N49RF ERROR SUMMARY
20240702N1

Flight ID: 20240702N1

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	AccZI.1
Altimeter	AltGPS.3
INE Selection	1
Differential Attack Pressure Probe	PDALPHA.2
Differential Sideslip Pressure Probe	PDBETA.2
Dynamic Attack Pressure Probe	PQALPHA.2
Dynamic Sideslip Pressure Probe	PQBETA.2

Flight Directory acdata/2024/MET/20240702N1

Local Met Data	Takeoff TISX (1727Z)	Landing TISX (0105Z)
Dynamic Corrections		Yes
AttackAngleIntercept		4.97461
AttackAngleSlope		5.40351
SlipAngleIntercept		0.71
SlipAngleSlope		6.22549
AttackAngleIntercept2		5.05753
AttackAngleSlope2		5.52397
SlipAngleIntercept2		0.931
SlipAngleSlope2		6.57562

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.

Expendable Type	# deployed	# good	# transmitted
Dropsondes	37	35	36
Test sondes	0	0	0
AXBTs	0	0	0
AXCPs	0	0	0
AXCTDs	0	0	0
UAS	0	0	0

Flight Director: Flaherty
Phone #: 8635003980

ACAT-4 Version = 7.4

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

FLIGHT INFORMATION

FLT ID:	20240702N1	FLT #:	
From:	TISX	ETD:	
To:	TISX	ETA:	

Block Time		Flight Time	
In:	1:12	Land:	1:06
Out:	17:20	T/O:	17:28
Total:	**7.9**	Total:	**7.6**

Sponsoring Org:	NWS
Program:	PHS
Purpose:	Hx Beryl

CREW MANIFEST

AC:	Bhatnagar	Scientists:
CP(s):	Pawlenko	
NAV:		
FE(s):		
FD(s):	Flaherty	
	de Solo	
SSA:	Defeo	Visitors:
AVAPS:	Vargas	
SEB:	Brannigan	
MX:		

MISSION INFORMATION

Pressure		Dropsondes		
		Good	Bad	Sent
A/C Takeoff		35	2	36
ASOS Takeoff		BTs		
		Good	Bad	Sent
A/C Land				
ASOS Land				

Storm Number ID: (ie: AL072012)	**AL022024**
TCPOD/WSPOD Mission (ie: NOAA2 2418A SANDY)	**NOAA9 1002A BERYL**

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

OBSERVATIONS

Fix Number	Obs Number	Fix Time	SLP
1			
2			
3			
4			
Pennies:			

*Highlighted items must be completed before departure.

Remarks: No ASPEN log available.

G-IV QC Checklist

Overall Assessment	No instrument issues noted.

Flight ID:	20240702N1
Flight Director(s):	Flaherty/de Solo
Mission:	Tasked/Operational
UWZ.d mean:	0.05

Pressure Comparison		
	Pre-flight	Post-flight
Aircraft	1015.4	1016.3
Airfield	1015.7	1013.2

This form uses:
A.nc

Parameters	Raw				Derived, Corrected & Reference	
✓ Acceleration	✓ AccAXI.1	✓ AccAYI.1	✓ AccAZI.1	✓ AccZI.1	✓ AccZref	
	✓ AccAXI.2	✓ AccAYI.2	✓ AccAZI.2	✓ AccZI.2		
	✓ AccAXI.3	✓ AccAYI.3	✓ AccAZI.3	✓ AccZI.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	INOP 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		✓ GSZref	
	✓ GsXGPS.1	✓ GsYGPS.1	✓ GsZGPS.1			
	✓ GsXGPS.2	✓ GsYGPS.2	✓ GsZGPS.2			
✓ Location	✓ LatGPS.1	✓ LatI.1	✓ LonGPS.1	✓ LonI.1	✓ LATref	
	✓ LatGPS.2	✓ LatI.2	✓ LonGPS.2	✓ LonI.2	✓ LONref	
	✓ LatGPS.3	✓ LatI.3	✓ LonGPS.3	✓ LonI.3		
✓ Pressure Sensors	✓ PDALPHA.1	✓ PQALPHA.1	✓ PQM.1	✓ PSM.1	✓ PQMref	
	✓ PDALPHA.2	✓ PQALPHA.2	✓ PQM.2	✓ PSM.2	✓ PQ.c	
	✓ PDBETA.1	✓ PQBETA.1			✓ PSMref	
	✓ PDBETA.2	✓ PQBETA.2			✓ 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		
✓ Temperature / Dewpoint	✓ TTM.1	✓ TTM.4	X TDM.1		✓ TD.c	✓ TTMref
	INOP TTM.2		✓ TDM.2		✓ TDMref	✓ TA.d
	✓ TTM.3				✓ HUM	
✓ Wind					✓ UWZ.d	✓ WS.d
						✓ WD.d

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:

AVAPS Drop Log

Project: ~~A/R 2023/24~~ HX 2024 Mission: Beryl Flight ID: 20240702N1

Take Off: 1330 Landing: 0106Z Flt Dir: Sofia Launcher S/N: 2

Drop #	Sonde Serial #	Rcvr #	Press Offset	Launch Time	Operator	Charge $$ To	Comments	Good ?
1	233950591	1	-0.5	1756	THB	PHS	Good	✓
2	232010173	2	0	1808	THB	PHS	Good	✓
3	230350129	3	-1.4	1819	THB	PHS	Good	✓
4	230450376	4	-0.9	1822	THB	PHS	Good	✓
5	230610053	1	-0.7	1839	THB	PHS	Good	✓
6	231720887	2	-1.0	1849	THB	PHS	Good	✓
7	230640116	3	-0.6	1902	THB	PHS	Good	✓
8	230541103	4	-1.4	1915	THB	PHS	Good	✓
9	230351531	1	-0.7	1923	THB	PHS	Good	✓
10	230351447	2	-1.3	1934	THB	PHS	Good	✓
11	230610050	3	-0.8	1945	THB	PHS	Good	✓
12	230450374	4	-0.8	1958	THB	PHS	Good	✓
13	230650071	1	-0.5	2009	THB	PHS	fast (double)	✓
14	230710638	2	-0.8	2018	THB	PHS	good	✓
15	230650115	3	-0.5	2029	THB	PHS	good	✓
16	230351433	4	-0.7	2040	THB	PHS	good	✓
17	230450373	1	-0.7	2051	THB	PHS	good	✓
18	230450392	2	-0.7	2102	JD	PHS	good	✓
19	230710651	3	-0.6	2114	JD	PHS	good	✓
20	230710652	4	-0.9	2124	JD	PHS	good	✓
21	230620804	1	-1.2	2139	JD	PHS	good	✓
22	230450379	2	-0.8	2155	JD	PHS	good	✓
23	230640130	3	-0.5	2207	JD	PHS	good	✓
24	230710653	4	-0.6	2220	JD	PHS	good	✓
25	230441057	1	-0.5	2231	JD	PHS	good	✓
26	230530874	2	-0.9	2243	JD	PHS	good	✓
27	230981795	3	-0.4	2253	JD	PHS	good	✓
28	230530209	4	-0.7	2301	JD	PHS	good	✓
29	230450377	1	-0.7	2308	JD	PHS	good	✓
30	230710561	2	-0.3	2316	JD	PHS	good	✓
31	230530208	3	-0.7	2326	JD	PHS	good	✓

Noted mistake: All PHS for this series are actually NWS.

Drop #	Sonde Serial #	Rcvr #	Press Offset	Launch Time	Operator	Charge $$ To	Comments	Good ?
32	2305411102	4	-0.5	2335	JA	PHS	good	✓
33	2303511446	1	-0.7	2345	JA	PHS	good	✓
34	230351555	2	-1.1	2355	JA	PHS	good	✓
35	2307101639	3	-0.4	0004	JA	PHS	Bad	X
36	2303514464	4	-0.9	0013	JA	PHS	Good	✓
37	230351444	1	-0.5	0021	JA	PHS	good	
38	230940023	2	-0.6	—	JA	PHS	NO DROP	X
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, GOMO, NASA, ONR, SAT (JPSS/NESDIS/HRD), MS (old NRD94 sondes)

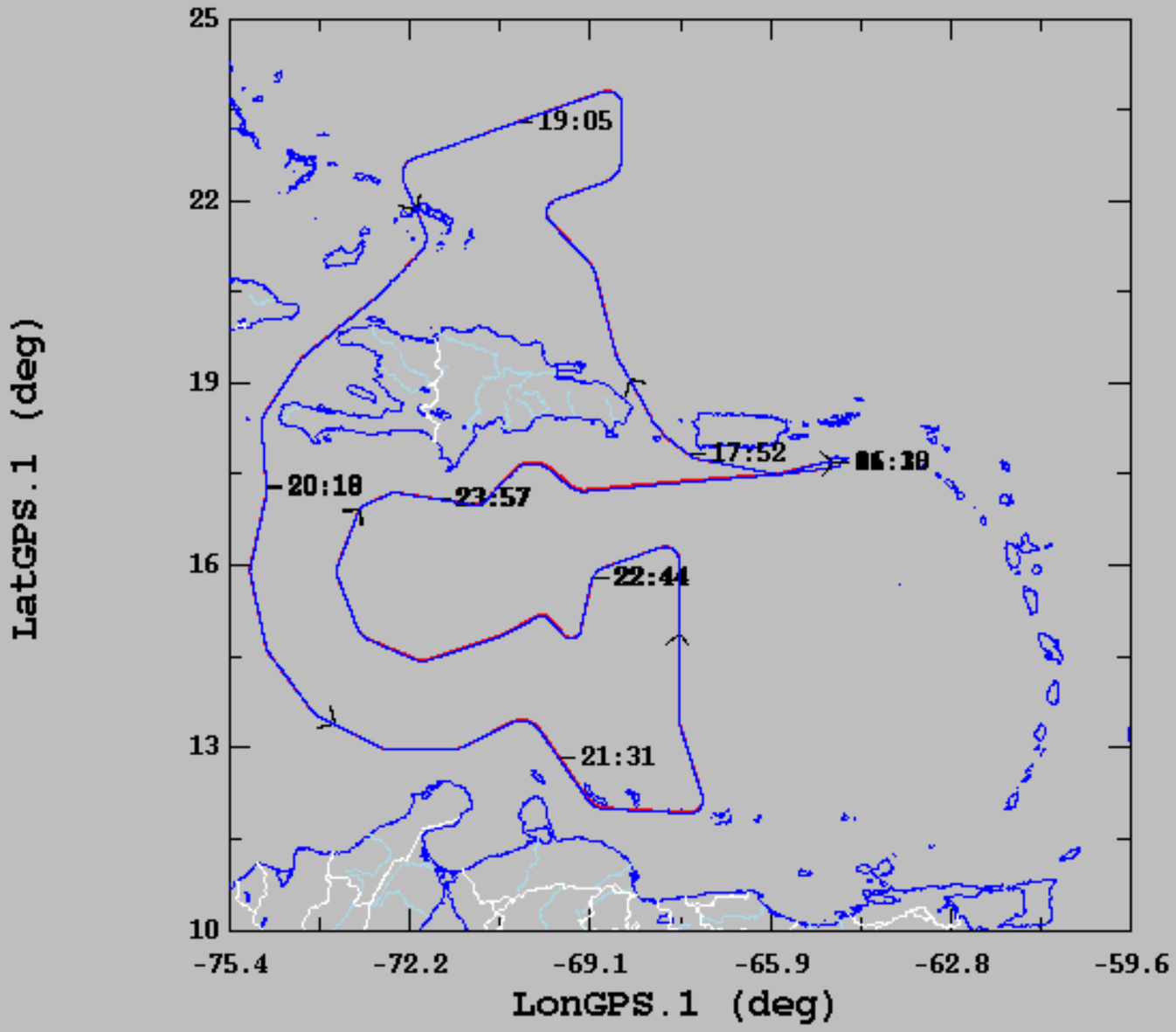
AVAPS Pre-Flight Check:

- 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
- RD41 ONLY: On N42 & N43, remove about ½ 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.
- RD41: Place the sonde in the launch tube, sensor arm up, with the power pin socket facing right
- NRD41: Place the sonde in the launch tube, sensor arm down
- Verify the sonde is actively tracking GPS data prior to launch and no early launch detect

07/02/2024, 16:39:01-25:10:30



	mean	sigma	min	max
LatGPS.1 (deg), 1 s/sec	17.24	3.07	11.92	23.80
LonGPS.1 (deg), 1 s/sec	-69.63	3.09	-74.99	-64.68
LatI.1 (deg), 1 s/sec	17.25	3.07	11.94	23.81
LonI.1 (deg), 1 s/sec	-69.63	3.09	-75.00	-64.68