

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:	20210929H2	FLT #:	5	AC:	Legidakes	Scientists:	Pressure		Dropsondes		
From:	TISX	ETD:	2000	CP(s):	Keith	Bucci	A/C Takeoff		Good	Bad	Sent
To:	TISX	ETA:	400		Rannenberg	Zhang			28	2	28
Block Time		Flight Time		NAV:	Utama	Hough	ASOS Takeoff		BTs		
In:	3:48	Land:	3:44	FE(s):	Sanchez				A/C Land		Good
Out:	19:28	T/O:	19:38	FD(s):	Hathaway		ASOS Land		0	0	0
Total:	8.3	Total:	8.1	SSA:	Richards, T.	Visitors:					
Sponsoring Org:		HRD		AVAPS:	McAlister		Storm Number ID:		AL182021		
Program:		PRX		SEB:			(ie: AL072012)				
Purpose:		Sam Research Flight #4		MX:			TCPOD/WSPOD Mission		1218A SAM		
							(ie: NOAA2 2418A SANDY)				
AS REQUIRED BY ORM				Y	N	REMAR	Fix Number	Obs Number	Fix Time	SLP	
VOLCANIC ASH					X		1				
SCIENCE MISSION WITHIN BDRY LAYER					X		2				
LACK OF PRECIPITATION					X		3				
RELATIVE HUMIDITY ≥ 80%				X			4				
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											
							Pennies:	4			
*Highlighted items must be completed before departure.											
Remarks:											

P-3 QC Checklist

Overall Assessment	Minor instrument issue(s) - minimal mission impact.
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Flight ID:	20210929H2	Pressure Comparison	
Flight Director(s):	Hathaway		
Mission:	Tasked/Operational	T/O	Land
UWZ.d mean:	0.2	Aircraft	1008.7 mb
		Tower	TISX - 1008.9 mb
			N/A
			TISX - 1010.5 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 X PQM.4	✓ PSM.1 ✓ PSM.2 ✓ PTM.1	✓ PDALPHaref ✓ PDBETAref ✓ PQALPHaref ✓ PQBETAref	✓ PQMref ✓ PQ.c ✓ PSMref ✓ PS.c
✓ Air Speed	✓ CasADDU.1	✓ TasADDU.1	✓ lasADDU.1		✓ IAS.d	✓ TAS.d
✓ Pitch / Roll	✓ PitchI.1 ✓ PitchI.2 PitchI.3	✓ PitchRateI.1 ✓ PitchRateI.2 PitchRateI.3	✓ RollI.1 ✓ RollI.2 RollI.3	✓ RollRateI.1 ✓ RollRateI.2 RollRateI.3	✓ PITCHref ✓ ROLLref	
✓ Temp / Dewpt	✓ TTM.1 ✓ TTM.2 X TTM.3	✓ TDM.1 ✓ TDM.2 TDM.3	✓ TRadD.1 ✓ TRadS.1 TRadU.1		✓ TD.c ✓ TDMref	✓ TTMref ✓ TA.d
✓ Misc. (Must check)					✓ UWZ.d ✓ DPJ_WSZ ✓ HUM	✓ WS.d ✓ WD.d

FLID_Mission_Documents.pdf:
✓ Error Summary
✓ Crew Manifest
✓ QC Checklist
✓ Dropwindsonde Log(s) - AVAPS and FD if completed
✓ Flight Track
✓ Miscellaneous FD Notes

QC Key	
Not checked	<input type="checkbox"/>
Valid	<input checked="" type="checkbox"/>
Errors (note)	X

NOTES:
<p>- Large spike in PQM.4 around hour 9 of flight.</p> <p>- TDM.1 has much more variability throughout the flight in comparison to TDM.2, but trends the same way.</p>

Dropsonde Scientist

Flight ID 20210929H2 Storm Sam Mission ID 1218A

Dropsonde Scientists Jun Zhang

AVAPS Operators Mac SG

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

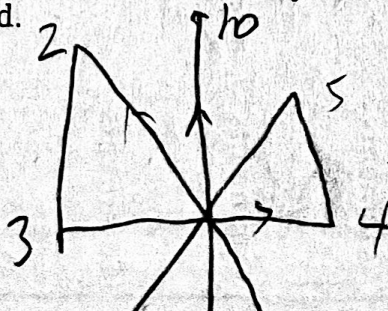
- 1. Determine the status of the AVAPS and workstation. Report results to the LPS.
- 2. Confirm the mission and pattern selection with the LPS and assure that enough dropsondes are on board the aircraft.
- 3. Modify the flight pattern or drop locations if requested by AOC to accommodate changes in storm 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 / 218A

Flight ID 20210924142
(exp. 0213A)

Dropsonde Scientist Jun Zhang
Dropsonde Scientist JAVAPS 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)			
1 ✓	-2003	2112	19.006	56.454	1008	165	33	10		01
Comments IP										
2 ✓	40350	2124	19.473	57.13	1001	195	46	10		02
Comments SE MID P										
3 ✓	21031	2132	19.863	57.533	972	196	05	10		03
Comments SE RMW										
4 ✓	40324	2137	20.119	57.731	943	165	08	10		04
Comments CENTER										
5 ✓	31145	2141	20.344	57.965	968	—	—	10		05
Comments SW RMW down ends OA ~ 400m not hot surface										
6 ✓	N061	2155	20.978	58.604	1005	065	53	10		06
Comments SW MID										
7 ✓	50287	2204	21.443	59.111	1009	050	36	10		07
Comments SW END P										
8 ✓	20764	2224	20.209	59.734	1009	345	27	10		08
Comments W-IP - end pairs										
9 ✓	50961	2239	20.198	58.775	1002	340	49	10		09
Comments W-MID P										
10 ✓	50236	2245	20.19	58.199	967	281	14	10		10
Comments W-RMW 58-6 m/s										

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2021092941

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

Storm **SAW**
Mission ID **1218/A** (exp. 0213A)

Flight ID **20210929H2**
Dropsonde Scientist **J. Zheng**

AVAPS Operator
Dropsonde Scientist **J. Zheng**
AVAPS Operator

Drop #	Sonde ID	Time UTC	Lat (°N/S)	Long (°E/W)	Sfc Pressure (mb)	Wind closest to		Hgt (m)	SST (°C)	Eye/Eyewall, Rainband, etc.	Ob #
						Dir/Spd (deg/kt)					
11 ✓	50251	2249	20.232	57.902	943	130	10	10			11
Comments Center 2nd											
12 ✓	40384	2254	20.248	57.578	970	130	81	10		eyewall	12
Comments E - Rnw											
13 ✓	50248	2306	20.267	56.719	1006	135	60	10			13
Comments E - NW P											
14 ✓	40655	2317	20.383	55.958	1010	140	38	10			14
Comments E - End P											
15 ✓	50949	2336	21.592	56.683	1010	100	43	10			15
Comments NE - TP 3rd Pass											
16 ✓	20798	2349	20.977	57.369	1002	090	53	10			16
Comments NE - NW P											
17 ✓	40406	2359	20.444	57.887	954	071	27	10			17
Comments NE - Rnw											
18 ✓	50263	2359	20.442	57.888	957	071	28	10			18
Comments NE - Rnw 2											
19 ✓	40404	2359	20.492	57.889	955	081	14	10			19
Comments NE - Rnw 3											
20	50373	0002	20.341	58.032	943	200	08	10			20
Comments Center 3rd											

Storm SAKK
 Mission ID 2181A (exp. 0213A)

Flight ID 20210929H2
 Dropsonde Scientist
 Dropsonde Scientist

Drop #	Sonde ID	Time UTC	Lat (°N/S)	Long (°E/W)	Sfc Pressure (mb)	Wind closest to		SST (C)	Eye/Wall, Rainband, etc.	Ob #
						Dir/spd (deg/kt)	Hgt (m)			
21 ✓	50290	0007	20.122	58.250	968	26607	10			21
Comments	SW RMW									
22 ✓	50289	0018	19.603	58.862	1004	28541	10			22
Comments	SW MID P									
23 ✓	50280	0029	19.007	59.384	1058	30526	10			23
Comments	SW EWP P									
24 ✓	50269	0122	19.546	58.254	1008	24031	10			24
Comments	S-IP									
25 ✓		0024								25
Comments	SE MID P No launch detected									
26 ✓	50262	0140	20.248	58.249	965	20589	10			26
Comments	S- RMW									
27 ✓	40383	015222	20.781	58.141	869	12041	80			27
Comments	N- RMW1 - NO CENTER, hit updraft or downdraft but bump									
28 ✓	11062	015254	20.82	58.207	972	04107	10			28
Comments	N- RMW2									
29 ✓		0112								29
Comments	N- MID P - no launch detected. Bad sonde									
30 ✓		0207								30
Comments	N- EWP Legit Heper ✓									

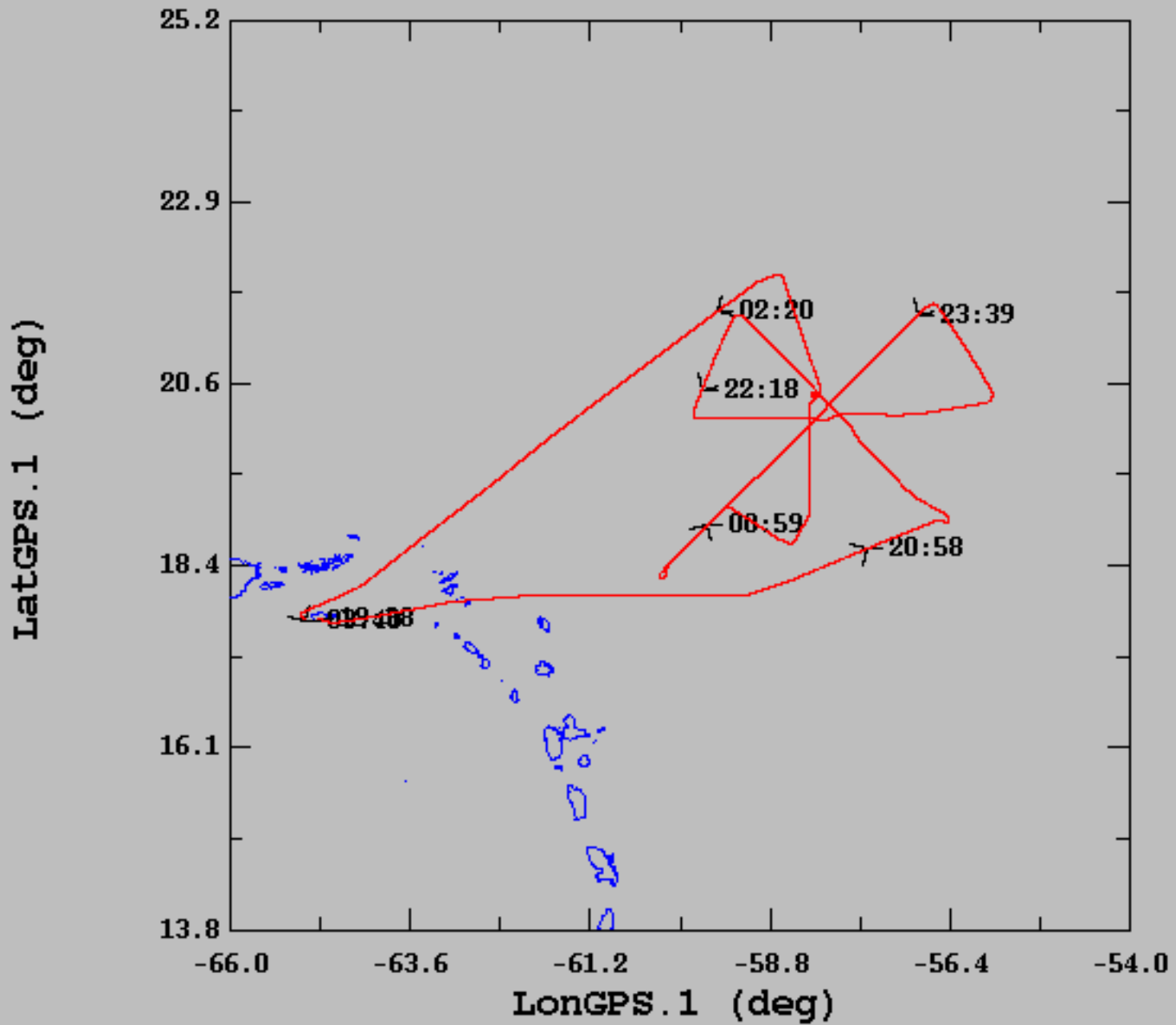
20210929H2 / 1009 #3

AVAPS Drop Log

Project: 2021 Hwx Season Mission: Hurricane Sam Flight ID: 20210929H2
 Take Off: 2000Z Landing: _____ Flt Dir: Hathaway Laundry Launcher S/N: _____

Drop #	Sonde Serial #	Rcvr #	Press Offset	Launch Time	Operator	Charge \$\$ To	Comments	Good ?	
1st PASS	1	210620003	1	-0.3	2112Z	MAC	NWS	IP1	
	2	210540350	2	-0.2	2124Z	MAC	NWS	1st MID IN	
	3	211921031	3	+0.3	2132Z	MAC	NWS	1st IN RMW	
	4	210540324	4	-0.4	2137Z	MAC	NWS	1st CENTER	
	5	210731145	5	-0.2	2141Z	MAC	NWS	1st OUT RMW	
	6	210511061	6	-0.4	2155Z	MAC	NWS	1st MID OUT	
	7	210550128	7	-0.5	2204Z	MAC	NWS	1st END PT	
2nd PASS	8	210420764	8	-0.2	2224Z	MAC	NWS	IP2	
	9	210550961	1	-0.8	2327Z	MAC	NWS	2nd MID IN	
	10	210550236	2	-0.3	2245Z	MAC	NWS	2nd IN RMW	
	11	210550251	3	-0.3	2249Z	MAC	NWS	2nd CENTER	
	12	210540384	4	-0.3	2254Z	MAC	NWS	2nd OUT RMW	
	13	210550248	5	-0.4	2306Z	MAC	NWS	2nd MID OUT	
	14	210540655	6	-0.3	2317Z	MAC	NWS	2nd END PT	
3rd PASS	15	210550949	7	-0.4	2336Z	MAC	NWS	IP3	
	16	210520798	8	-0.3	2349Z	MAC	NWS	3rd MID IN	
	17	210540406	1	-0.5	2359Z	MAC	NWS	3rd IN RMW.1	
	18	210540404	2	-0.5	2359Z	MAC	NWS	3rd IN RMW.2	
	19	210550263	3	-0.5	2359Z	MAC	NWS	3rd IN RMW.3	
	20	210550373	4	-0.3	0002Z	MAC	NWS	3rd CENTER	
	21	210550290	5	-0.3	0007Z	MAC	NWS	3rd OUT RMW	
4th PASS	22	210550289	6	-0.3	0015Z	MAC	NWS	3rd MID OUT	
	23	210550240	7	-0.5	0029Z	MAC	NWS	3rd END PT	
	24	210550260	8	-0.4	0122Z	MAC	NWS	4th IP	
	25	210810075	1	-0.5	—	MAC	NWS	4th MID IN	BAD
	26	210550262	2	-0.5	0140Z	MAC	NWS	4th IN RMW	
	27	210540383	3	-0.6	0152Z	MAC	NWS	4th OUT RMW.1	
	28	210511062	4	-0.3	0152Z	MAC	NWS	4th OUT RMW.2	
	29	210520794	5	-0.5	—	MAC	NWS	4th MID OUT	BAD
	30	210540403	6	-0.5	0207Z	MAC	NWS	4th END PT	
	31								

2021-09-29, 19:38:14-27:40:22



	mean	sigma	min	max
— LatGPS.1 (deg), 1 s/sec	19.64	1.20	17.66	21.99
— LonGPS.1 (deg), 1 s/sec	-59.45	2.29	-65.04	-55.82