



Flight Director: Hathaway  
Phone #: 863-500-3911

ACAT-4 Version = 7.4

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

FLIGHT INFORMATION				CREW MANIFEST			MISSION INFORMATION					
FLT ID:	20210926H1	FLT #:	3	AC:	Legidakes	Scientists:	Pressure		Dropsondes			
From:	TISX	ETD:	2000	CP(s):	Keith	Bucci	A/C Takeoff		Good	Bad	Sent	
To:	TISX	ETA:	400	NAV:	Rannenberg	Zhang	ASOS Takeoff		<b>34</b>	<b>0</b>	<b>34</b>	
Block Time		Flight Time		FE(s):	Utama	Hough	<b>BTs</b>					
In:	<b>4:18</b>	Land:	<b>4:14</b>	FD(s):	Sanchez		A/C Land		Good	Bad	Sent	
Out:	<b>19:35</b>	T/O:	<b>19:42</b>	SSA:	Levine		ASOS Land		<b>7</b>	<b>0</b>	<b>0</b>	
Total:	<b>8.7</b>	Total:	<b>8.5</b>	AVAPS:	Hathaway	Visitors:	Storm Number ID: (ie: AL072012) <b>AL182021</b>					
Sponsoring Org:		HRD		SEB:	Lundry	TCPOD/WSPOD Mission (ie: NOAA2 2418A SANDY)						<b>0218A SAM</b>
Program:		PRX		MX:	Richards, T.		<b>OBSERVATIONS</b>					
Purpose:		Sam Research Flight #2					Fix Number	Obs Number	Fix Time	SLP		
AS REQUIRED BY ORM				Y	N	REMAR		1				
VOLCANIC ASH					X			<b>1</b>				
SCIENCE MISSION WITHIN BDRY LAYER					X			<b>2</b>				
LACK OF PRECIPITATION					X			<b>3</b>				
RELATIVE HUMIDITY ≥ 80%				X				<b>4</b>				
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												
							<b>Pennies:</b>	3				
*Highlighted items must be completed before departure.												
<b>Remarks:</b>												

## P-3 QC Checklist

Overall Assessment	Minor instrument issue(s) - minimal mission impact.
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Flight ID:	20210926H1
Flight Director(s):	Hathaway
Mission:	Tasked/Operational
UWZ.d mean:	0.12

Pressure Comparison		
	T/O	Land
Aircraft	1011.3 mb	N/A
Tower	TISX - 1010.9 mb	TISX - 1012.6 mb

	Raw 1Hz Mean File Parameters				C File Parameters	
✓ Accelerometer	✓ 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	
✓ Lat / Lon	✓ 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	✓ PDALPHA.1 ✓ PDALPHA.2 ✓ PDBETA.1 ✓ PDBETA.2	✓ PQALPHA.1 ✓ PQBETA.1	✓ PQM.1 ✓ PQM.2 ✓ PQM.3 ✓ PQM.4	✓ PSM.1 ✓ PSM.2 ✓ PTM.1	✓ PDALPHAref ✓ PDBETAref ✓ PQALPHAref ✓ PQBETAref	✓ PQMref ✓ PQ.c ✓ PSMref ✓ PS.c
✓ Air Speed	✓ CasADDU.1	✓ TasADDU.1	✓ IasADDU.1		✓ IAS.d	✓ TAS.d
✓ Pitch / Roll	✓ PitchI.1 ✓ PitchI.2 <input type="checkbox"/> PitchI.3	✓ PitchRateI.1 ✓ PitchRateI.2 <input type="checkbox"/> PitchRateI.3	✓ RollI.1 ✓ RollI.2 <input type="checkbox"/> RollI.3	✓ RollRateI.1 ✓ RollRateI.2 <input type="checkbox"/> RollRateI.3	✓ PITCHref ✓ ROLLref	
✓ Temp / Dewpt	✓ TTM.1 ✓ TTM.2 <input style="background-color: #f8d7da;" type="checkbox"/> TTM.3	✓ TDM.1 ✓ TDM.2 <input type="checkbox"/> TDM.3	✓ TRadD.1 ✓ TRadS.1 <input type="checkbox"/> TRadU.1		✓ TD.c ✓ TDMref	✓ TTMref ✓ TA.d
✓ Misc. (Must check)					✓ UWZ.d ✓ DPJ_WSZ ✓ HUM	✓ WS.d ✓ WD.d

FLID_Mission_Documents.pdf:
<ul style="list-style-type: none"> <li>✓ Error Summary</li> <li>✓ Crew Manifest</li> <li>✓ QC Checklist</li> <li>✓ Dropwindsonde Log(s) - AVAPS and FD if completed</li> <li>✓ Flight Track</li> <li>✓ Miscellaneous FD Notes</li> </ul>

QC Key	
Not checked	<input type="checkbox"/>
Valid	<input checked="" type="checkbox"/>
Errors (note)	<input style="background-color: #f8d7da;" type="checkbox"/> X

NOTES:
- TDM.1 appears more sensitive especially during transit to and from the storm environment.

Dropsonde Scientist

Flight ID 20210926HI Storm SAM Mission ID 0218A

Dropsonde Scientists Jun Zhang

AVAPS Operators Mu

The Lead Project Scientist (LPS) on the P3 is responsible for determining the distribution patterns for dropwindsonde releases. Predetermined desired data collection patterns are illustrated on the flight patterns. However, these patterns are often altered because of clearance problems, etc. Operational procedures are contained in the operator's manual. On the G-IV the sole HRD person is designated the LPS. The following list contains more general supplementary procedures to be followed. (Check off or initial.)

**Preflight**

1. Determine the status of the AVAPS and workstation. Report results to the LPS.
2. Confirm the mission and pattern selection with the LPS and assure that enough dropsondes are on board the aircraft.
3. Modify the flight pattern or drop locations if requested by AOC to accommodate changes in storm location or closeness to land.
4. Complete the appropriate preflight set-up and checklists.

**In-Flight**

1. Operate the system as specified in the operator's manual.
2. Ensure the AOC flight director is aware of upcoming drops.
3. Ensure the AVAPS operator has determined that the dropsonde is (or is not) transmitting a good signal. Recommend if a backup dropsonde should be launched in case of failure.
4. Report the transmission of each drop and fill in the Dropwindsonde Scientist Log.

**Post flight**

1. Complete Dropwindsonde Scientist Log.
2. Download all raw and processed AVAPS files to thumbdrive
3. Brief the LPS on equipment status and turn in completed forms and thumbdrive.
4. Debrief at the base of operations.
5. Determine the status of future missions and notify Field Program Director as to where you can be contacted.

NOAA P-3 GPS Dropwindsonde Scientist Log (revised March 2019)

Storm SCUM  
Mission ID 02/8A

Flight ID 20210926 H1  
WMO 5148

Dropsonde Scientist Jun Zhang  
Dropsonde Scientist AVAPS Operator Mac

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Drop #	Sonde ID	Time UTC	Lat (°N/S)	Long (°E/W)	Sfc Pressure (mb)	Wind closest to		SST (°C)	Eye/Eyewall, Rainband, etc.	Ob #
						Dir/Spd (deg/kt)	Hgt (m)			
1 ✓	-20374	2215	14.433	52.048	1012	03023	10	28.4		1
Comments W-IP COMBO BT										
2 ✓	-30335	2226	14.432	51.316	1005	00540	10			2
Comments W-Mid										
3 ✓	-40785	2235	14.428	50.706	977	31099	10			3
Comments W-RMW 1										
4 ✓	30475	2235	14.427	50.665	964	30098	10			4
Comments W-RMW 2										
5 ✓	30477	2236	14.428	50.617	994	24069	10			5
Comments W-RMW 3										
6 ✓	50060	2237	14.428	50.545	932	12031	10			6
Comments Center										
7 ✓	50427	2238	14.427	50.454	960	02117	10			7
Comments E-RMW 1										
8 ✓	50429	2239	14.428	50.421	963	06027	10			8
Comments E-RMW 2										
9 ✓	20411	2239	14.428	50.413	984	07111	10			9
Comments E-RMW 3										
10 ✓	20376	2249	14.426	49.735	1004	13051	10			10
Comments E-Mid PT										

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NOAA P-3 GPS Dropwindsonde Scientist Log (revised March 2019)

Storm **SAM**  
 Mission ID **021874**  
 Flight ID **20210926H1**  
 (exp. 0213A)

Dropsonde Scientist **Jun Zhang**  
 Dropsonde Scientist **Jun Zhang**  
 VAPS Operator  
 VAPS Operator

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Drop #	Sonde ID	Time UTC	Lat (°N/S)	Long (°E/W)	Sfc Pressure (mb)	Wind closest to		SST (°C)	Eye/Eyewall, Rainband, etc.	Ob #
						Dir/Spd (deg/kt)	Hgt (m)			
11 ✓	50430	2259	14.248	48.99	1010	11534	10			11
Comments E-End Combo										
12 ✓	30331	2329	15.802	49.91	1010	09531	10			12
Comments NE-IP										
13 ✓	11158	2339	15.169	50.298	1007	07053	10			13
Comments NE-MTD										
14 ✓	30525	2347	14.704	50.539	987	05587	10			14
Comments NE-RMW1										
15 ✓	20390	2350	14.854	50.611	956	00615	10			15
Comments NE-RMW2										
16 ✓	20375	2349	14.567	50.604	958	01605	10			16
Comments NE-RMW3										
17 ✓	11546	2351	14.493	50.648	943	05523	10			17
Comments CENTER										
18 ✓	50530	2352	14.405	50.704	963	23015	10			18
Comments SW-RMW1										
19 ✓	30509	2353	14.387	50.715	968	22089	10			19
Comments SW-RMW2										
20 ✓	20544	2354	14.367	50.728	976	235188	10			20
Comments SW-RMW3										

NOAA P-3 GPS Dropwindsonde Scientist Log (revised March 2019)

Storm **SAM**  
Mission ID **0218A**

Flight ID **20210926H1**  
(exp. 0213A)

Dropsonde Scientist  
Dropsonde Scientist

**J. Zhang**

AVAPS Operator  
AVAPS Operator

**Mie**

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Drop #	Sonde ID	Time UTC	Lat (°N/S)	Long (°E/W)	Sfc Pressure (mb)	Wind closest to		SST (°C)	Eye/Ewall, Rainband, etc.	Ob #
						Dir/Spd (deg/kt)	Hght (m)			
21 ✓	11154	0003	13.819	51.068	1008	28531	10			21
Comments	SW - mtd									
22 ✓	40141	0013	13.203	51.445	1011	27518	10			22
Comments	SW - End									
23 ✓	20388	0036	13.285	49.983	1010	20527	10			23
Comments	SE - IP									
24 ✓	20389	0047	13.955	50.342	1006	21537	10			24
Comments	SE - mtd									
25 ✓	30344	0053	14.333	50.526	992	18560	10			25
Comments	SE - RNMW1									
26 ✓	20421	0055	14.516	50.625	965	10607	10			26
Comments	SE - RNMW2									
27 ✓	11156	0056	14.525	50.631	962	10128	10			27
Comments	SE - RNMW3									
28 ✓	11155	0057	14.621	50.725	947	07836	10			28
Comments	CENTER									
29 ✓	30493	0058	14.678	50.789	972	35111	10			29
Comments	NW - RNMW1									
30 ✓	20388	0059	14.684	50.801	975	00106	10			30
Comments	NW - RNMW2									

20210926H1

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NOAA P-3 GPS Dropwindsonde Scientist Log (revised March 2019)

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Storm SAM Flight ID 20240926H1 Dropsonde Scientist J. Zhai AVAPS Operator  
 Mission ID 02484 (exp. 0213A) Dropsonde Scientist AVAPS Operator

Drop #	Sonde ID	Time UTC	Lat (°N/S)	Long (°E/W)	Sfc Pressure (mb)	Wind closest to		SST (°C)	Eye/Eyewall, Rainband, etc.	Ob #
						Dir/Spd (deg/kt)	Hgt (m)			
31 ✓	33240	015910	14.695	50.808	976	01080	10			31
Comments	NW-RNW3									32
32 ✓	33241	0103	74.909	51.044	1001	01555	10			32
Comments	NW-MTD									33
33	1128X	0111	15.302	51.287	1011	05541	10			33
Comments	NW - Znd. (Snd)									34
34	20369	0119	15.652	51.878	1014	05028	10			34
Comments	Low drop - 6W module - final report.									
Comments										
Comments										
Comments										
Comments										
Comments										

20240926H1

page #4

AVAPS Drop Log

Project: 2021 HWX Season

Mission: Hurricane Sam

Flight ID: 20210926H1

Take Off: 2000Z

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

Flt Dir: Highway  
Lundy

Launcher S/N: 1

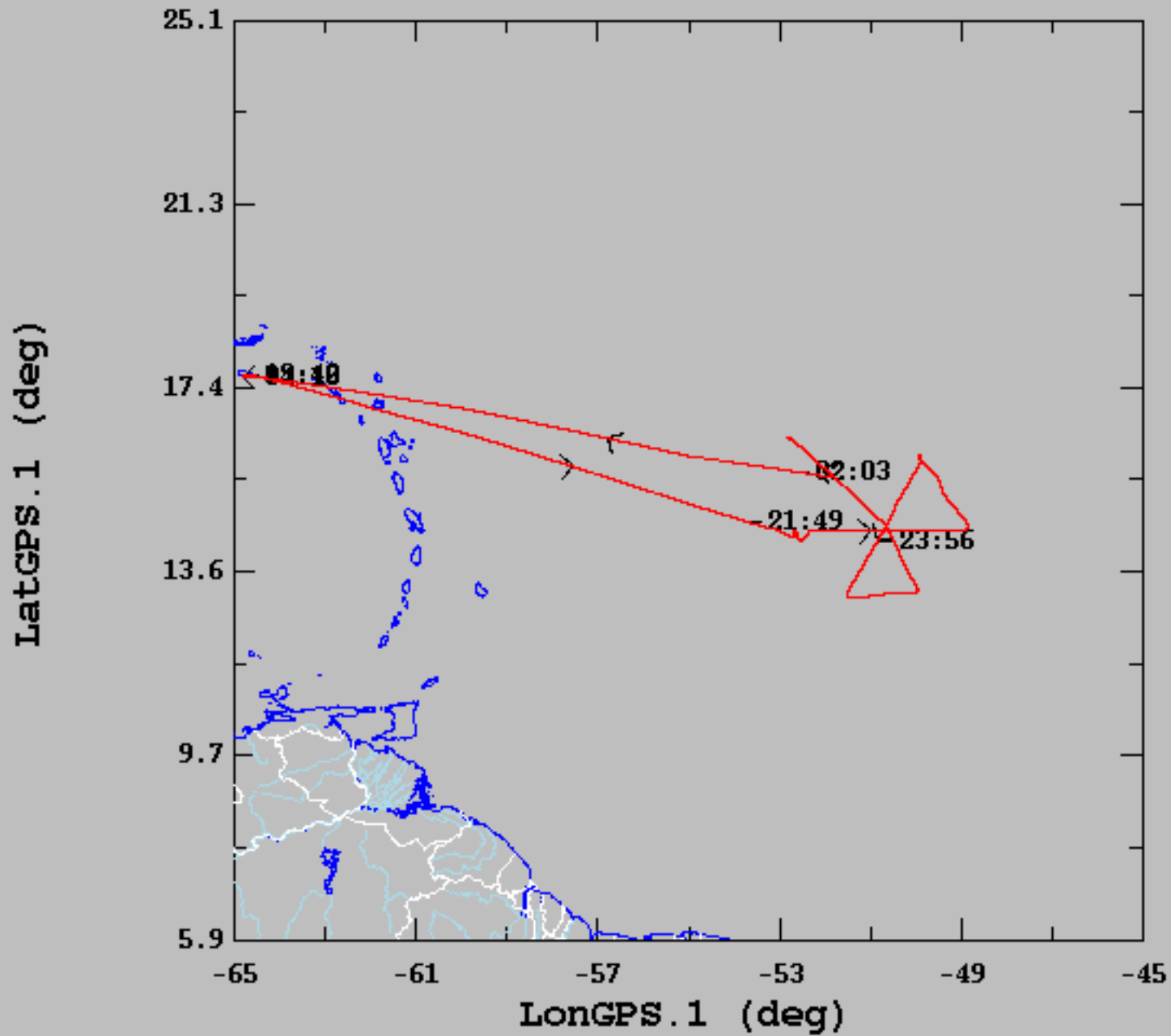
1st  
Pass

2nd  
Pass

3rd  
Pass

Drop #	Sonde Serial #	Rcvr #	Press Offset	Launch Time	Operator	Charge \$\$ To	Comments	Good ?
1	212720374	1	Ø	2215	MAC	NWS	IP1 Combo	
2	212730335	2	+0.3	2226		NWS	MID PT 1	
3	203240785	3	-0.3	2235		NWS	1st IN RMW.1	
4	210430475	4	-0.3	2235		ONR	1st IN RMW.2	
5	210430477	5	-0.3	2236		ONR	1st IN RMW.3	
6	203250060	6	-0.2	2237		NWS	1st CTR COMBO	
7	212750427	7	+0.2	2238		NWS	1st OUT RMW.1	
8	212750429	8	Ø	2239		ONR	1st OUT RMW.2	
9	212720411	1	Ø	2239		ONR	1st OUT RMW.3	
10	212720376	2	Ø	2249		NWS	1st MID OUT	
11	212750430	3	Ø	2259		NWS	1st END PT COMBO	
12	212730331	4	Ø	2329		NWS	IP2 COMBO	
13	212011158	5	Ø	2339		NWS	2nd MID IN	
14	212730525	6	Ø	2347		NWS	2nd IN RMW.1	
15	212720390	7	-0.1	2350		ONR	2nd IN RMW.2	
16	212720375	8	Ø	2349		ONR	2nd IN RMW.3	
17	212011546	1	Ø	2351		NWS	2nd CTR	
18	211850539	2	Ø	2352		NWS	2nd OUT RMW.1	
19	212730527	3	Ø	2353		ONR	2nd OUT RMW.2	
20	212720414	4	Ø	2353		ONR	2nd OUT RMW.3	
21	212011154	5	Ø	0003		NWS	2nd MID OUT	
22	210440141	6	-0.5	0013		NWS	END PT 2 COMBO	
23	212720388	7	-0.1	0036		NWS	IP3 COMBO	
24	212720389	8	-0.2	0047		NWS	3rd MID IN	
25	212730344	1	Ø	0053		NWS	3rd IN RMW.1	
26	212720421	2	Ø	0055		ONR	3rd IN RMW.2	
27	212011156	3	Ø	0056		ONR	3rd IN RMW.3	
28	212011155	4	Ø	0057		NWS	3rd CTR	
29	212730493	5	-0.1	0058		NWS	3rd OUT RMW.1	
30	212720385	6	Ø	0059		ONR	3rd OUT RMW.2	
31	212730340	7	Ø	0059		ONR	3rd OUT RMW.3	
32	212730341	8	+0.3	0103		ONR	3rd OUT RMW.4	
33	212011255	1	Ø	0111		NWS	3rd MID OUT	
34	212720349	2	Ø	0119	MAC	NWS	3rd END PT COMBO	

2021-09-26, 19:42:17-28:10:29



	mean	sigma	min	max
— LatGPS.1 (deg), 1 s/sec	15.60	1.25	13.02	17.70
— LonGPS.1 (deg), 1 s/sec	-55.09	4.79	-64.81	-48.84