



TTM.3 noisy throughout flight.

High UWZ.d

Expendable Type	# deployed	# good	# transmitted
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Dropsondes	36	34	34
Test sondes	0	0	0
AXBTs	0	0	0
AXCPs	0	0	0
AXCTDs	0	0	0
UAS	0	0	0

Flight Director: Henning/Timmers  
Phone #: 3865003982

ACAT-4 Version = 7.4

**U.S. Department of Commerce / NOAA / OMAO / Aircraft Operations Center - N49RF Manifest**

FLIGHT INFORMATION				CREW MANIFEST			MISSION INFORMATION						
FLT ID:	20220927N	FLT #:		AC:	NARD 1	Scientists:	Pressure		Dropsondes				
From:	KLAL	ETD:		CP(s):	DeTrignet		A/C Takeoff		Good	Bad	Sent		
To:	KLAL	ETA:		NAV:			ASOS Takeoff		34	2	34		
Block Time		Flight Time		FE(s):			A/C Land		BTs				
In:	1339	Land:	1333	FD(s):	HENNING TIMMERS		ASOS Land		Good	Bad	Sent		
Out:	0534	T/O:	0544	SSA:	PAUL	Visitors:	Storm Number ID: (ie: AL072012)		NOAA9 1909A IAN				
Total:	8.1	Total:	7.8	AVAPS:	HARTBERGER KELLER	TCPOD/WSPOD Mission (ie: NOAA2 2418A SANDY)							
Sponsoring Org:	NHC			SEB:		OBSERVATIONS							
Program:	PHS			MX:		Fix Number	Obs Number	Fix Time	SLP				
Purpose:	Syn Surv HDR IAN						1						
<b>AS REQUIRED BY ORM</b>				Y	N	REMARKS			2				
VOLCANIC ASH					x				3				
SCIENCE MISSION WITHIN BDRY LAYER									4				
LACK OF PRECIPITATION									Pennies:				
RELATIVE HUMIDITY ≥ 80%													
LARGE AIR-SEA TEMP GRADIENT													
HIGH SURFACE WINDS													
LONG FETCH / DURATION OF SFC WND													
SEA SALT ACCRETION FORECAST													
SEA SALT ACCRETION OBSERVED													

\*Highlighted items must be completed before departure.

Remarks:

## G-IV QC Checklist

<b>Flight ID:</b>	<b>20220927N1</b>
<b>Flight Director(s)</b>	<b>Henning/Timmers</b>
<b>UWZ.d mean:</b>	<b>0.46</b>

Pressure Comparison		
	T/O	Land
<b>Aircraft</b>	<b>1006.8</b>	<b>1007.3</b>
<b>Tower</b>	<b>1007.8</b>	<b>1008.2</b>

	Raw 1Hz Mean File Parameters					C File Parameters	
✓ Accelerometer	✓ AccAXI.1	✓ AccAYI.1	✓ AccAZI.1			✓ AccZref	
	✓ AccAXI.2	✓ AccAYI.2	✓ AccAZI.2				
	✓ AccAXI.3	✓ AccAYI.3	✓ AccAZI.3				
✓ Altitude	✓ AltGPS.1	✓ AltI.1	✓ AltPaADDU.1	✓ AltBCADDU.1	✓ ALTref		
	✓ AltGPS.2	✓ AltI.2	✓ AltPaADDU.2	✓ AltBCADDU.2	✓ ALTPA.d		
	✓ AltGPS.3	✓ AltI.3	<input type="checkbox"/> AltRA.1		✓ ALTGA.d		
✓ Ground Speed	✓ GsXI.1	✓ GsYI.1	✓ GsZI.1	✓ GsGPS.1	✓ GSXref		
	✓ GsXI.2	✓ GsYI.2	✓ GsZI.2	✓ GsGPS.2	✓ GSYref		
	✓ GsXI.3	✓ GsYI.3	✓ GsZI.3	<input type="checkbox"/> GsGPS.3	✓ GSZref		
	✓ GsXGPS.1	✓ GsYGPS.1	✓ GsZGPS.1				
	✓ GsXGPS.2	✓ GsYGPS.2	✓ GsZGPS.2				
	<input type="checkbox"/> GsXGPS.3	<input type="checkbox"/> GsYGPS.3	<input type="checkbox"/> GsZGPS.3				
✓ Lat / Lon	✓ LatGPS.1	✓ LatI.1	✓ LonGPS.1	✓ LonI.1	✓ LATref		
	✓ LatGPS.2	✓ LatI.2	✓ LonGPS.2	✓ LonI.2	✓ LONref		
	✓ LatGPS.3		✓ LonGPS.3				
✓ Pressure	✓ PDALPHA.1	X PQALPHA.1	✓ PQM.1	✓ PSM.1	✓ PDLAPHaref	✓ PQMref	
	✓ PDALPHA.2	✓ PQALPHA.2	✓ PQM.2	✓ PSM.2	✓ PDBETAref	✓ PQ.c	
	✓ PDBETA.1	X PQBETA.1			✓ PQALPHaref	✓ PSMref	
	✓ PDBETA.2	✓ PQBETA.2			✓ PQBETAref	✓ PS.c	
✓ Air Speed	✓ CasADDU.1	✓ TasADDU.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		
	✓ PitchI.3	✓ PitchRateI.3	✓ RollI.3	✓ RollRateI.3			
✓ Temp / Dewpt	✓ TTM.1	✓ TTM.4	X TDM.1		X TD.c	✓ TTMref	
	<input type="checkbox"/> TTM.2		X TDM.2		X TDMref	✓ TA.d	
	✓ TTM.3						
✓ Misc. (Must check)					✓ UWZ.d	✓ WS.d	
					X DPJ_WSZ	✓ WD.d	
					X HUM		

FLID_Mission_Documents.pdf:	
✓	Error Summary
✓	Crew Manifest
✓	QC Checklist
✓	Dropwindsonde Log(s) - AVAPS and FD if completed
✓	Flight Track
✓	Miscellaneous FD Notes

QC Key	
Not checked	<input type="checkbox"/>
Valid	<input checked="" type="checkbox"/>
Errors (note)	<input checked="" type="checkbox"/>

NOTES:
<p>The .E file contains flight level data due to multiple data system restarts.</p> <p>Frequent, short lived gaps in many of the data fields.</p> <p>PQALPHA.1 deviates and is unrepresentative starting at 09:03 Z.</p> <p>PQBETA.1 deviates and is unrepresentative starting at 07:04 Z.</p> <p>PDALPHA.2 and PDBETA.2 made references.</p> <p>TDM.1 and TDM.2 are unrepresentative. Consider all flight level humidity to be suspect.</p> <p>TTM.3 noisy throughout flight.</p> <p>High UWZ.d</p>

AOC GPS Dropwindsonde Log (updated Mar 2019)

Flight ID: 20220927N1

ASPEN Operator/Flight Director(s): TIMMERS/HENNING

Mission ID: 1909A JAN

Storm Name/Track: HURRICANE IAN

PG 1 of 1

Sonde #	Ob #	Launch Time HHMMSS (Z)	Sonde ID (min last 5)	Ch # used	Lat (°N)	Lon (°E)	Prominent Wx Cond.	SFC Prs (mb)	Comments / Issues / QC / ASPEN Edits	KWBC #	Sonde Issues?
1	1	0608 21	30009	1	26.9	-77.5	/	1002.2	320/05	0630	✓✓
2	2	0620 56	30056	2	25.5	-79.4	/	1010.6	065/10	0641	✓✓
3	3	0634 25	41256	3	24.1	-80.0	/	1008.8	125/19	0657	✓✓
4	4	0642 28	20160	4	23.9	-80.9	/	1008.2	135/23	0701	✓✓
5	5	0700 30	20892	1	21.9	-81.3	/	1004.5	155/28	0724	✓✓
6	6	0711 39	30785	2	20.6	-81.6	/	1003.6	200/37	0736	✓✓
7	7	0723 22	20881	3	19.6	-82.6	/	1005.0	230/26	0743	✓✓
FRD	8	0734 16	50596	4	18.8	-83.6	/	1006.9	245/13	0757	✓✓
9	9	0746 26	20877	1	19.1	-85.1	/	1005.6	260/20	0823	✓✓
10	10	0756 45	30222	2	19.7	-86.2	/	1004.9	285/19	0826	✓✓
11	11	0821 46	10496	3	22.7	-85.5	/	1002.5	045/27	0848	✓✓
12	12	0830 54	30162	4	23.8	-85.0	/	1004.0	040/38	0850	✓✓
FRD	13	0839 42	30249	1	24.2	-84.0	/	1005.4	045/39	0905	✓✓
14	14	0848 40	20882	2	23.7	-83.0	/	1003.3	075/36	0907	✓✓
15		<del>0903</del>		<del>3</del>					<del>NO PTH</del>		
16	15	0911 48	41062	4	21.6	-83.3	/	993.0	//// (last wind 609m)	0929	✓✓
17	16	0918 55	20554	1	21.2	-84.0	/	998.7	240/35	0946	✓✓
18	17	0927 46	41000	2	21.6	-85.1	/	1000.3	310/26	0948	✓✓
FRD	19	0941 02	30159	3	22.5	-86.9	/	1005.8	355/25	1013	✓✓
20	19	1001 58	40290	4	23.0	-89.0	/	1003.4	020/14	1028	✓✓
21	20	1017 17	30048	1	23.1	-90.9	/	1008.5	355/13	1042	✓✓
22	21	1027 34	41059	2	24.3	-91.0	/	1010.4	035/17	1045	✓✓
23	22	1038 16	40952	3	25.7	-91.0	/	1010.7	020/19	1101	✓✓
24	23	1048 30	41057	4	26.9	-90.9	/	1011.4	060/18	1108	✓✓
FRD	25	1101 26	31138	1	26.9	-89.1	/	1010.8	050/17	1128	✓✓
26	25	1111 52	20986	2	25.7	-89.0	/	1010.6	030/25	1132	✓✓
27	26	1122 20	50599	3	24.6	-88.9	/	1009.7	025/26	1145	✓✓
28		<del>1135</del>		<del>4</del>					<del>FAST FALL</del>		
FRD	29	1137 07	30221	1	24.8	-87.0	BKN	1008.1	000/19	1156	✓✓
30	28	1145 44	20553	2	25.8	-87.0	SCT	1008.8	015/21	1208	✓✓
31	29	1156 17	20462	3	27.2	-87.0	UCST	1011.5	035/31	1224	✓✓
32	30	1206 26	30064	4	28.4	-86.8	UCST	1011.2	035/29	1230	✓✓
33	31	1218 37	30022	1	28.4	-85.1	UCST	1011.0	045/22	1240	✓✓
34	32	1229 50	40299	2	27.2	-85.0	BKN	1008.9	045/21	1250	✓✓
FRD	35	1241 41	30095	3	25.9	-84.8	UCST	1006.2	065/26	1301	✓✓
36	34	1256 30	50536	4	25.9	-82.8	UCST	1009.4	070/19	1314	✓✓
37											
38											

COMMENTS: ASPEN Operator will ensure this form is delivered to the AOC Flight Director to be archived

Obs  
Xmitted

Obs  
Missed

36 # of sondes  
launched

2 # of bad  
sondes

### AVAPS Drop Log

Project: \_\_\_\_\_

 Mission: IAN

 Flight ID: 20220927N1

Take Off: \_\_\_\_\_

Landing: \_\_\_\_\_

 Fit Dir: Hennings

Launcher S/N: \_\_\_\_\_

Drop #	Sonde Serial #	Rcvr #	Press Offset	Launch Time	Operator	Charge \$\$ To	Comments	Good ?
1	211330004	1	-0.8	0608	RK	NWS		Y
2	211330056	2	-0.5	0620	RK	NWS		Y
3	212241256	3	-0.7	0634	RK	NWS		Y
4	212720460	4	-0.3	0642	RK	NWS		Y
5	210920892	1	-0.7	0700	RK	NWS		Y
6	211230785	2	-0.9	0711	RK	NWS		Y
7	210920881	3	-0.2	0723	RK	NWS		Y
8	211450596	4	Ø	0734	RK	NWS		Y
9	210920877	1	Ø	0746	RK	NWS		Y
10	210630222	2	Ø	0756	RK	NWS		Y
11	212710496	3	-0.2	0821	RK	NWS		Y
12	210930162	4	Ø	0830	RK	NWS		Y
13	210630219	1	Ø	0839	RK	NWS		Y
14	210920882	2	Ø	0848	RK	NWS		Y
15	210920894	3	Ø	0904	RK	NWS	No humid/temp	N
16	210741062	4	Ø	0911	RK	NWS	Backup ↗	Y
17	210920554	1	Ø	0918	RK	NWS		Y
18	210741000	2	Ø	0927	RK	NWS		Y
19	210930159	3	-0.2	0944	RK	NWS		Y
20	210240290	4	Ø	1001	RK	NWS		Y
21	211330048	1	Ø	1017	RK	NWS		Y
22	210741059	2	Ø	1027	RK	NWS		Y
23	211440952	3	Ø	1038	RK	NWS		Y
24	210741057	4	Ø	1048	RK	NWS		Y
25	210731138	1	Ø	1101	RK	NWS		Y
26	211320986	2	-0.4	1111	RK	NWS		Y
27	211450599	3	Ø	1122	RK	NWS		Y
28	211450415	4	Ø	1135	RK	NWS	Fast fall?	N
29	210630221	1	Ø	1137	RK	NWS	Backup ↗	
30	210920553	2	Ø	1145	RK	NWS		
31	212720462	3	Ø	1156	RK	NWS		

Drop #	Sonde Serial #	Rcvr #	Press Offset	Launch Time	Operator	Charge \$\$ To	Comments	Good ?
32	211 230 064	4	0	1206	JRH	NWS		
33	211 230 022	1	1	1218				
34	210 540 299	2	1	1229				
35	210 430 095	3	1	1241				
36	210 850 536	4	1	1256				
37								
38								
39								
40								
41								
42								
43								
44								
45								
46								
47								
48								
49								
50								

#### Drop Station Operator Notes

Charge \$\$ To Options (**DO NOT USE FUNDING CODES**):

AOC, NWS, HRD, NESDIS, IR/SST, AR, STAN (Stanford), SAT (JPSS/NESDIS/HRD)

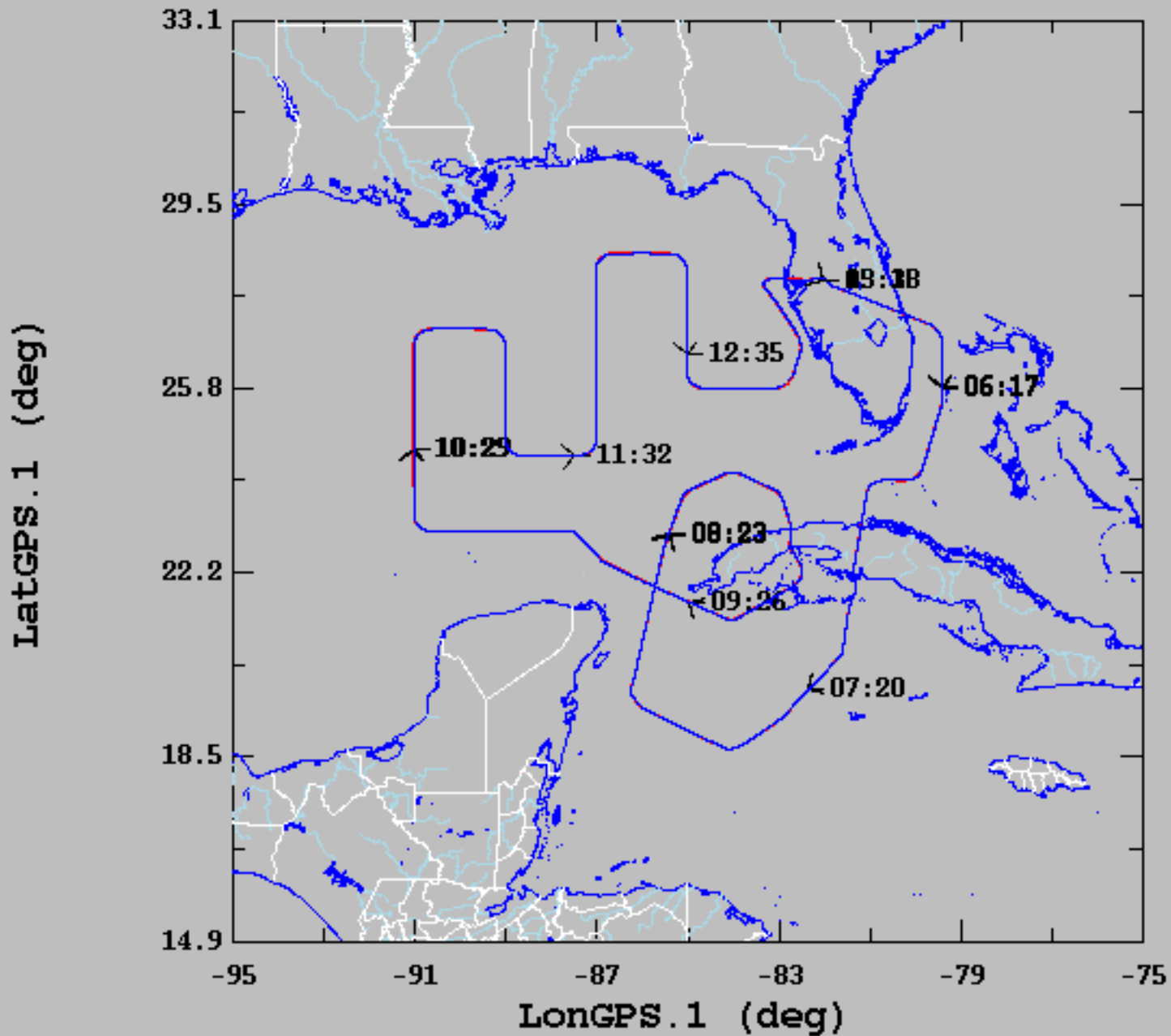
#### AVAPS Pre-Flight Check:

- If time-permits, verify cabin pressure sensor w/ lab standard
- Start AVAPS., then start Soundings and set the Project Name and Full Flight ID (example: 20120823N2).
- Verify the Frequency band allocation as required:  
Band A: 53<sup>rd</sup> WRS - Band B: N42RF - Band C: N43RF - Band D: N49RF - Band E: Unallocated
- Select the **GPS Reference** tab from the **Soundings Displays** page and verify good GPS data
- Perform a prelaunch check on each channel, look for reasonable data and no CRC error status lights.
- Verify data is available on Remote AVAPS, then terminate the sonde.
- Verify the AVAPS Data mission folder has been created
- **Verify AVAPS PC Time is correct – if time is off by >4sec, no data will display**
- **Early launch detects are caused usually by remanufactured sondes with the chute riser line not properly coiled below the PCB ear. This may also cause fast falls. If this is suspected, repack the riser line as time permits**
- **Perform RH Regeneration on all sondes – Multiple RD41 sondes may be processed at once**

#### AVAPS Launch:

- Select a sonde frequency in the Green band and away from other sondes
- Enter sonde pressure error offset if 0.4mB or greater using cabin pressure sensor – warning, this can not be used during a climb
- **If the Cal lab pressure standard and the cabin pressure standard match, apply pressure offset +/- 0.1 mB**
- **Wait until GPS available (green) on the pre-launch screen before continuing.**
- Select "begin data collection" and verify good data with winds prior to putting sonde in launch tube
- On N42 & N43, remove about 1/2 of the ribbon. Do not shorten the ribbon on N49. Loosen ribbon and extend end of ribbon to near, but not over, the sensor end of the sonde. Place excess orange tape on end of ribbon to form a pocket.
- Place the sonde in the launch tube, sensor arm up, with the power pin socket facing right
- Verify the sonde is actively tracking GPS data prior to launch and **no early launch detect**

09/27/2022, 05:15:03-13:38:38



	mean	sigma	min	max
— LatGPS.1 (deg), 1 s/sec	24.50	2.77	18.67	28.50
— LonGPS.1 (deg), 1 s/sec	-84.78	3.22	-91.00	-79.40
— LatI.1 (deg), 1 s/sec	24.50	2.77	18.66	28.51
— LonI.1 (deg), 1 s/sec	-84.78	3.22	-91.02	-79.40