FLT ID: N980820	FM: TISX	TO: TXKF
FLT NO: 98-037	BLK IN: 0216Z	ATA: 0210Z
ETD: 1730Z	BLK OUT: 1719Z	ATD: 1728Z
ETE:	BLK TIME: 8:57	FLT TIME: 8:42
11 SPONSOR ORG: NHC	PROGRAM: HURR. SURVEILLANCE	PURPOSE: T.S. BONNIE

OAO PERSONNEL

AC PLAYER ✓	SYS ENG HILL
CP MAXSON, McCANN, FINKE ✓	DATA SYS PRADAS-BERGNES
NAV	RADAR
21 FE KITSON	BT/ODW HORNBROOK
RADIO	CLD PHYS
FD DAMIANO ✓	DOPPLER

PARTICIPATING SCIENTIST/VISITORS/OAO

LAST, FIRST NAME	ACTIVITY ON A/C	AFFILIATION
31 FRANKLIN	HAPS	HRD
LANDSEA	HAPS	HRD
WHITE	PM	AOC

47 PROPOSED/ACTUAL MISSION/REMARKS (RECCO, FIXES, STORM, PENET, NHOP #)

16472 32 24

FIRST TWO PLANNED DROPS NOT DONE DUE TO BEING IN ACTIVE WARNING AREA

BAL DPT 1758Z

180950 [redacted]

DISPLAY OUT

DROPS BTW 2-6
FROW 2-4 prime
U-WISC 4-6

59

U.S. DEPT. COMM./NOAA/OAO - DATA SECTION WORK FORM NO.2 OAOWF2 FILE

FLT ID: N980820 TIME OFF: 1728Z TIME ON: 0210Z

	A/C T/O	WX STN	A/C LAND	WX STN
PRESSURE	1009.5	29.89	1019.5	30.16

	NO	DATA DISPOSITION/DATE/QUALITY
1/SEC FLT LVL TAPES	1	
FAST FLT LVL TAPES		
RADAR TAPES		
DOPPLER TAPES		
ODW CASSETTES		
HARD COPIES		
AXBT		
AXCP		
GPS	34	25 messages sent

PHOTOGRAPHY

	FWD	LS	RS	VERT	
ON					
OFF					
RATE					

REMARKS DPTD TISX AT 20/1728Z

ETA 21N 65W 20/1810Z

G4 Hurricane Surveillance

Flight #01 N980820 (T. S. Bonnie)

DATA TYPE	SENSOR or OPTION
INE	VEW, VNS
Accelerometer	ACINS
Temperature Probe	AT2
Altitude (for vertical wind)	PALT
Static Pressure	PS1M
Dynamic Pressure	QC1M
Dewpoint Probe	DPRC

Notes:

There were no time gaps.

Both dewpoint temperature sensors were balanced between 175830Z - 180530Z. This action produced erroneous data during this time frame.

No dynamic corrections were applied to the measured static and dynamic pressures. Thus wind direction and wind speed may not be representative of actual flight level conditions.

Dropsonde data and event switch information ARE NOT on the tape.

Downward spikes in radar altimeter data are a result of overflying land.

	Takeoff	Landing
Aircraft static pressure	1009.5mb	1019.5mb
Corrected tower pressure	1011.7mb	1020.3mb

Flight Meteorologist: A. Barry Damiano, (813) 828-3310 ext. 3073

NOAA FORM 59-4
(2-72)

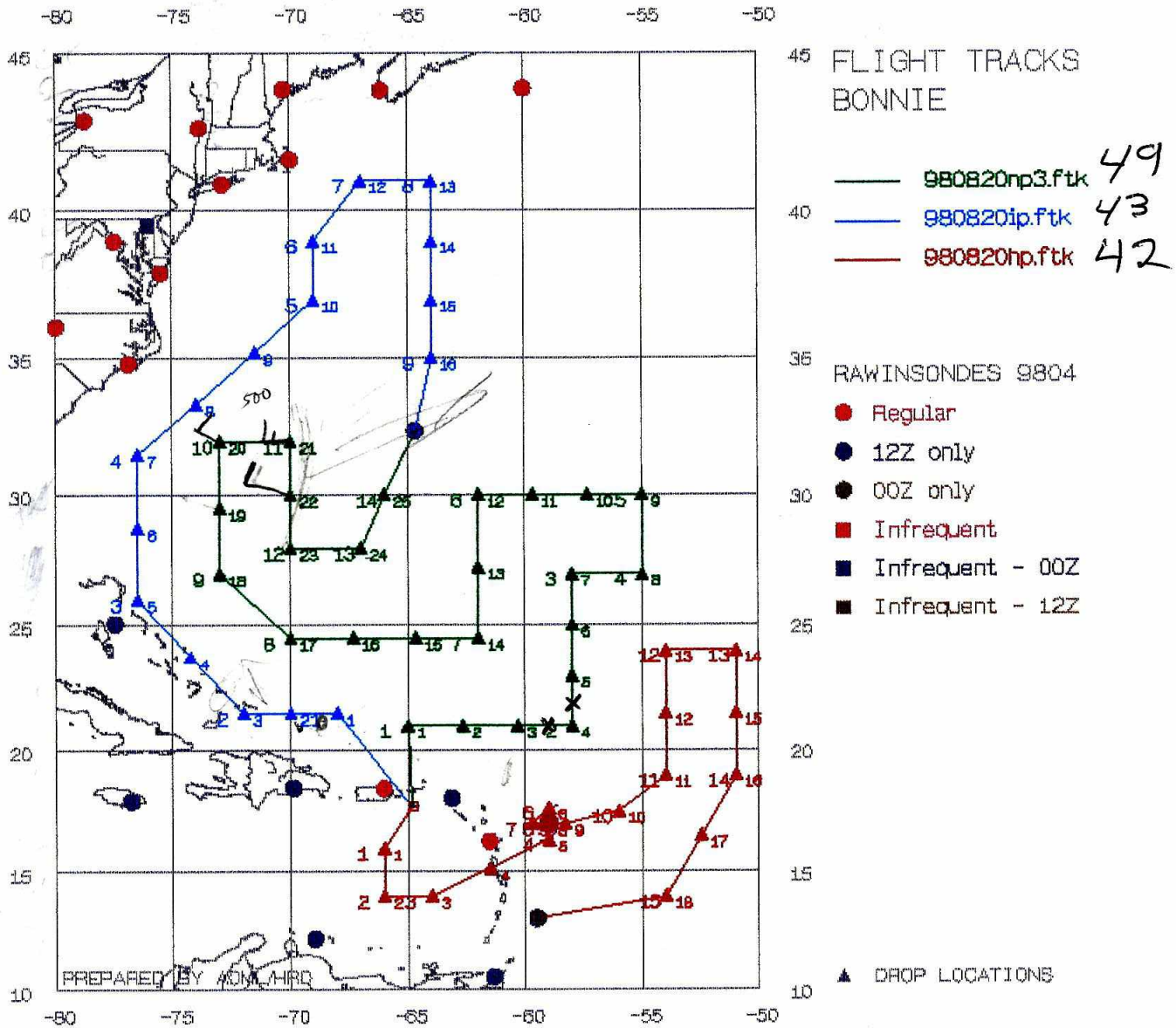
N980820

M/S

TIME	LAT	LON	TRK	HD	WD	WS	TA	TD	PA	GA		AS			PG
17400	in cld														
174200	in cld														
174639	1815	6302	19	19	53	10	-20.6	23.4	8080	8490		350	IN CLD	DROP	156.8
181140	2100	6148	090		NO DATA SYSTEM DISPLAY									DROP	
181700	2100	6108	90	93	124	34	-58.4	-57.8	12558	13156		175.7			84.2
181800		call ABEAM 7 NM-S					SOME TURB								
182352	2100	6020	90	92	118	33	-58.3	-59.3	12562	13166		175.7		DROP	88.3
182720	OVER	call		SOME TURB											
183346	2100	5910	90	92	120	28	-58.9	-58.4	12559	13179		175.7	EXTRA	DROP	88.3
184418	2112	5800	3	4	126	16	-58.1	-60.7	12555	13185		175.9	73 WDS sec	DROP	89.5
185032	2200	5800	0	0	139	11	-59.3	-60.0	12555	13187		175.8		DROP	87.2
185814	2300	5800	0	359	174	19	-58.2	-63.4	12550	13184		176.1		DROP	90
191314	2500	5800	0	356	218	15	-57.3	-67.7	12547	13182		176.1		DROP	
192941	2700	5744	90	92	225	16	-58.4	-68.3	12543	13187		176.2	NO W	DROP	
193153	2700	5725	90	91	233	15	-58.3	-68.2	12541	13188		176.3		DROP	87.8
193800	2700	5632	90	90	243	12	-58.7	-67.8	12542	13189		176.3	CLD BLW		87.4
194939	2713	5500	359	354	285	17	-59.3	-67.7	12538	13192		176.4		DROP	87.9
195600	2759	5500	359	354	281	18	-59.5	-67.8	12539	13192		176.4	CLR		88.3
200700	2719	5500	0	353	279	22	-60	-67.8	12538	13190		176.4	CLD BLW		87.2
201359	3000	5515	270	268	264	29	-60.4	-65.1	12541	13179		176.3		DROP	88.1
203048	3000	5720	270	266	249	36	-59.7	-66.1	12543	13177		176.3		DROP	88.2
204953	3000	5940	270	263	230	35	-59.1	-67.8	12539	13158		176.3		DROP	88.3
210927	2946	6200	180	183	213	31	-56.7	-68.7	12535	13141		176.4		DROP	88.9
212000	2836	6200	181	182	213	26	-61.7	-71.5	13120	13744		160.0	CLR		79.9
213209	2715	6200	180	183	213	31	-63.3	-73.2	13123	13765		160.0	NO W	DROP	—
213403	2703	6200	180	183	208	33	-64	-73.3	13128	13765		159.9	NO W	DROP	—
213902	2631	6200	180	181	202	35	-63.5	-72.2	13127	13770		159.9	18	DROP	80.2
215300	2501	6200	179	179	188	28	-62.4	-68.5	13122	13770		160.1	THN CLD	BLW	79.4
215903	2430	6216	271	262	188	26	-62.6	-69.0	13122	13778		160.1	THN CLD	DROP	82.0
220600	2430	6310	270	262	194	26	-62.6	-68.1	13121	13777		160.0	THN	CLD	78.7
221728	2430	6440	270	262	193	29	-63.1	-66.3	13120	13771			NO W	DROP	79.8
221936	2430	6457	270	262	194	25	-63.2	-66.9	13120	13768		160.1	85 secs	DROP	80.6
223400	2430	6648	270	263	200	23	-63.8	-71.0	13117	13745		160.1		CLR	79.2
223806	2430	6720	270	263	196	24	-64.1	-71.1	13120	13728		160.1	62 sec	DROP	79.1
225100	2430	6902	270	265	179	15	-64.0	-70.7	13117	13739		160.2		CLR	80.8
225931	2437	7008	313	310	180	11	-64.0	-71.3	13116	13736		160.2	Fast Fall	DROP	79.8
232300	2631	7225	312	309	258	10	-67.3	-72.7	13695	14316		145.2	CLD		71.3
232013	2710	7300	0	358	308	7	-65.9	-72.7	13694	14319		145.2	NO W	DROP	71.6
233240	2728	7300	1	358	312	6	-66.2	-73.2	13692	14319		145.3	25	DROP	72.8
234400	2851	7300	0	357	270	5	-65.2	-73.8	13692	14318		145.3	CLD	BLW	73.6
234921	2930	7300	0	356	292	6	-66.3	-73.9	13689	14307		145.2	NO W	DROP	71.4
235105	2942	7300	0	356	281	7	-65	-74	13690	14306		145.2		DROP	71.2
000700	3139	7300	359	355	263	11	-62.3	-73.3	13692	14293		145.2	—		71.7
001052	3200	7244	89	90	220	11	-63.5	-73.3	13691	14285		145.2		DROP	72.1
002400	3200	7047	90	90	229	7	-63.7	-73.7	13686	14297		145.4		—	73.1
003026	3147	7000	180	181	224	16	-64	-74.1	13686	14307		145.4	BAD	DROP	72.0
003635	3104	7000	180	181	217	17	-64.5	-74.6	13687	14312		145.3		DROP	71.8
004544	3000	7000	180	180	230	13	-64	-75.4	13686	14325		145.4		DROP	74.0
010358	2800	6944	89	88	239	5	-66.5	-74.2	13690	14328		145.3		DROP	72.4
012000	2800	6731	91	90	197	5	-65.2	-73.9	13688	14343		145.3		—	73.2
012451	2811	6654	23	20	227	8	-66	-74.1	13686	14346		145.3		DROP	72.4
013600	2927	6616	23	20	231	9	-64.3	-73.8	13687	14335		145.3		—	72.5
014043	3000	6600	23	21	227	7	-63	-73.6	13690	14337		145.3		DROP	74.9

☆U.S. GOVERNMENT PRINTING OFFICE: 1980—765-012/1119

3 plane synoptic



10.015

SFC - 26K

20/10Z - 21/06Z

CTAFIR [redacted] 35°N 72°48'W

29N 77W [redacted] 29°N 72°W

BERMUDA

6+
wd var 5
1500 5
10000
800/1

Kneeboard 3
FLIGHT PLAN FOR MAXSON COMPUTED 1520Z

BASED UPON 1998082000 WEATHER DATA

LEG01 STANDARD TISX TO TXKF 20AUG1998

ACFT TYPE C20G7NF DRAG: 0 EFF: 100 FUEL: A+

PLANNED FOR ETD 1730Z INITIAL CRUISE FLIGHT LEVEL 410

	FUEL	TIME	DIST	ARRIVE	RAMP	LAND	CARGO	OPNLWT
POA	24018	08/42	3782	0212Z	72648	48630	0	43148
ALT	...							
RES	5482	01/41						
TOT	29500	10/22						

FUEL BIAS: 1000 DBIAS: 0 ABIAS: 0 IBIAS: 0

ROUTING USED FOR THIS LEG
TISX .. 21065 .. 21058 .. 27058 .. 27055 .. 30055 .. 30062 .. 24062 ..
27073 .. 32073 .. 32070 .. 28070 .. 28067 .. 30066 .. TXKF

TO	FL	T/C	M/C	WIND	DFT	G/S	TAS	DIS	CUMD	DISR	ETE	CUMT	ETR	EFR
TISX	11	***	*****	00000	00	***	***	0	0	3782	00/01	00/01	08/41	28500
ICA	410	357	368.4	11013	L01	414	408	193	193	3588	00/28	00/29	08/13	25971
21065	410	357	8.1	11012	L01	444	439	5	198	3584	00/01	00/30	08/12	25938
21060	410	090	102.9	14512	L01	431	439	280	478	3303	00/39	01/09	07/33	24007
21058	410	091	104.6	12510	L01	432	440	112	590	3191	00/16	01/24	07/18	23256
25058	410	000	13.6	23524	R01	449	439	240	830	2951	00/32	01/56	06/46	21729
27058	410	000	13.5	23030	R01	455	439	120	950	2831	00/16	02/12	06/30	20990
27055	410	090	104.0	27027	L01	464	439	160	1111	2671	00/21	02/33	06/09	20034
30055	410	000	13.9	24519	R02	445	439	180	1291	2491	00/24	02/57	05/45	18927
30060	430	271	283.7	05503	00	428	433	260	1550	2231	00/36	03/34	05/08	17294
30062	430	269	281.4	01008	00	437	435	104	1654	2127	00/14	03/48	04/54	16680
25062	430	180	192.7	18010	00	435	435	300	1954	1827	00/41	04/29	04/13	14918
24062	430	180	192.5	19011	00	424	434	30	1984	1797	00/04	04/33	04/08	14743
25065	430	271	282.8	04018	00	443	434	164	2148	1634	00/22	04/56	03/46	13829
24070	430	269	279.0	03504	L01	438	434	273	2421	1361	00/37	05/33	03/09	12309

3	430	313	321.2	22507	00	434	434	221	2642	1140	00/31	06/03	02/38	11093
30073	450	000	8.9	26016	R01	433	429	180	2822	960	00/25	06/28	02/13	10116
32073	450	000	8.9	26029	R02	435	431	120	2942	840	00/17	06/45	01/57	9489
32070	450	090	100.1	24530	00	461	432	153	3095	687	00/20	07/05	01/37	8742
28070	430	180	189.8	24012	L01	425	433	240	3335	447	00/34	07/39	01/03	7473
28067	450	090	101.0	29509	00	440	431	159	3494	288	00/22	08/00	00/42	6665
30066	450	024	35.1	27016	R01	435	431	131	3625	157	00/18	08/18	00/23	6017
SDP	450	026	37.4	26020	R01	440	431	54	3679	103	00/07	08/26	00/16	5754
TXKF	0	026	41.1	21512	00	384	384	103	3782	0	00/16	08/42	00/00	5482

TISX	N17421W064479	*ICA*	N20551W064597	21065	N21000W065000
21060	N21018W060000	21058	N21000W058000	25058	N25000W058000
27058	N27000W058000	27055	N27000W055000	30055	N30000W055000
30060	N30023W060000	30062	N30000W062000	25062	N25000W062000
24062	N24300W062000	25065	N24330W065000	24070	N24300W070000
27073	N27000W073000	30073	N30000W073000	32073	N32000W073000
32070	N32000W070000	28070	N28000W070000	28067	N28000W067000
30066	N30000W066000	*SDP*	N30491W065328	TXKF	N32218W064407

SDP = START DESCENT POINT
ICA = INITIAL CRUISE ALTITUDE

FOLLOWING AIRSPACES PENETRATED

FIR BOUNDARY: TJZS/KZNY TIME: 01+09 POSITION: N21018,W060000
FIR BOUNDARY: KZNY/KZMA TIME: 05+25 POSITION: N24306,W068585
FIR BOUNDARY: KZMA/KZNY TIME: 05+39 POSITION: N25000,W070360

FOLLOWING AIR DEFENSE IDENTIFICATION ZONES PENETRATED

ENTERING: EAST/SOUTH CONUS ADIZ TIME: 06+45 POSITION: N320
LEAVING : EAST/SOUTH CONUS ADIZ TIME: 06+48 POSITION: N320

TOTAL WIND FACTOR 4KTS

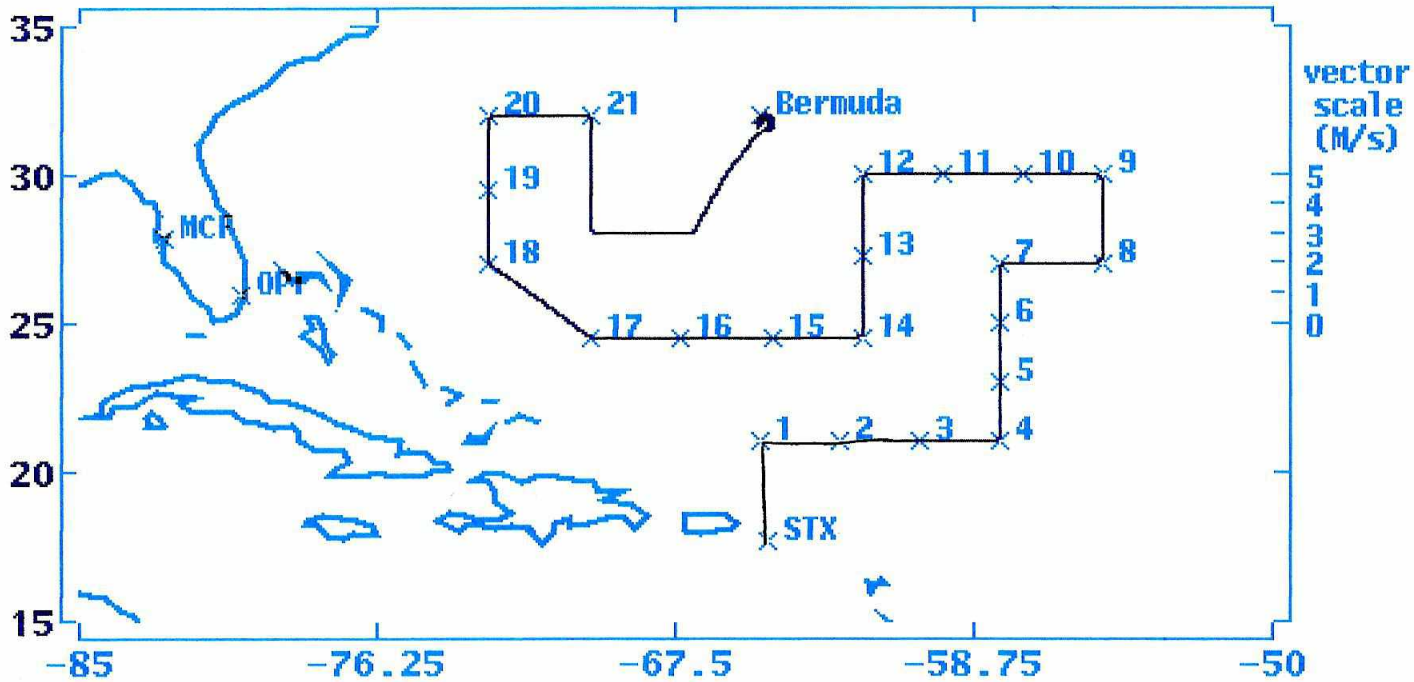
ADDITIONAL ALTITUDE DATA
FL/FUEL/ETE (410/ 24500/08+36) (370/ 25800/08+26) (330/ 28300/08+17)

***** EMERGENCY DATA *****

			ENGINE LOSS	
	DIST	TIME	DIST	TIME
ETP	1879	04+18	1884	04+19
PSR	2068	04+44	1721	03+56
PNR	2301	05+16	1915	04+23

	TO	RESERVE/ ALT /TAS/FFLOW/WFAC
ENGINE LOSS AT ETP	TXKF	-2234/25000/302/ 2838/ 6
	TISX	-2195/25500/302/ 2838/ 3
PRESS LOSS AT ETP	TXKF	-4131/13000/311/ 3225/ 4
	TISX	-4143/13000/307/ 3216/ 4

'JCPB1' (winds@eiger) Proj. 420 Flt 5 Aug-21-98 01:55:44
18:14:56 to 01:55:44



Last msg message out
0209
27 total

1330pm
32° 23'
64° 40'

1330
22
107
2210
1330

2210
1328
8
2128
32
10

122.925

8:38

32
40
42
8:42

N49RF Hurricane 98 AVAPS DropSonde Log

N49RF Project: Hurricane 98 (420) Flight ID: 980820N

Mission: 420 Flight #: 5 System Status: O.K.

Drop #	Sonde Serial Number	Time (Z)	Chn #	Press. offset	Winds time	Operator Init.	Comments Drop Status	GOOD ☑
1	982 430183	1746	1	+.1	47	CFH		✓
2	982 720 286	1811	1	+.2	29	CFH.		✓
3	982720 283	1824	2	+.6	60	CFH.		✓
4	982630 078	1834	3	+.2	33	CFH		✓
5	974540 028	1844	4	-.1	73	CFH	Winds Late? no m comm	✓
6	982 720 285	1850	1	+.3	42	CFH		✓
7	982630 036	1858	2	+.3	56	CFH		✓
8	974 510 008	1913	1	0	27	CFH		✓
9	982720 277	1929	2	+.2	—	CFH	Winds were very late B/U Sonde was dropped	—
10	982430145	1931	3	0	32	CFH		✓
11	982430131	1949	1	+.2	67	CFH		✓
12	982630145	2014	1	+.3	37	CFH		✓
13	982430047	2031	2	-.1	24	JWH		✓
14	982430128	2050	1	+.3	28	JWH		✓
15	982 630 143	2109	1	+.4	39	JWH		✓
16	982 430 134	2132	1	+.1		JWH.	No Sat / no winds	
17	982 430 130	2134	2	+.5		JWH	no Sat / no winds	
18	982 430 043	2139	3	+.8	45	JWH		✓
19	982 430 133	2159	1	+.5	26	JWH		✓
20	982 430 169	2217	1	+.5		JWH	No Sat / No winds	
21	973 840 063	2219	2	-.3	85	JWH		✓
22	974530 022	2238	1	-.5	62	JWH		✓
23	982630 135	2259	2	0	32	JCPB	Int. Winds	
24	982 430 067	2330	4	+.2		JCPB	No winds	
25	982 430 061	2332	1	+.2	26	JCPB		✓
26	981 960 029	2349	2	-.1		JCPB	No winds	
27	974530027	2351	4	-.5	18	JCPB		✓
28	981 960 034	0010	1	+.3	32	JCPB		✓
29	982640 257	0030	3	+.7	35	JCPB	Lost Data	
30	982 520 002	0036	4	+.2	37	JCPB		✓
31	982 430 153	0045	1	+.4	29	JCPB		✓
32	974 530 010	0104	2	0	70	JCPB		✓
33	974 530 101	0124	1	-.3	63	JCPB		✓

Drop #	Sonde Serial Number	Time (Z)	Chn #	Press. offset	Winds time	Operator Init.	Comments Drop Status	GOOD ☑
34	974530079	0140	2	0	70	JCPB		✓
35								
36								
37								
38								
39								
40								
41								
42								
43								
44								
45								
46								
47								
48								
49								
50								
51								
52								
53								
54								
55								
56								
57								
58								
59								
60								

06/16/98

AVAPS PRE-FLIGHT CHECK:

(1) Apply power to computer, VAPS fan and VAPS chassis
(2) Verify no **ER** status lights on the four MWG cards
(3) Set the computer time to GPS time
(4) Start AVAPS and run the hardware checks via the **Utility** function
(5) Start **Soundings** and set the **Project Name** and **Flight ID** (6) Perform a prelaunch check using all four channels simultaneously reading one sonde, look for reasonable data and no CRC error status lights, winds data is not expected. All AVAPS chassis status lights should be green.

NORMAL LAUNCH NOTES:

When selecting a sonde frequency, select a frequency other than the default (if there is a default), and away from other sondes in use.

Do not pull the Power Enable Pin during pre-launch setup until after the Umbilical is attached.

If pre-launch is complete, and more than 5 minutes remain prior to launch, replace the power Enable pin until 5 minutes prior to launch.

Don't put the sonde in the launch tube until you have removed the ribbon retaining tape.

Don't put the sonde in the tube until you have selected **Begin Data Collection**, and verified good data (good winds data is not expected).

The Power Enable Pin must be removed for at least two minutes prior to launch to allow for the Sonde GPS Oscillator to warm up.

NOAA/AOC/SED N49RF Flight Performance log – Hurricane 98

N49RF Project: TD2 Project No 420 Flight No. 5 Flight ID: 980820N

SED Crew: JWH, CFH, JCPB, BAD Mission: TD2 → STX – Bermuda

Pre-Flight: 1600 Z Take-Off: 1726 Z Landing: 0210 Z

	SYSTEM			Pre-Flight Check	In-Flight	Post-Flight	
NAV	IRS #1			✓ JWH			
NAV	IRS #2			✓ JWH			
NAV	IRS #3			✓ JWH			
NAV	GPS Honeywell #1			✓ JWH			
NAV	GPS Honeywell #2			✓ JWH			
NAV	GPS Collins			✓ JCPB			
	Nose Radar -Collins			✓ JCPB		Off? ☑	
TEMP		Time	Temp °C			Time	Temp °C
TEMP	Temp #1	1656	34.0	✓ JCPB		0215	27.5
TEMP	Temp #2	↓	36.5	✓ ↓		↓	28.1
TEMP	Temp #3	↓	33.8	✓ ↓		↓	28.6
TEMP	Temp #4	↓	36.8	✓ ↓	(2)	↓	27.4
TEMP	DP Left	↓	22.8	✓ ↓	Cal. Time: 1755	↓	21.4
TEMP	DP Right	↓	23.2	✓ ↓	Cal. Time: 1755	✓	21.3
PRESS	Attack Angle (ADCAOA)			✓ JCPB			
PRESS	Slip Angle (BP/DBP)			✓ ↓			
PRESS	Differential (PQ1/PQ2)			✓ ↓			
PRESS	Absolute (PS1/PS2)			1011.0/1011.5			
PRESS	Check Radome Press. Lines ☑			JCPB @ 980818H			
SYSTEMS	DOWN PRT-5 ⇨ Open? ☐			✓ (1)	(1)	Closed? ☐	
SYSTEMS	MADS (WINDS/DISCWIN)			JCPB		# DATs: 1	
SYSTEMS	MADS Printer ⇨ Paper? ☑			JCPB		Printer Pwr off? ☐	
SYSTEMS	MADS Cal. Date: 08/18/98			QC time:		QC time: 0213	
SYSTEMS	WINDS ⇨NET BCAST ☑			JCPB			
SYSTEMS	HAPS System / Time set? ☑			JWH		# Msg.: 27 # Attempts: 10	
SYSTEMS	AVAPS System / Time set? ☑			CFH			
SYSTEMS	AVAPS Printer ⇨ Paper? ☑			JCPB			
	Exterior Walk Around			✓ CFH			
	Inspect DropSonde Chute Bolts			✓ CFH			
MISC	Satcom (Flight Phone)			✓		Off CB? ☑	
MISC	Call COMSAT? ☐ (*292#)			✓			
MISC	FCU/UPS/CB			CB's Checked? ☐		UPS off? ☑	
MISC	AVAPS Sondes			# On Board: 83	# Dropped: 34	# Good: 27	
MISC	AXBT			# On Board: —	# Dropped: —	# Good: —	
MISC	APN-232			✓ JCPB			
MISC	Modem Power On? ☑			✓ JWH			

1	DAT Tape #1		On: 1707	Off: 0217
2	DAT Tape #2		On:	Off:

Comments: balance DPs @ 1755
Rainier Monitor display shaky
check

06/24/98 JCPB

Please Note Any Discrepancies

Item No.	Zulu Time	Problem Description & Observations	Initials
1	1650	RD DOOR WOULD NOT OPEN ALL THE WAY. OPEN BREAKER WHEN IN OPEN POSITION	JCPB
2	1823	AT4 drop ~1°C below other 3 Temps during Turbulance.	JPB