N42RF ERROR SUMMARY
20240630H1

Flight ID: 20240630H1

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.2
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/20240630H1

Local Met Data Takeoff TISX (2011Z) Landing TISX (0254Z)

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
PTM.1 erroneous and should not be used
TDM.2 spikes 00:50:57-00:51:23 UTC, but otherwise appears reasonable
This brief spike/dropout in TDM.2 (which was TDMref) also led to dropouts in TD.c, TDMref, TA.d, HUM, TAS.d, UWZ.d, WS.d, WD.d, and PSURF
SFMR TB, WS SFMR, and RAIN RATE SFMR needs further assessment and data should be used with caution

Expendable Type	# deployed	# good	# transmitted
Dropsondes	22	22	21
Test sondes	0	0	0

AXBTs	0	0	0
AXCPs	0	0	0
AXCTDs	0	0	0
UAS	0	0	0

Flight Director: Zawislak
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:	20240630H1	**FLT #:**	FY24-
From:	TISX	**ETD:**	1600L / 2000Z
To:	TISX	**ETA:**	0000L / 0400Z
Block Time		**Flight Time**	
Out:	20:05	T/O:	20:11
In:	02:59	Land:	02:54
Total:	6.9	Total:	6.7

Sponsoring Org:	NHC
Program:	PRX
Purpose:	TDR Mission

CREW MANIFEST

AC:	Copare	**Scientists:**
CP(s):	Palmer	Sim Aberson (HRD)
	Ellis	Paul Chang (NESDIS)
NAV:	Utama	
FE(s):	Stokes	
	Dittoe	
FD(s):	Zawislak	
SSA:	McAlister	**Visitors:**
AVAPS:	Lynch	
SEB:		
MX:		

MISSION INFORMATION

Pressure		Dropsondes		
		Good	Bad	Sent
A/C Takeoff	1013.8	22	0	21
ASOS Takeoff	1012.6	**BTs**		
		Good	Bad	Sent
A/C Land	-	0	0	0
ASOS Land	1015.0			

Storm Number ID: (ie: AL072012)	AL022024
TCPOD/WSPOD Mission (ie: NOAA2 2418A SANDY)	NOAA2 0302A BERYL

OBSERVATIONS

Fix Number	Obs Number	Fix Time	SLP
1	OB05 11.14N/56.04W	22:20:31	961 mb 205/30 kt
2	OB11 11.19N/57.2W	23:37:16	958 mb 070/02 kt
3	OB20 11.24N/57.5W	00:51:43	960 mb 160/10 kt
4			
Pennies:	3 x CAT 4		

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
First pennies: Ellis, Dittoe
22 NWS sondes

*Highlighted items must be completed before departure.

Remarks:

P-3 QC Checklist

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

Flight ID:	20240630H1
Flight Director(s):	Zawislak
Mission:	Tasked/Operational
UWZ.d mean:	0.22

Pressure Comparison		
	Pre-flight	Post-flight
Aircraft	1013.8	Not reported
Airfield	1012.6	1015.0

This form uses:
_B.nc

SFMR Serial Unit	2

Parameters	Raw				Derived, Corrected & Reference	
✓ Acceleration	✓ AccAXI.1 ✓ AccAXI.2 ✓ AccAXI-GPS.1 ✓ AccAXI-GPS.2	✓ AccAYI.1 ✓ AccAYI.2 ✓ AccAYI-GPS.1 ✓ AccAYI-GPS.2	✓ AccAZI.1 ✓ AccAZI.2 ✓ AccAZI-GPS.1 ✓ AccAZI-GPS.2	✓ AccZfilter-GPS.1 ✓ AccZfilter-GPS.2	✓ AccZref	
✓ Altitude	✓ AltGPS.1 ✓ AltGPS.2 ✓ AltGPS.3 ✓ AltGPS.4	✓ AltI-GPS.1 ✓ AltI-GPS.2	✓ AltPaADDU.1 ✓ AltBCADDU.1	✓ AltRA.1 ✓ AltRA.2	✓ ALTref ✓ ALTPA.d ✓ ALTGA.d	✓ AltRA1.c ✓ AltRA2.c
✓ Ground Speed	✓ GsXI-GPS.1 ✓ GsXI-GPS.2	✓ GsYI-GPS.1 ✓ GsYI-GPS.2	✓ GsZI-GPS.1 ✓ GsZI-GPS.2		✓ GSXref ✓ GSYref ✓ GSZref	
✓ Location	✓ LatGPS.1 ✓ LatGPS.2 ✓ LatGPS.3 ✓ LatGPS.4	✓ LatI-GPS.1 ✓ LatI-GPS.2	✓ LonGPS.1 ✓ LonGPS.2 ✓ LonGPS.3 ✓ LonGPS.4	✓ LonI-GPS.1 ✓ LonI-GPS.2	✓ LATref ✓ LONref	
✓ Pressure Sensors	✓ PDALPHA.1 X PDALPHA.2 ✓ PDBETA.1 X PDBETA.2	✓ PQALPHA.1 ✓ PQBETA.1	✓ PQM.1 ✓ PQM.2 ✓ PQM.3 X PQM.4	✓ PSM.1 ✓ PSM.2 X PTM.1	✓ PQMref ✓ PQ.c ✓ PSMref ✓ PS.c	
✓ Air Speed	✓ CasADDU.1	✓ TasADDU.1	✓ IasADDU.1		✓ IAS.d	X TAS.d
✓ Pitch / Roll	✓ PitchI.1 ✓ PitchI.2 inop PitchI.3	✓ PitchRateI.1 ✓ PitchRateI.2 inop PitchRateI.3	✓ RollI.1 ✓ RollI.2 inop RollI.3	✓ RollRateI.1 ✓ RollRateI.2 inop RollRateI.3	✓ PITCHref ✓ ROLLref	
✓ Temperature, Dewpoint, Radiometers	✓ TTM.1 ✓ TTM.2 inop TTM.3	✓ TDM.1 X TDM.2 inop TDM.3	✓ TRadD.1 ✓ TRadS.1 inop TRadU.1		X TD.c X TDMref X HUM	✓ TTMref X TA.d
✓ Wind and Pressure ✓ SFMR	SFMR	X CH 1 TB X CH 2 TB X CH 3 TB	X CH 4 TB X CH 5 TB X CH 6 TB		X UWZ.d X PSURF X WS SFMR	X WS.d X WD.d 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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SFMR TB, WS SFMR, and RAIN RATE SFMR needs further assessment and data should be used with caution

7

AVAPS Drop Log

Project: HURR 24 Mission: BERYL #1 Flight ID: 2024 0630 H1

Take Off: _____ Landing: _____ Flt Dir: JZ Launcher S/N: _____

	Drop #	Sonde Serial #	Rcvr #	Press Offset	Launch Time	Operator	Charge $$ To	Comments	Good ?
IP	1	222 520 353	1	-0.7	2155	CFL	HWS		✓
MP	2	221 540 607	2	-0.8	2208	↓	↓		✓
RMW	3	221 450 242	3	-0.6	2218			MASSIVE UPDRAFT	✓
~~HIGH PRES~~	~~4~~	~~221 230 519~~	~~4~~						
~~PRE~~	~~5~~ 4	~~221 460 146~~							
~~LD~~	~~6~~ 4	~~221 530 951~~	~~4~~	~~-1.1~~					
CP	~~7~~ 4	221 350 462	4	~~-0.4~~	2220				✓
RMW	~~8~~ 5	221 410 191	5	-0.9	2222				✓
MP	~~9~~ 6	221 220 383	6	-0.8	2232				✓
IP	~~10~~ 7	221 430 387	7	-0.7	2243				✓
IP	~~11~~ 8	221 460 146	8	-0.8	2312				✓
MP	~~12~~ 9	221 230 519	1	-5.0	2323			HIGH OFFSET SAID REF	✓
RMW 10	~~13~~	221 460 162	2	-0.5	2335				✓
CTR 11	~~14~~	221 450 317	3	-0.8	2337				✓
RMW 12	~~15~~	221 210 168	4	-0.6	2338				✓
MID 13	~~16~~	221 450 254	5	-0.7	2350				✓
IP 14	~~17~~	221 470 728	6	-0.4	0001				✓
IP 15	18	221 210 165	7	-0.8	0028				✓
MID 16	19	221 430 388	8	-0.9	0040				✓
RMW1 17	20	221 470 660	1	-0.6	0050				✓
RMW2 18	21	221 460 148	2	-0.8	0050				✓
CTR 19	22	221 530 532	3	-0.8	0051				✓
RMW 20	23	221 230 714	4	-0.5	0054				✓
MID 21	24	221 220 352	5	-0.9	0104				✓
END 22	~~25~~	221 460 147	6	-1.3	0116				
	26	~~221 210 160~~	~~7~~	~~-0.8~~					
	27								
	28								
	29								
	30								
	31								

150
-22
128

AOC GPS Dropwindsonde Log (updated Mar 2019)

Flight ID: 20240630H1 ASPEN Operator/Flight Director(s): TIMMERS (JAG) / ZAWISLAK

Mission ID: 0302A BERYL Storm Name/Track: HURRICANE BERYL PG ___ of ___

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	2155 58	20358	1	11.9	-58.3	—	1008	IP 025/23	2213	✓✓
2	2	2208 58	40607	2	11.4	-57.5	—	1004	MP 355/35	2229	✓✓
3	3	2218 43	50242	3	11.2	-56.9	—	971.2	RMW 185/97 NW EYEWALL	2243	✓✓
4	4	2220 37	50462	4	11.1	-56.8	—	960.9	CENTER 205/30	2250	✓✓
5	6	2222 42	10191	5	11.0	-57.8	—	990.6	RMW 195/55	2303	✓✓ — VPM
6	7	2232 34	20383	6	10.5	-56.3	—	1007.2	MP 200/34	2314	✓✓
7	8	2243 46	30387	7	10.1	-55.6	—	1008.8	IP 215/26	2322	✓✓
8	9	2312 35	60146	8	12.0	-55.7	—	1010.1	IP 130/29	2336	✓✓
9	10	2323 54	30519	1	11.6	-56.4	—	1006.6	MP 140/36	2355	✓✓
10	12	2335 03	60162	2	11.3	-57.1	—	977.1	RMW 121/19 NE EYEWALL	0001	✓✓ — VDM
11	13	2337 21	50317	3	11.2	-57.2	—	958.4	CENTER 070/02	2351	✓✓
12	14	2338 45	10168	4	11.1	-57.3	—	976.3	RMW 255/95 SW EYEWALL	0017	✓✓
13	15	2350 29	50254	5	10.7	-58.0	—	1005.7	MP 290/32	0026	✓✓
14	16	0001 56	70728	6	10.5	-58.7	—	1010.9	IP 315/20	0031	✓✓
15	17	0028 03	10165	7	9.6	-57.6	—	1008.2	IP 255/14	0038	✓✓
16	18	0040 19	30388	8	10.5	-57.6	—	1005.4	MP 245/32	0051	✓✓
17	—	0050 16	70660	1	11.1	-57.5	—	978.8	RMW1 220/72	0113	—
18	19	0050 36	60148	2	11.2	-57.5	—	967.3	RMW2 215/72 CCA EYEWALL S	0115	✓✓ — VDM
19	21	0051 56	30532	3	11.3	-57.5	—	960.3	CENTER 160/10	0107	✓✓
20	22	0054 16	30714	4	11.4	-57.5	—	976.2	RMW 035/67 EYEWALL N	0144	✓✓
21	23	0104 58	20352	5	12.1	-57.5	—	1006.2	MP 085/49	0154	✓✓ ***
22	24	0116 41	60147	6	12.9	-57.5	—	1009.9	EPT 080/32	0158	✓✓
23											
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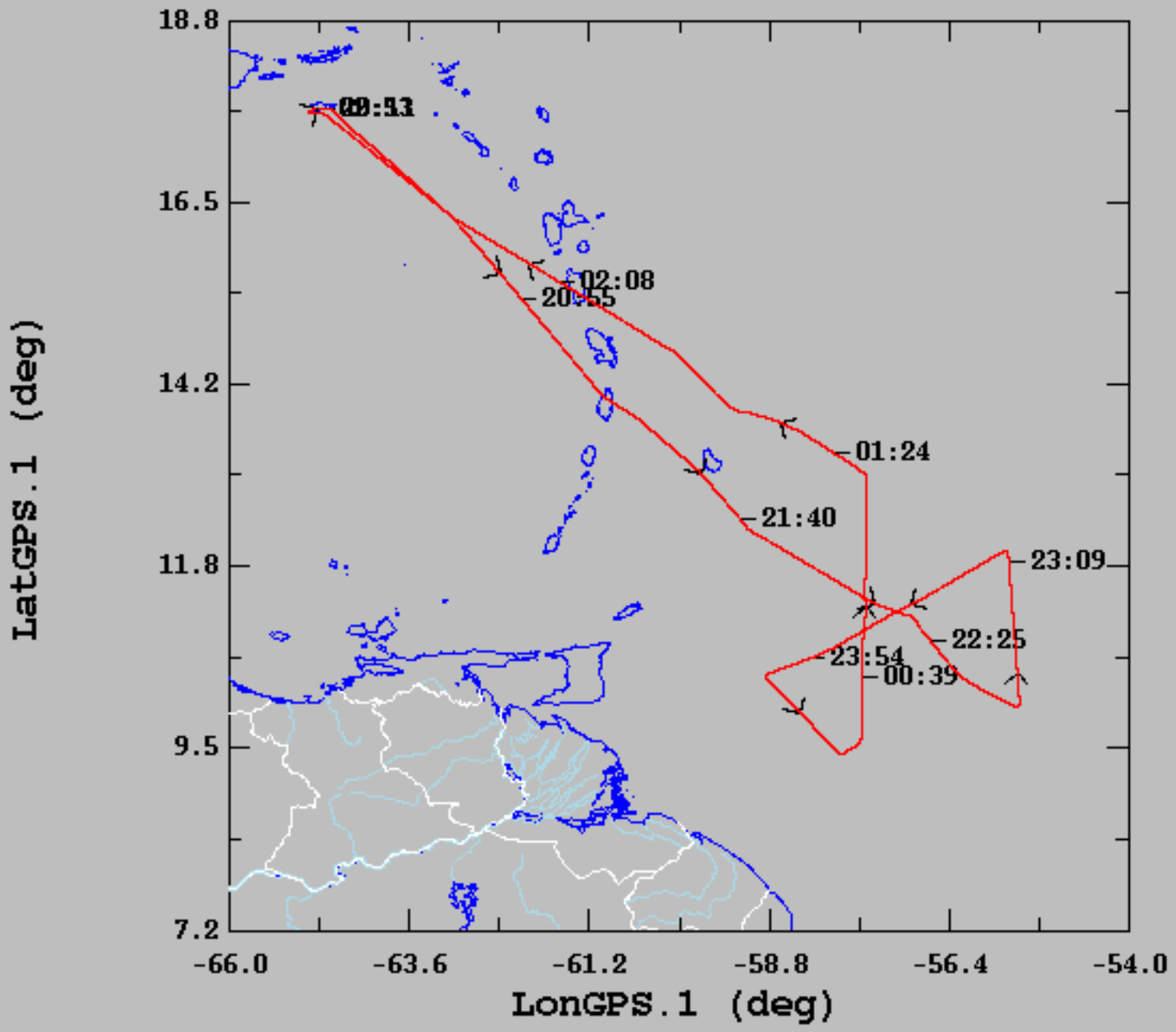
37											
38											

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

24 Obs Xmitted 1 Obs Missed 22 # of sondes launched Ø # of bad sondes

06/30/2024, 20:11:00-26:53:32



	mean	sigma	min	max
LatGPS.1 (deg), 1 s/sec	13.01	2.43	9.42	17.71
LonGPS.1 (deg), 1 s/sec	-59.28	2.72	-64.92	-55.45