

DPJ_WSZ is missing in .BC file and has frequent, larger gaps of data throughout flight in .EC file.

No LatGPS.3 and LonGPS.3 for the .BC file.

Expendable Type	# deployed	# good	# transmitted
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Dropsondes	39	35	35
Test sondes	0	0	0
AXBTS	0	0	0
AXCPs	0	0	0
AXCTDs	0	0	0
UAS	0	0	0

Flight Director: Morgan/de Solo

Phone #: 8635003982

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:	20220924N1	FLT #:	0509A IAN	AC:	Mansour	Scientists:	Pressure		Dropsondes		
From:	KLAL	ETD:	1730Z	CP(s):	Waddington		A/C Takeoff	1015.8	Good	Bad	Sent
To:	KLAL	ETA:		NAV:			ASOS Takeoff		35	4	35
Block Time		Flight Time		FE(s):			A/C Land		BTs		
In:	0144	Land:	0137Z	FD(s):	Morgan De Solo	Visitors:	ASOS Land		Good	Bad	Sent
Out:	1639 1739	T/O:	1454Z 1754	SSA:	Mascaro		Storm Number ID:	AL092022			
Total:	4.18.1	Total:	8.77.7	AVAPS:	Patel		(ie: AL072012)				
Sponsoring Org:	NWS			SEB:	Flaherty	TCPOD/WSPOD Mission	0509A IAN				
Program:	NHC			MX:		(ie: NOAA2 2418A SANDY)					
Purpose:	Surveillance			OBSERVATIONS							
AS REQUIRED BY ORM			Y	N	REMARKS		Fix Number	Obs Number	Fix Time	SLP	
VOLCANIC ASH				X			1				
SCIENCE MISSION WITHIN BDRY LAYER				X			2				
LACK OF PRECIPITATION				X			3				
RELATIVE HUMIDITY ≥ 80%				X			4				
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							
							Pennies:				

*Highlighted items must be completed before departure.

Remarks:

G-IV QC Checklist

Flight ID:	20220924N1
Flight Director(s)	Morgan/de Solo

UWZ.d mean:	0.1
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Pressure Comparison		
	T/O	Land
Aircraft	1010.4	N/A
Tower	1011.6	1010.6

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

FLID_Mission_Documents.pdf:	
<input checked="" type="checkbox"/>	Error Summary
<input checked="" type="checkbox"/>	Crew Manifest
<input checked="" type="checkbox"/>	QC Checklist
<input checked="" type="checkbox"/>	Dropwindsonde Log(s) - AVAPS and FD if completed
<input checked="" type="checkbox"/>	Flight Track
<input checked="" type="checkbox"/>	Miscellaneous FD Notes

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

NOTES:
Several data system restarts. Majority of flight data found in .B and .E files. Frequent, short lived gaps in many of the data fields. PQBETA.2 deviates from 22:20 Z to end of flight. TTM.3 is noisy, particularly during beginning of flight. TDM.1 and TDM.2 are unrepresentative. Consider all flight level humidity to be suspect. DPJ_WSZ is missing in .BC file and has frequent, larger gaps of data throughout flight in .EC file. No LatGPS.3 and LonGPS.3 for the .BC file.

AOC GPS Dropwindsonde Log (updated Mar 2019)

Flight ID: 20220924N1

ASPEN Operator/Flight Director(s): Morgan / de Solo

Mission ID: NOAA9 0509A Ian

Storm Name/Track: Tropical Storm 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	183112	10236	1	24.4	-79.4	OVC	1012.3	stc wind 065° @ 08 kts	1928	✓✓
2	—	1832	—	2	—	—	—	—	—	—	—
3	2	184234	40660	3	23.2	-78.7	OVC	1011.9	fast fall, removing heights	1935	✓✓
4	3	191727	41231	1	19.7	-76.0	OVC	1010.2	120° @ 13 kts	1953	✓✓
5	4	193001	10653	2	18.5	-75.1	OVC	1009.4	090° @ 12 kts	2036	✓✓
6	5	200032	10664	3	16.4	-72.8	OVC	1009.2	115° @ 20 kts	2045	✓✓
7	6	200724	50038	4	16.2	-73.5	OVC	1009.3	120° @ 23 kts	2056	✓✓
8	7	201608	20214	1	15.1	-73.3	OVC	1008.4	145° @ 25 kts	2101	✓✓
9	8	202642	30053	2	13.8	-73.6	OVC	1007.4	105° @ 14 kts	2112	✓✓
10	9	203730	21003	3	12.7	-74.5	OVC	1006.2	220° @ 07 kts	2115	✓✓
11	10	204815	20694	4	12.2	-75.7	OVC	1007.4	265° @ 17 kts	2122	✓✓
12	—	2058	—	1	—	—	—	—	LLD	—	—
13	11	210004	30751	2	12.2	-77.1	OVC	1007.1	320° @ 07 kts, backup to LLD sonde #12	2125	✓✓
14	12	211003	30189	3	12.1	-78.3	OVC	1007.3	360° @ 10 kts	2131	✓✓
15	13	211941	30748	4	13.1	-77.8	OVC	1006.2	300° @ 06 kts	2147	✓✓
16	14	213232	30217	1	14.2	-76.8	OVC	1005.9	340° @ 14 kts	2158	✓✓
17	15	214553	30051	2	15.3	-75.7	OVC	1006.1	110° @ 25 kts	2217	✓✓
18	16	220436	30157	3	13.3	-75.8	OVC	1005.8	230° @ 12 kts	2224	✓✓
19	17	221132	41260	4	13.8	-76.4	OVC	1006.1	330° @ 14 kts	2235	✓✓
20	18	221718	70284	1	14.4	-76.8	OVC	1005.9	355° @ 02 kts, center!	2238	✓✓
21	19	222313	70297	2	14.8	-77.4	OVC	1005.3	035° @ 33 kts	2256	✓✓
22	20	223004	30713	3	15.4	-78.0	OVC	1006.3	045° @ 40 kts	2307	✓✓
23	21	224106	31623	4	16.4	-79.0	OVC	1008.7	050° @ 17 kts	2313	✓✓
24	—	2252	—	1	—	—	—	—	no PTU	—	—
25	22	225406	30245	2	17.5	-80.2	SCT	1008.5	040° @ 18 kts, backup to #24	2318	✓✓
26	—	2300	—	3	—	—	—	—	no PTU	—	—
27	23	230154	70300	4	17.5	-81.2	SCT	1009.2	040° @ 19 kts, backup to #26	2327	✓✓
28	24	230814	30722	1	17.6	-81.9	SCT	1008.4	035° @ 19 kts	2331	✓✓
29	25	231736	21218	2	18.7	-81.9	SCT	1009.3	050° @ 13 kts	2341	✓✓
30	26	232432	30015	3	18.7	-81.0	SCT	1009.9	050° @ 15 kts	2346	✓✓
31	27	233404	30065	4	18.7	-79.8	DARK	1009.1	065° @ 17 kts	2353	✓✓
32	28	234303	30765	1	18.9	-78.7	—	1009.4	090° @ 19 kts	0004	✓✓
33	29	235245	21204	2	20.0	-79.0	—	1010.7	070° @ 14 kts	0014	✓✓
34	30	000011	70318	3	20.1	-80.0	—	1010.5	050° @ 11 kts	0022	✓✓
35	31	000809	41232	4	20.1	-81.0	—	1010.4	065° @ 17 kts	0034	✓✓
36	32	001526	30061	1	20.2	-81.9	—	1010.7	060° @ 13 kts	0038	✓✓
37	33	002525	30769	2	21.3	-81.9	—	1011.1	040° @ 08 kts	0050	✓✓
38	34	003209	30154	3	21.5	-81.1	—	1011.0	050° @ 07 kts	0055	✓✓
39	35	005351	30050	4	24.0	-81.0	—	1012.0	095° @ 15 kts	0113	✓✓

sonde height issues

center →

center →

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

Obs Xmitted 35 Obs Missed 0

of sondes launched 39

of bad sondes 4

AVAPS Drop Log

Project: Storm Mission: Jan Flight ID: 20220924N1
 Take Off: 1345 Landing: _____ Flt Dir: Nick M. Launcher S/N: _____

Drop #	Sonde Serial #	Rcvr #	Press Offset	Launch Time	Operator	Charge \$\$ To	Comments	Good ?
1	210910236	1	-0.6	1831	AJP	NWS	No Geo. Aft.	✓
2	211330003	2	-0.4	1832				✓
3	213440660	3	0	1842				✓
4	214141231	1	0	1917				✓
5	214110653	2	0	1930				✓
6	214110664	3	0	2000				✓
7	221250038	4	0	2007				✓
8	221220214	1	0	2016				✓
9	211330053	2	0	2026				✓
10	211321003	3	-0.5	2032				✓
11	214220694	4	0	2048				✓
12	214140851	1	0	2100			Rate Launch defect	✗
13	211130751	2	0	2100				✓
14	211330189	3	0	2110				✓
15	211230748	4	0	2119				✓
16	211330217	1	-0.6	2132				✓
17	211330051	2	-0.6	2145				✓
18	211330157	3	-0.5	2204				✓
19	212241260	4	-0.5	2211				✓
20	213570284	1	0	2217				✓
21	213570297	2	0	2223				✓
22	211230713	3	0	2230				✓
23	213431623	4	0	2241				✓
24	212241258	1	-0.4	2252			NO PTU	✗
25	211330245	2	0	2254				✓
26	211230764	3	-0.4	2300			NO PTU	✗
27	213570300	4	0	2301				✓
28	211230722	1	0	2308				✓
29	211321218	2	0	2317				✓
30	211330015	3	0	2324				✓
31	211230065	4	-0.5	2334				✓

Drop #	Sonde Serial #	Rcvr #	Press Offset	Launch Time	Operator	Charge \$\$ To	Comments	Good ?
32	211230765	1	-0.6	2343				✓
33	211321204	2	-0.5	2352				✓
34	213570318	3	0	0000				✓
35	212241232	4	0	0008				✓
36	211230061	1	0	0015				✓
37	211230769	2	0	0025				✓
38	211230754	3	-0.5	0032				✓
39	211330050	4	-0.5	0053				
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)

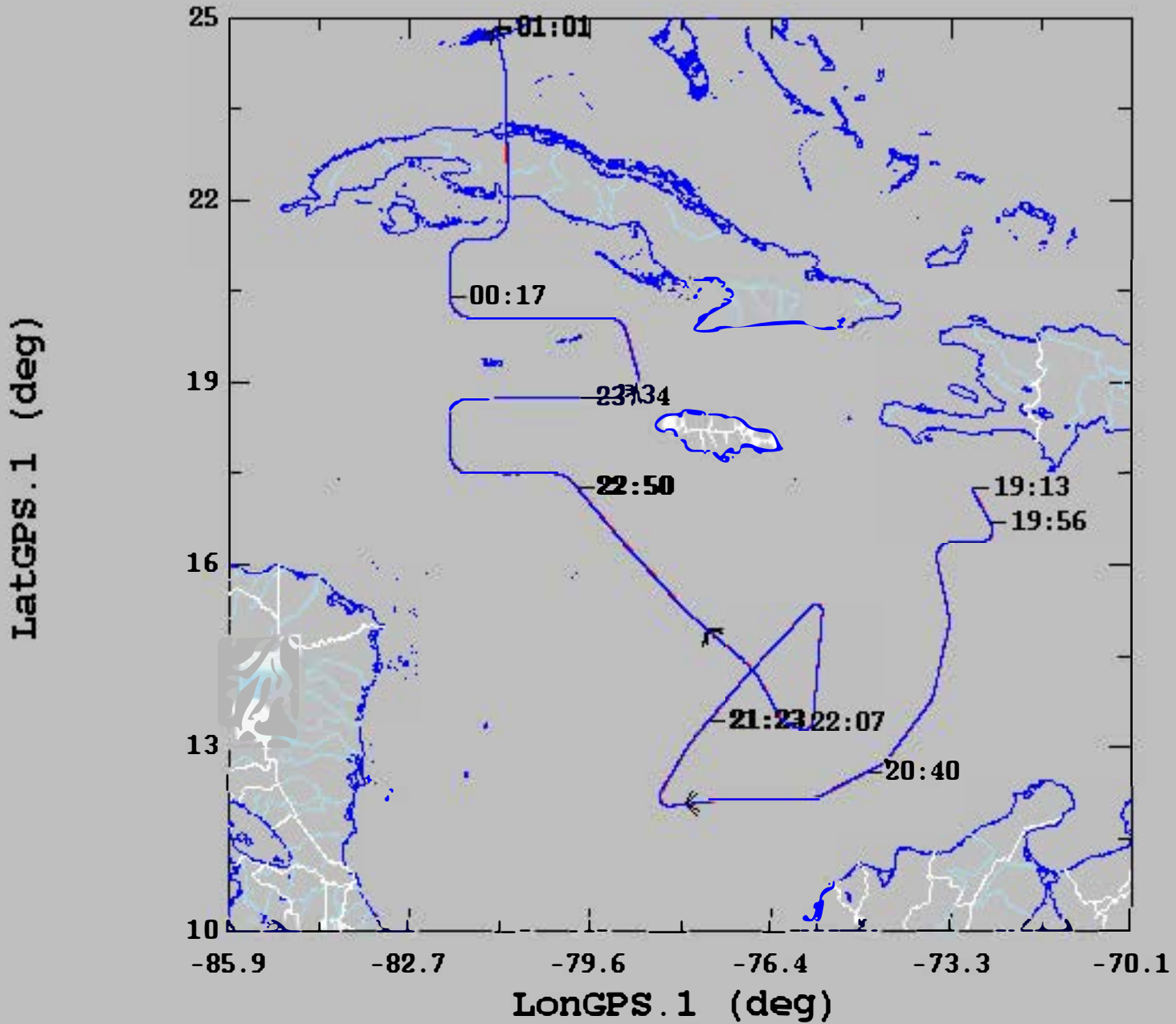
AVAPS Pre-Flight Check:

- 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: 53rd 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**

2022-09-24, 18:30:00-25:01:00



Due to data system restart, the flight track up until 19:13 Z is not shown.

	mean	sigma	min	max
— LatGPS.1 (deg), 1 s/sec	16.72	3.35	12.04	24.84
— LonGPS.1 (deg), 1 s/sec	-78.04	2.82	-82.00	-72.54
— LatI.1 (deg), 1 s/sec	16.72	3.35	12.03	24.84
— LonI.1 (deg), 1 s/sec	-78.03	2.82	-82.01	-72.53