



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:	20210927H1	FLT #:	4	AC:	Legidakes	Scientists:	Pressure		Dropsondes		
From:	TISX	ETD:	2000	CP(s):	Keith	Bucci	A/C Takeoff		Good	Bad	Sent
To:	TISX	ETA:	0300		Rannenberg	Zhang			<b>36</b>	<b>0</b>	<b>36</b>
<b>Block Time</b>		<b>Flight Time</b>		NAV:	Utama	Hough	ASOS Takeoff		<b>BTs</b>		
In:	<b>3:38</b>	Land:	<b>3:35</b>	FE(s):	Sanchez				Good	Bad	Sent
Out:	<b>19:32</b>	T/O:	<b>19:39</b>	FD(s):	Hathaway		A/C Land				
Total:	<b>8.1</b>	Total:	<b>7.9</b>	SSA:	Richards, T.	<b>Visitors:</b>	ASOS Land		<b>7</b>	<b>2</b>	<b>0</b>
Sponsoring Org:		HRD		AVAPS:	McAlister		Storm Number ID:		<b>AL182021</b>		
Program:		PRX		SEB:			(ie: AL072012)				
Purpose:		Sam Research Flight #3		MX:			TCPOD/WSPOD Mission		<b>0618A SAM</b>		
							(ie: NOAA2 2418A SANDY)				
AS REQUIRED BY ORM				Y	N	REMAR	Fix Number	Obs Number	Fix Time	SLP	
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:	20210927H1
Flight Director(s):	Hathaway
Mission:	Tasked/Operational
UWZ.d mean:	0.08

Pressure Comparison		
	T/O	Land
Aircraft	1010.4 mb	N/A
Tower	TISX - 1009.9 mb	TISX - 1011.9 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	✓ PitchRatel.1 ✓ PitchRatel.2 <input type="checkbox"/> PitchRatel.3	✓ RollI.1 ✓ RollI.2 <input type="checkbox"/> RollI.3	✓ RollRatel.1 ✓ RollRatel.2 <input type="checkbox"/> RollRatel.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 20210927H1 Storm Sam Mission ID 0618A

Dropsonde Scientists Jun Zhang

AVAPS Operators Max

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 **SAM**  
Mission ID

Flight ID **20210927H1**  
(exp. 0213A)

Dropsonde Scientist **Jun Zhang**  
Dropsonde Scientist **Muc**

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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	10225	2104	16.798	57.393	1012	02009				07
Comments HRD SAP overpass										
2	10036	2143	16.066	54.162	1010	34008				02
Comments W-IP combo										
3	20373	2152	16.172	53.556	1005	34033				03
Comments W-MID										
4	50311	2158	16.265	53.126	994	31073				04
Comments W-RMW1										
5	11157	2202	16.328	52.865	970	30574				05
Comments W-RMW2										
6	10216	2203	16.342	52.808	959	30546				06
Comments W-RMW3										
7	40280	2205	16.386	52.677	957	12527				07
Comments Center combo flight level WS=8.7 kt										
8	20371	2208	16.455	52.445	980	11082				08
Comments E-RMW1										
9	10567	2209	16.465	52.408	985	10570				09
Comments E-RMW2										
10	30202	2211	16.484	52.314	992	11067				10
Comments E-RMW3										

Storm **Sam**

Mission ID

Flight ID **20210927H1**  
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NOAA P-3 GPS Dropwindsonde Scientist Log (revised March 2019)

Dropsonde Scientist **J. Zhang**  
Dropsonde Scientist **AVAPS 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	40698	2218	16.624	51.8006	1006	125	43			11
Comments	E - MID PT									
✓ 12	30374	2229	16.824	51.047	1010	130	26			12
Comments	E - ISRD PT Combo									
✓ 13	30331	2254	18.131	52.199	1011	070	21			13
Comments	NE - IP Combo									
✓ 14	40571	2306	17.345	52.501	1106	060	53			14
Comments	NE - MID P									
✓ 15	40675	2315	16.76	52.717	985	085	85			15
Comments	NE - RMW1 - second eyewall (982)									
✓ 16	30524	2316	16.701	52.736	435	071	22			16
Comments	NE - RMW2 - corrected, unclear hgt surface									
✓ 17	50603	2317	16.641	52.755	974	051	08			17
Comments	NE - RMW3									
✓ 18	40698	2320	16.443	52.826	956	225	07			18
Comments	CENTER #2 8 <sup>th</sup> (242kt) - f/w									
✓ 19	30377	232405	16.25	52.902	980	241	03			19
Comments	SW - RMW1									
✓ 20	30332	232406	16.25	52.902	980	235	98			20
Comments	SW - RMW2									

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

Storm SAM  
Mission ID

Flight ID 20210927H1  
(exp. 0213A)

Dropsonde Scientist Jun Zheng  
Dropsonde Scientist AVAPS Operator

AVAPS Operator  
AVAPS 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)			
✓ 21	40708	232421	16.189	52.907	982	24591				21
Comments	SW - RMW3									
✓ 22	40701	2335	15.444	53.198	1007	25531				22
Comments	SW - MID P									
✓ 23	40674	2346	14.803	53.445	1012	30018				23
Comments	SW - END P Combo									
✓ 24	50396	0009	15.245	51.824	1011	22525				24
Comments	SE - 1P Combo									
✓ 25	41008	0021	15.858	52.382	1007	20033				25
Comments	SE - MID P									
✓ 26	30370	002442	16.24	52.763	983	18573				26
Comments	SE - RMW1									
✓ 27	30367	003005	16.314	52.78	979	18101				27
Comments	SE - RMW2									
✓ 28	40058	003011	16.319	52.784	980	18094				28
Comments	SE - RMW3									
✓ 29	30372	0033	16.514	52.946	957	28004				29
Comments	CENTER #3 - 1150-20kt on sample - hit 1.4kt lower									
✓ 30	50460	003734	16.714	53.14	977	33594				30
Comments	NW - RMW1									

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

Storm **Sam**  
Mission ID

Flight ID **20210927H**  
(exp. 0213A)

Dropsonde Scientist **Jun Zhang**  
Dropsonde Scientist **AVAPS 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)			
31	03735	003735	18.716	53.115	977		34586			31
Comments: NW - Rnw 2										
32	10995	0038	16.762	53.156	987		34587			32
Comments: NW - Rnw 3										
33	50709	0046	17.173	53.576	1005		00540			33
Comments: NW - MID										
34	30152	0059	17.90	54.099	1012		02028			34
Comments: NW - END PT Combo										
35	10034	0113	18.714	54.753	1013		02023			35
Comments: Combo for GW module										
36	50730	0142	17.799	54.815	1010		02516			36
Comments: Last Drop Combo for pre-Ocean connection										
Comments										
Comments										
Comments										
Comments										
Comments										

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AVAPS Drop Log

Project: 21 HWX

Mission: HWX Sam

Flight ID: 20210927H1

Take Off: 2000Z

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

Flt Dir: Hathaway Laundry

Launcher S/N: \_\_\_\_\_

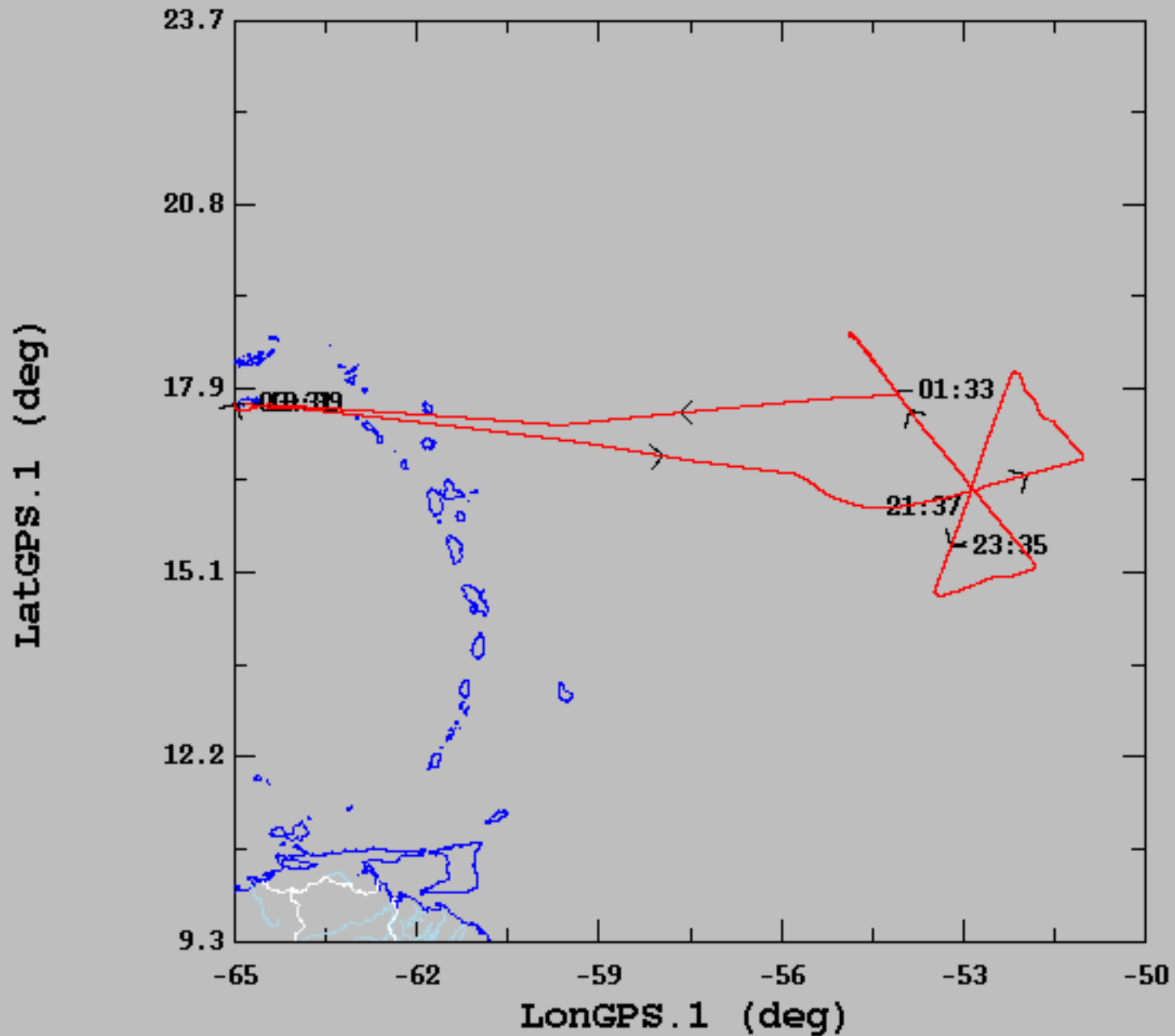
Drop #	Sonde Serial #	Rcvr #	Press Offset	Launch Time	Operator	Charge \$\$ To	Comments	Good ?
1	211010225	1	Ø	2104	MAC	HRD	SAT OVERPASS	
2	210910036	2	Ø	2143		NWS	IP1 COMBO	
3	212720373	3	Ø	2152		NWS	1st MID IN	
4	212150311	4	Ø	2158		NWS	1st IN RMW.1	✓
5	212011157	5	Ø	2202		ONR	1st IN RMW.2	
6	212810216	6	Ø	2203		ONR	1st IN RMW.3	✓
7	212040280	7	Ø	2205		NWS	1st CTR COMBO	
8	212720371	8	Ø	2208		NWS	1st OUT RMW.1	✓
9	210910567	1	Ø	2209		ONR	1st OUT RMW.2	
10	211330222	2	-0.2	2211		ONR	1st OUT RMW.3	✓
11	212340696	3	Ø	2218		NWS	1st MID OUT	
12	212330374	4	+0.2	2229		NWS	1st END PT COMBO	
13	212330331	5	Ø	2254		NWS	IP2 COMBO	
14	212340571	6	Ø	2306		NWS	2nd MID IN	
15	212340675	7	Ø	2315		NWS	2nd IN RMW.1	✓
16	211030529	8	-0.1	2316		ONR	2nd IN RMW.2	
17	212350603	1	Ø	2317		ONR	2nd IN RMW.3	✓
18	212340695	2	Ø	2320		NWS	2nd CTR	
19	212330377	3	Ø	2324		NWS	2nd OUT RMW.1	✓
20	212330332	4	Ø	2324		ONR	2nd OUT RMW.2	
21	212340708	5	Ø	2324		ONR	2nd OUT RMW.3	✓
22	212340701	6	Ø	2335		NWS	2nd MID OUT	
23	212340674	7	Ø	2346		NWS	2nd END PT COMBO	
24	212350396	8	Ø	0009		NWS	3rd IP COMBO	
25	212341008	1	+0.2	0021		NWS	3rd MID IN	✓
26	212330370	2	Ø	0029		NWS	3rd IN RMW.1	✓
27	212330367	3	Ø	0030		ONR	3rd IN RMW.2	
28	212350458	4	Ø	0030		ONR	3rd IN RMW.3	✓
29	212330372	5	Ø	0033		NWS	3rd CTR	
30	212350460	6	Ø	0037		NWS	3rd OUT RMW.1	✓
31	211030484	7	-0.3	0037		ONR	3rd OUT RMW.2	
32	211010995	8	-0.4	0038		ONR	3rd OUT RMW.3	✓
33	211050729	1	Ø	0046		NWS	3rd MID OUT	
34	211330152	2	-0.5	0059		NWS	3rd EP COMBO	
35	210910034	3	-0.3	0113	MAC	NWS	GW AVE COMBO	
36	210850182	4	Ø	0147		ONR		

1st Pass

2nd Pass

3rd Pass

2021-09-27, 19:39:44-27:31:30



	mean	sigma	min	max
— LatGPS.1 (deg), 1 s/sec	17.02	0.89	14.70	18.80
— LonGPS.1 (deg), 1 s/sec	-56.32	4.13	-64.98	-51.00