N42RF ERROR SUMMARY
20240705H1

Flight ID: 20240705H1

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/20240705H1

Local Met Data	Takeoff KLAL (1957Z)	Landing KLAL (0237Z)
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.

PDALPHA.2, PDBETA.2, and PQM.4 (all radome) sensors erroneous throughout the flight and should not be used

PQM.1 suspicious decrease between ~2130-2136 UTC (not consistent with PQM2 or PQM3), but recovers by ~2141 UTC; PTM.1 erroneous and should not be used

TDM.1 drops out at 01:37:49 for remainder of flight (after science already complete) (TDM.2 ok in this period); as such, TDMref, TD.c, and HUM also drop out

SFMR TB, WS SFMR, and RAIN RATE SFMR needs further assessment and data should be used with caution

Expendable Type	# deployed	# good	# transmitted

Dropsondes	11	11	11
Test sondes	0	0	0
AXBTs	0	0	0
AXCPs	0	0	0
AXCTDs	0	0	0
UAS	0	0	0

Flight Director: Zawislak/Englert
Phone #: 305-707-4359

ACAT-4 Version = 7.4

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

FLIGHT INFORMATION			
FLT ID:	20240705H1	FLT #:	FY24-
From:	KLAL	ETD:	1600L / 2000Z
To:	KLAL	ETA:	0000L / 0400Z
Block Time		Flight Time	
Out:	19:48	T/O:	19:57
In:	02:45	Land:	02:37
Total:	7.0	Total:	6.7
Sponsoring Org:	NHC		
Program:	PRX		
Purpose:	TDR Mission		

CREW MANIFEST		
AC:	Copare	Scientists:
CP(s):	Palmer	Sim Aberson (HRD)
	Ellis	
NAV:	Utama	
FE(s):	Stokes	
	Dittoe	
FD(s):	Zawislak	
	Englert	
SSA:	McAlister	Visitors:
AVAPS:	Kotz	
SEB:	Iddings (PA)	
	Talbert (PA)	
	Betker	
MX:		

MISSION INFORMATION				
Pressure		Dropsondes		
A/C Takeoff	1007.4	Good	Bad	Sent
ASOS Takeoff	1007.1	11	0	11
A/C Land	-	BTs		
ASOS Land	1010.1	Good	Bad	Sent
		0	0	0
Storm Number ID: (ie: AL072012)		AL022024		
TCPOD/WSPOD Mission (ie: NOAA2 2418A SANDY)		NOAA2 2202A 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
11 NWS sondes

OBSERVATIONS			
Fix Number	Obs Number	Fix Time	SLP
1	OB02 21.45N/89.42W	22:22:20	998 mb 110/22 kt
2	OB06 21.57N/89.58W	23:28:23	998 mb 115/22 kt
3	OB12 21.75N/89.80W	00:33:02	999 mb 105/27 kt
4			
Pennies:	3 x TS		

*Highlighted items must be completed before departure.

Remarks:

P-3 QC Checklist

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

Flight ID:	20240705H1
Flight Director(s):	Zawislak / Englert
Mission:	Tasked/Operational
UWZ.d mean:	0.16

Pressure Comparison		
	Pre-flight	Post-flight
Aircraft	1007.4	Not reported
Airfield	1007.1	1010.1

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	X PQM.1	✓ PSM.1	✓ PQMref	
	X PDALPHA.2	✓ PQBETA.1	✓ PQM.2	✓ PSM.2	✓ PQ.c	
	✓ PDBETA.1		✓ PQM.3	X PTM.1	✓ PSMref	
	X 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	X TDM.1	✓ TRadD.1		X TD.c	✓ TTMref
	✓ TTM.2	✓ 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:

PDALPHA.2, PDBETA.2, and PQM.4 (all radome) sensors erroneous throughout the flight and should not be used

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AVAPS Drop Log

Project: Beryl Mission: 20240705H1 Flight ID: 20240705 H1

Take Off: 1400Z/2000Z Landing: _____ Flt Dir: DR. 57 Launcher S/N: _____

Drop #	Sonde Serial #	Rcvr #	Press Offset	Launch Time	Operator	Charge $$ To	Comments	Good ?
1	23035 1468	1	-0.7	2157	HK	NWS	IP 1	✓
2	23035 2450	2	-0.8	2211	HK	NWS	MP 1	✓
3	23065 0131	3	-1.0	2222	HK	NWS	CNTR 1	✓
4	23034 0088	4	-1.0	2328	HK	NWS	CNTR 2	✓
5	23045 0391	5	-0.5	2341	HK	NWS	MP 2	✓
6	23065 0119	6	-1.2	2352	HK	NWS	EP 2	✓
7	23053 0846	7	-0.8	0012	HK	NWS	IP 3	✓
8	23093 1829	8	-0.7	0024	HK	NWS	MP 3	✓
9	23035 1469	1	-0.8	0037	HK	NWS	CNTR 3	✓
10	23034 0185	2	-1.0	0050	HK	NWS	MP 3	✓
11	23065 0052	3	-1.2	0100	HK	NWS	EP 3	✓
12	~~23094 0024~~	~~4~~	~~-1.0~~					
13	~~23053 0842~~	~~5~~	~~-1.3~~					
14	~~23094 0071~~	~~6~~	~~-1.1~~					
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								
31								

RTB

Dropwindsonde Scientist Log

Storm:	BERYL	**Flight ID:**	20240705H1	**Mission ID:**	2202A	**Takeoff:**	1957Z	**Landing:**	0237Z

Dropsonde Scientist(s):	Dunion, Kaplan	**AVAPS Operator:**	Kotz

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.

Storm: BERYL **Flight ID: 20240705H1** **Mission ID: 2202A BERYL**

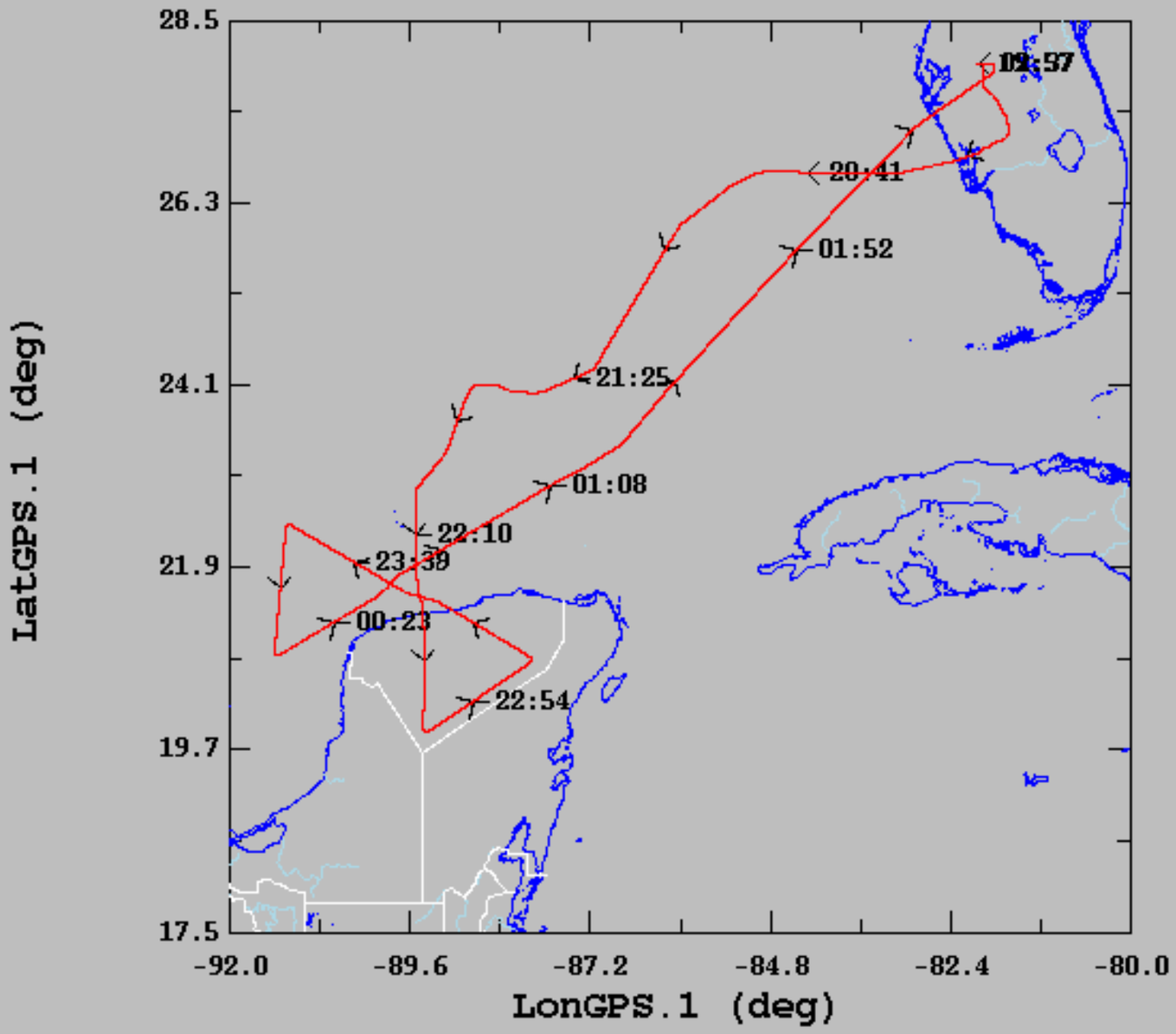
Drop #	Sonde ID	Time UTC	Lat (°N/S)	Lon (°E/W)	Sfc Pressure (mb)	Lowest Wind Direction/Speed (deg/kt)	Lowest Wind Height (m)	AXBT SST (°C)	Eye, Eyewall, Rainband, etc.	Ob #
1	230351468	2157	23.066	89.301	1008.6	005/30	10			1
Comments: WP1 (N); flagged T and RH 0-7.0s (T drop/increase issue)										
2	230351450	221124	22.203	89.516	1004.4	045/35	10			3
Comments: mid-point (N-center); flagged T and RH 0-7.0s (T drop/increase issue)										
3	230650131	222217	21.456	89.423	997.8	110/22	10			4
Comments: Center; flagged T and RH 0-6.5s (T drop/increase issue)										
4	230340088	232832	21.574	89.597	997.9	115/22	10			5
Comments: Center; flagged T and RH 0-7.5s (T drop/increase issue)										
5	230450391	234134	22.050	90.504	1004.9	015/39	10			7
Comments: mid-point (center-NW); flagged T and RH 0-11.0s (T drop/increase issue)										
6	230650119	235238	22.319	91.248	1007.7	035/31	10			8
Comments: WP 4 (NW); flagged T and RH 0-8.5s (T drop/increase issue); set end at 278.50s (0 sats at bottom)										
7	230530846	001229	20.839	91.318	1007.9	005/25	10			9
Comments: WP 5 (SW); flagged T and RH 0-6.5s (T drop/increase issue); set end at 283.75s (0 sats at bottom)										
8	230931829	002445	21.270	90.525	1004.0	325/32	10			10
Comments: mid-point (SW-center); flagged T and RH 0-8.0s (T drop/increase issue); set end at 271.25s (0 sats at bottom)										
9	230351469	003619	21.754	89.797	999.1	105/27	10			11
Comments: Center; flagged T and RH 0-13.5s (T drop/increase issue); set end at 280.25s (0 sats at bottom)										
10	230340185	004906	22.231	88.939	1005.9	100/37	10			13
Comments: mid-point (center-NE) ; flagged T and RH 0-8.50s (T drop/increase issue); set end at 280.50s (0 sats at bottom)										

Storm: BERYL **Flight ID: 20240705H1** **Mission ID: 2202A BERYL**

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	230650052	010051	22.640	88.172	1008.7	095/26	10			14
Comments: WP 6 (NE) ; flagged T and RH 0-7.50s (T drop/increase issue); set end at 295.25s (0 sats at bottom)										
Comments:										
Comments:										
Comments:										
Comments:										
Comments:										
Comments:										
Comments:										
Comments:										

Comments:

07/05/2024, 19:57:00-02:37:00



	mean	sigma	min	max
LatGPS.1 (deg), 1 s/sec	23.69	2.40	19.90	27.99
LonGPS.1 (deg), 1 s/sec	-87.21	2.92	-91.39	-81.61