flight
Aircraft	1009.9	1009.0
Airfield	1009.9	1009.6

This form uses:	
_A.nc	

SFMR Serial Unit	1
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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	
✓ 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		x 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		x TD.c	✓ TTMref
	✓ 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
 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
 Data system restarted 2 times; _A.nc file houses take off and on station flight level data; _C.nc file houses landing data
 All GPS.3 parameters have a drop out between 0944 - 0959z; on station data unaffected
 PQM.4 unrepresentative between 1020 - 1044z
 TDM.2 inop for entire flight; also effects TDMref, TD.c, and Humidities; TDM.1 should be used for analysis - TDM.1 suspect due to inflight issues with data system, however data during eye penetrations appears sound
 SFMR TB, WS, SFMR, and RAIN RATE data should be used with caution as additional assessment occurs

AVAPS Drop Log

Project: Hurricane 2024 Mission: TS Francine Flight ID: 20240910H1
 Take Off: 0835Z Landing: 1633Z Flt Dir: Kalen Launcher S/N: _____

Drop #	Sonde Serial #	Rcvr #	Press Offset	Launch Time	Operator	Charge \$\$ To	Comments	Good ?
1	241030385	1	-0.5	1106Z	BRD	NWS	1P1 SS Combo	✓
2	241030021	2	0.0	1122Z	BRD	NWS	MP1 1	✓
3	241020272	3	0.0	1134Z	BRD	NWS	NO Hum CP1	
4	240650305	4	0.0	1134Z	BRD	NWS	NO Hum CP2	
5	241030025	5	0.0	1135Z	BRD	NWS	NO Hum CP3	✓
6	240640119	6	0.0	1146Z	BRD	NWS	MPO1	✓
7	241030020	7	0.0	1158Z	BRD	NWS	EP1 Combo	✓
8	241030368	8	0.0	1223Z	BRD	NWS	1P2 Combo	✓
9	241020128	1	0.0	1233Z	BRD	NWS	MP1	✓
10	240650329	2	-0.3	1247Z	BRD	NWS	CP2	✓
11	241420078	3	0.0	1259Z	BRD	NWS	MP2	✓
12	241020889	4	-0.2	1311Z	BRD	NWS	EP2 Combo	✓
13	241030006	5	-0.2	1332Z	BRD	NWS	1P3 Combo	✓
14	241030257	6	-1.0	1341Z	BRD	NWS	MP1 3	✓
15	241420079	7	-0.3	1350Z	BRD	NWS	CP3	✓
16	241030387	8	-0.2	1404Z	BRD	NWS	MPD3	✓
17	241020187	1	-0.1	1418Z	BRD	NWS	EP3 Combo	✓
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								
31								

Totals 17 drops 15 good 2 no humidity
 all charged to NWS

Dropwindsonde Scientist Log

Storm:	FRANCINE	Flight ID:	20140910H1	Mission ID:	0706A	Takeoff:	0435 KLAL	Landing:	HHMMZ
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Dropsonde Scientist(s):	Sellwood	AVAPS Operator:	Dykeman
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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.

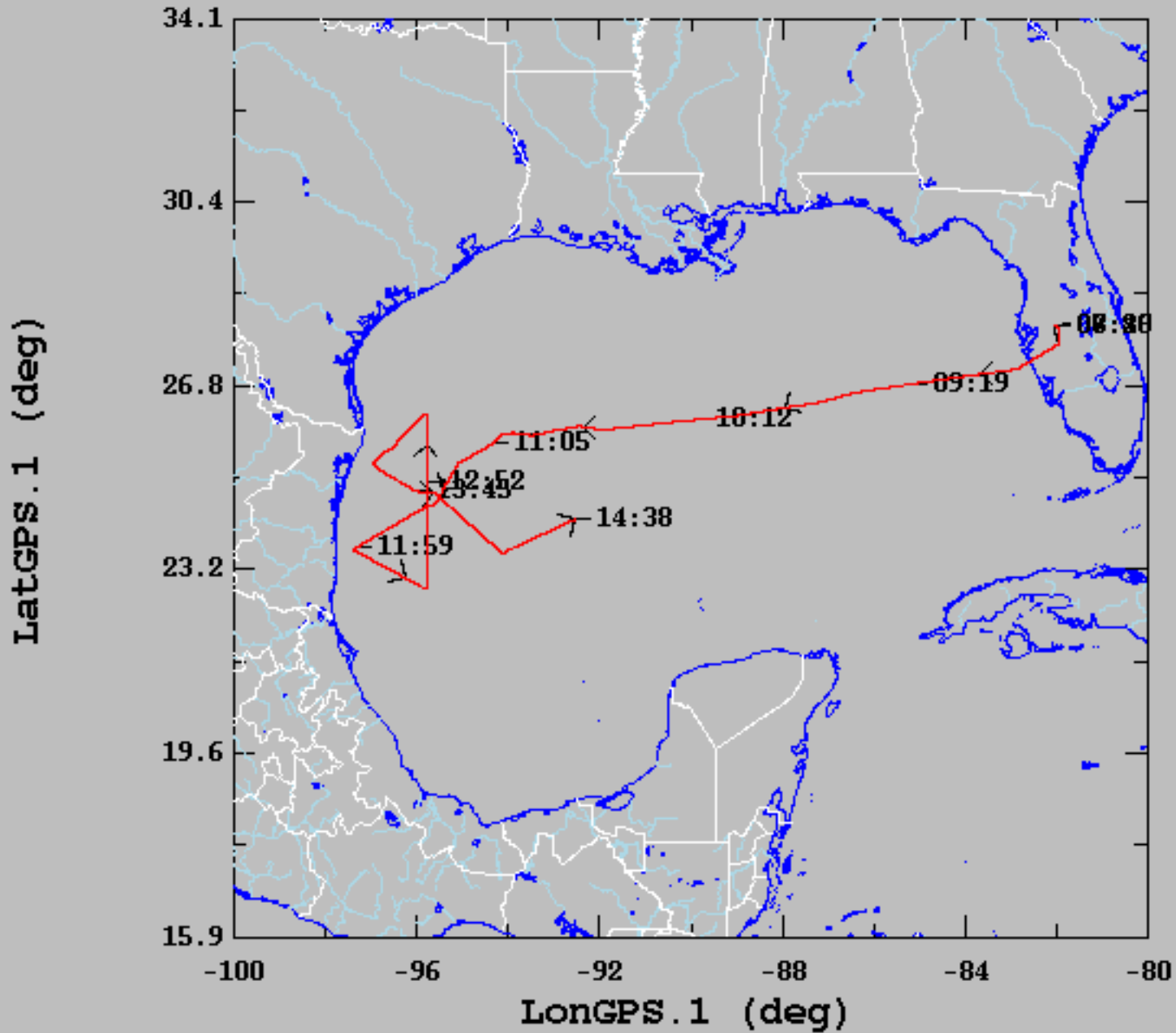
Drop #	Sonde ID	Time UTC	Lat (°N/S)	Lon (°E/W)	Sfc Pressure (mb)	Lowest Wind Direction/Speed (deg/kt)	Lowest Wind Height (m)	AXBT SST (°C)	Eye, Eyewall, Rainband, etc.	Ob #
1	241030385	1106	25.64	-94.36	1005	140/15	10		IP NE	1
Comments: set end 1 frame up removed extra 3 seconds of RH at top of sounding										
2	241030021	1119	25.18	-95.13	1002	110/29	10		MID NE	2
Comments: sat dropouts near surface set end 1 frame up										
3	241020272	113411	24.44	-95.73	990	180/05	10		CENTER	3
Comments: sat dropouts near surface bad RH marked as CENTER drop										
4	240650305	113448	24.42	-95.77	990	290/03	10		CENTER2	
Comments: sat dropouts near surface bad RH (transmitted but don't see it on the ground)										
5	241030025	1135	24.40	-95.83	991	305/16	12		CENTER3	4
Comments: RH worked finally!										
6	2406400119	1146	24.05	-96.50	1000	305/39	10		MID SW	6
Comments: somewhat fast fall speed but smooth wind values and thermo structure suggests downdrafts so kept wind										
7	241030020	1158	23.64	-97.27	1006	305/28	10		EP SW	7
Comments: Skyfora combo - dry below 950mb										
8	241030368	1223	22.92	-95.74	1006	245/39	10		IP S	8

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	241030385	1106	25.64	-94.36	1005	140/15	10		IP NE	1
Comments: set end 1 frame up removed extra 3 seconds of RH at top of sounding										
2	241030021	1119	25.18	-95.13	1002	110/29	10		MID NE	2
Comments: sat dropouts near surface set end 1 frame up										
3	241020272	113411	24.44	-95.73	990	180/05	10		CENTER	3
Comments: sat dropouts near surface bad RH marked as CENTER drop										
4	240650305	113448	24.42	-95.77	990	290/03	10		CENTER2	
Comments: sat dropouts near surface bad RH (transmitted but don't see it on the ground)										
5	241030025	1135	24.40	-95.83	991	305/16	12		CENTER3	4
Comments: RH worked finally!										
6	2406400119	1146	24.05	-96.50	1000	305/39	10		MID SW	6
Comments: Skyfora combo set end 1 frame up										
9	241020128	1233	22.65	-95.74	1002	250/37	10		MID S	9
Comments: dropouts near surface										
10	240650329	1247	24.60	-95.75	988	065/06	10		CENTER	10

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	241030385	1106	25.64	-94.36	1005	140/15	10		IP NE	1
Comments: set end 1 frame up removed extra 3 seconds of RH at top of sounding										
2	241030021	1119	25.18	-95.13	1002	110/29	10		MID NE	2
Comments: sat dropouts near surface set end 1 frame up										
3	241020272	113411	24.44	-95.73	990	180/05	10		CENTER	3
Comments: sat dropouts near surface bad RH marked as CENTER drop										
4	240650305	113448	24.42	-95.77	990	290/03	10		CENTER2	
Comments: sat dropouts near surface bad RH (transmitted but don't see it on the ground)										
5	241030025	1135	24.40	-95.83	991	305/16	12		CENTER3	4
Comments: RH worked finally!										
6	2406400119	1146	24.05	-96.50	1000	305/39	10		MID SW	6
Comments: set end 192.75										

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	241420078	1259	25.39	-95.75	1002	070/29	10		MID N	11
Comments: sat dropouts near top and bottom of sounding										
12	241020889	1311	26.18	-95.75	1002	055/20	10		EP N	12
Comments: skyfora combo near glider										
13	241030006	1332	25.20	-95.85	1004	005/27	10		IP NW	14
Comments: skyfora combo set end 1 frame up (dropouts near surface)										
14	241939257	1341	24.88	-96.29	1000	020/32	10		MID NW	15
Comments: set end 1 frame up dropouts near surface										
15	241420079	1350	24.71	-95.63	989	006/01	10		CENTER 3	16
Comments: set end 1 frame up again dropouts near surface										
16	241030387	1404	24.12	-94.87	1003	205/35	10		MID SE	17
Comments: set end 1 frame up										
17	241020187	1418	24.53	-94.13	1007	290/43	10		EP SE	19
Comments: set end 1 frame up last report										

09/10/2024, 06:40:21-14:38:27



	mean	sigma	min	max
— LatGPS.1 (deg), 1 s/sec	25.93	1.60	22.80	27.99
— LonGPS.1 (deg), 1 s/sec	-89.94	5.97	-97.34	-81.91