

FLT ID: 990206N	FM: PHNL	TO: PHNL
FLT NO: 99-20	BLK IN: 0349Z	ATA: 0344
ETD: 20Z	BLK OUT: 1953Z	ATD: 2004
ETE: 7.5	BLK TIME: 7:56 (7.9)	FLT TIME: 7:40 (7.7)
SPONSOR ORG: NCEP	PROGRAM: WDR-99	PURPOSE: Research # 9

DAO PERSONNEL

AC Finke Finke ✓	SYS ENG Pradas - Borges ✓
CP Maxson / McCann ✓	DATA SYS Smith ✓
NAV	RADAR Cooper ✓
FE	BT/ODW
RADIO	CLD PHYS
FD Parrish ✓	DOPPLER

PARTICIPATING SCIENTIST/VISITORS/DAO

LAST, FIRST NAME	ACTIVITY ON A/C	AFFILIATION
Shapiro, M. ✓	P.I.	ETL/DOAA
Goldenberg, S. ✓	ISAPs	HAD/DOAA
Lisagor, Megan ✓	Visitor	Fed Cong Rep

T.O.
 1853.2
 070/10
 23/17
 30.20
 23/15
 1021.2
 20/9
 0253
 25/15
 30.09
 050/14
 61/9
 251/5
 1018.3

PROPOSED/ACTUAL MISSION/REMARKS (RECCO, FIXES, STORM, PENET, NHOP #)
 Fly 8 hr mission to jet stream near 40W, 165W. Drop 22 NCEP sondes, more for Mel.
 Dropped 46 sondes.
 22 NCEP
 24 ETL → 1 1/2 lost when AVAPs locked up, 1 more lost winds.
 22 msg's sent, plus 2 repeats of Drop 4.

90 35
140 40
105 45
1730 ETT

990206N WSA #9

TIME	LAT	LOD	TK	WD	WS	GA	PA	TA	TD		PT	USA	CH	WX
1953	2119.3	157548					-75	25	16	1022-3		BLOCK	005	
2006	2115	15756	272	92	6	1849	1760	11.2	1.0	↑				
202130	2124.9	15750	279.5	107	19	9234	8898	-37.8	-49.6	↑				
205857	2335	16348		13	17.7			-55	-66		1	NCEP	5	SET SC
211539	2515	16451	331	351	20	13058	12545	-50	-67		2	NCEP	1	SET SC
213248	2655	16552	332	333	27	13056	12540	-57	-69		3	NCEP	5	CLB
214955	2836	16653	332	315	24	13101	12540	-57.6	-68		4	NCEP	7	SET SC
220707	3016	16755	333	301	31	13044	12539	-57	-67.7		5	NCEP	6	OVC
222427	3158	16857	333	292	40.6	12961	12538	-57.4	-67.6		6	NCEP	1	SET SC, AS
224220	3338	16957	333	287	47.6	12924	12539	-58	-62.4		7	NCEP	5	OVC ST
230007	3519	17059	334	280	54	12919	12543	-57	-66		8	NCEP	1	OVC SC
230135	3544	17114		279	57			-57	-66		51	ETL	5	"
230911	3610	17129		278	61			-56	-67		52	ETL	2	"
231344	3634	17145		276	62.7			-56	-67		53	ETL	6	OVC ST, SC
231812	3700	17156									9	NCEP	1	
232216	3730	17144	356	274	66	12723	12535	-56	-68		54	ETL	7	OVC AS,
232625	3800	17129		275	69			-56	-67		55	ETL	2	OVC SC
233053	3830	17119		272	69.8			-55.3	-67.7		56	ETL	5	
233438	3900	17000	358	274	72	12658	12535	-55.1	-67.2		10	NCEP	6	OVC SC, AC
233844	3930	17045		271	77			-56	-67		57	ETL	1	OVC SC
234247	4000	17030		272	75			-54	-66		58	ETL	7	
234646	4030	17014		269	68.7			-51	-65		59	ETL	2	OVC ST
235040	4100	17000	20	269	71.3	41139	12538	-51.5	-64		11	NCEP	5	OVC ST
235436	4130	16945		271	68			-50.1	-64		60	ETL	1	"
235838	4200	16929		276	70			-50.9	-64.4		61	ETL	6	
000243	4230	16915		277	69.5			-51	-64		62	ETL	2	OVC CS, AC
000652	4300	16859	19.5	279	67	41124	12535	-51	-64.7		12	NCEP	7	BRN AC, SC
001104	4330	16845		278	65			-52.5	-63.6		63	ETL	3	
001508	4400	16830		277	61			-57.5	-65.6		64	ETL	5	BRN SC
001914	4430	16814		273	59			-48.8	-64.8		65	ETL	1	BRN AC
002225	4453	16800	2	274	55.5	41147	42540	-49.8	-63		13	NCEP	6	
002952	4408	16700		269	58.8			-58.2	-63		66	ETL	2	BRN SC
003558	4325	16611		270	58						68A	ETL	7	WAVES-KH
003746	4314	16600		270	59	12361	12531	-50.9	-63.6		14	NCEP	1	"
004140	4249	16530		270	63			-50			69	ETL	5	Thin CS, BRN AS
004531	4223	16500		270	66			-50.7	-63.8		70	ETL	2	
004930	4156	16429		270	67						71	ETL	6	OVC CS
005328	4129	16400		273	67			-51	-64		15	NCEP	3	Thin CS
005717	4104	16330		271	69						72	ETL	7	"
010110	4037	16300		272	69			-51.4	-64.3	002000	73	ETL	1	OVC SC
010506	4011	16228		272	67			-53.3	-64.5	002000	74	ETL	5	Thin CS, AC SC
010905	3944	16200	137	278	70	12585	12529	-55	-65		16	NCEP	2	OVC AS
011649	3853	16100	138	283	68	12645	12533	-55	-66		76	ETL	6	
012432	3800	16061	~	287	62	12755	12533	-55	-66		17	NCEP	1	Thin CS, AC SC
014155	3543	15938	171	287	47	13347	13112	-58.9	-68.2		18	NCEP	5	OVC SC
015921	3325	15905	170	293	35	13528	13112	-60.4	-69.5		19	NCEP	2	OVC SC, ST
021650	3109	15838	170	302	26	13508	13108	-63	-70.6		20	NCEP	5	SET SC
023412	2852	15812	170	324	28.6	13590	13106	-61.3	-69.2		21	NCEP	1	SET SC
025107	2633	15745	170	353	18	13641	13107	-59.0	-67.7		22	NCEP	5	BRN SC
032130	2242	15726	183	70	9.6	9981	9574	-42	-65	↓ to land				
0331	2140	15733	230	107	12	3434	3265	69	-19.55	↓				
0349	2119.3	157548					-144	23.3	14.1	1018.4		BLOCK IN		

NOAA/AOC/SED N49RF Flight Performance log

N49RF Project: Winter Storms 99 Project No. 425 Flight No. 10 Flight ID: 990206N
 SED Crew: Pradas, Smith, Carpenter Mission: #9
 Pre-Flight: 1830 Z Take-Off: 2003 Z Landing: 0343 Z

SYSTEM				Pre-Flight Check	In-Flight	Post-Flight	
N A V	IRS #1			DWC	DWC		
	IRS #2			↓	↓		
	IRS #3						
	GPS Honeywell #1						
	GPS Honeywell #2			↓			
	GPS Collins			DWC		Off? ☒	
	Nose Radar - Collins			DWC	↓	Off? ☒	
		Time	Temp °C	DWC	DWC	Time	Temp °C
	Temp #1	1940Z	23.0	↓		0345Z	24.5
T	Temp #2		23.3	↓			24.4
E	Temp #3		23.3	↓			24.6
M	Temp #4		23.4	↓			24.3
P	DP Left		15.8	↓	Cal. Time:		14.7
	DP Right		15.7	↓	Cal. Time:	↓	14.6
P	Attack Angle (ADCAOA)			DWC	DWC		
R	Slip Angle (BP/DBP)			DWC	↓		
E	Differential (PQ1/PQ2)			DWC	↓		
S	Absolute (PS1/PS2)			DWC	↓		
S	Check Radome Press. Lines ☒			Date: 990122	↓		
S	DOWN PRT-5 ⇒ Open? ☐			N/I	DWC	Closed? ☐	
Y	MADS (WINDS/DISCWIN)			DWC	↓	# DATs: 1	
S	MADS Printer ⇒ Paper? ☒			DWC	↓	Printer Power off? ☒	
T	MADS Cal. Date: 990204			QC time: 1942	↓	QC time: 0346Z	
E	WINDS ⇒ NET BCAST ☒			DWC	↓		
M	HAPS System / Time set? ☒			36	↓	# Msg.: 22 # Fail: 0	
S	AVAPS System / Time set? ☒			JAS	↓		
	AVAPS Printer ⇒ Paper? ☒			Removed to HAPS	↓		
	Exterior Walk Around ☒			DWC			
	Inspect DropSonde Chute Bolts			DWC	N/A		
	Satcom (Flight Phone) ☒			DWC	DWC	Off CB? ☒	
	Call COMSAT? ☒ (*292#)			↓	↓		
M	FCU/UPS/CB			CB's Checked? ☒ DWC	↓	UPS off? ☒	
I	AVAPS Sondes			# On Board: 127	# Dropped: 46	# Good: 43	
S	AXBT			# On Board: 0	# Dropped: —	# Good: —	
C	APN-232			DWC	DWC		
	Modem Power On? ☒			DWC	↓		

1	DAT Tape #1	On: 1941	Type: V-66	Off: 0349Z
2	DAT Tape #2	On:	Type:	Off:
Comments:				

N49RF Winter Storms 99 / AVAPS DropSonde Log

N49RF Project: WINTER Storms 99 Flight ID: 990206N

Mission: 9 Flight #: 10 System Status: CH#8 disabled

Drop #	Sonde Serial Number	Chn. #	Time (Zulu)	Press. offset	Winds time	Operator Initials	Comments / Drop Status/ Failure Reason	GOOD ☒
1	983 720 830	5	2059	.5	50	JAS		✓
2	983 310 158	1	2115	.5	24	JCPB		✓
3	983 620 725	5	2132	.5	55	JAS		✓
4	983 840 536	1	2150	.9	17	JAS		✓
5	983 340 082	6	2207	.2	24	JAS		✓
6	983 310 031	1	2224	.5	42	JCPB		✓
7	983 620 732	5	2242	.4	70	JAS		✓
8	983 620 740	1	2300	.4	28	JCPB		✓
9	983 620 692	5	2304	.5	54	JAS		✓
10	983 620 604	2	2309	.3	32	JCPB		✓
11	983 620 722	6	2313	.6	45	JAS		✓
12	983 340 111	1	2318	.2	22	JCPB	sys lock-up - data lost	N
13	983 620 653	7	2322	.4	16	JAS		✓
14	983 340 067	2	2326	.4	24	JCPB	sys lockup - data lost	N
15	983 620 575	5	2330	.5	20	JAS		✓
16	983 340 076	6	2334	.6	88	JAS		✓
17	983 620 619	1	2338	0	78	JCPB		✓
18	983 620 677	7	2342	.2	45	JAS		✓
19	983 720 826	2	2346	.6	45	JCPB		✓
20	983 340 073	5	2350	.5	62	JAS		✓
21	983 840 527	1	2354	.9	16	JCPB		✓
22	983 410 094	6	2358	.5	14	JAS		✓
23	983 620 591	2	00 02	.3	15	JCPB		✓
24	983 620 605	7	0006	.2	27	JAS		✓
25	983 410 145	3	0011	.3	42	JCPB		✓
26	983 620 750	5	0015	.5	26	JAS		✓
27	983 620 742	1	0019	.3	14	JCPB		✓
28	983 620 579	6	0022	.8	18	JAS		✓
29	983 620 727	2	0030	.5	19	JCPB		✓
30	983 310 157	7	0036	.2	?	JAS		✓
31	983 620 748	1	0037	.9	42	JCPB		✓
32	983 410 034	5	0041	.4	35	JAS		✓
33	983 720 846	2	0045	.3	26	JCPB		✓

Moved R5 ch.#5 telem from P9 to P14 due to data errors

Drop #	Sonde Serial Number	Chn #	Time (Z)	Press. offset	Winds time	Operator Init.	Comments Drop Status	GOOD ☒
34	983620596	6	0049	.3	24	JAS		✓
35	983620747	3	0053	.3	22	JCPB		✓
36	983310171	7	0057	.2	19	JAS		✓
37	984325153	1	0101	.4	—	JCPB	FAST FALL	N
38	983410141	5	0105	.3	27	JAS		✓
39	983620726	2	0109	.3	14	JCPB		✓
40	983620607	6	0110	.3	23	JAS		✓
41	983620724	1	0124	.3	20	JCPB	LATE Launch Del.	✓
42	983620641	5	0141	.7	25	JAS		✓
43	983620733	2	0159	.4	35	JCPB		✓
44	983340106	5	0217	.2	12	JAS		✓
45	983620654	1	0234	.3	14	JCPB		✓
46	983620749	5	0251	.3	50	JAS		
47								
48								
49								
50								
51								
52								
53								
54								
55								
56								
57								
58								
59								
60								

06/16/98

AVAPS PRE-FLIGHT CHECK:

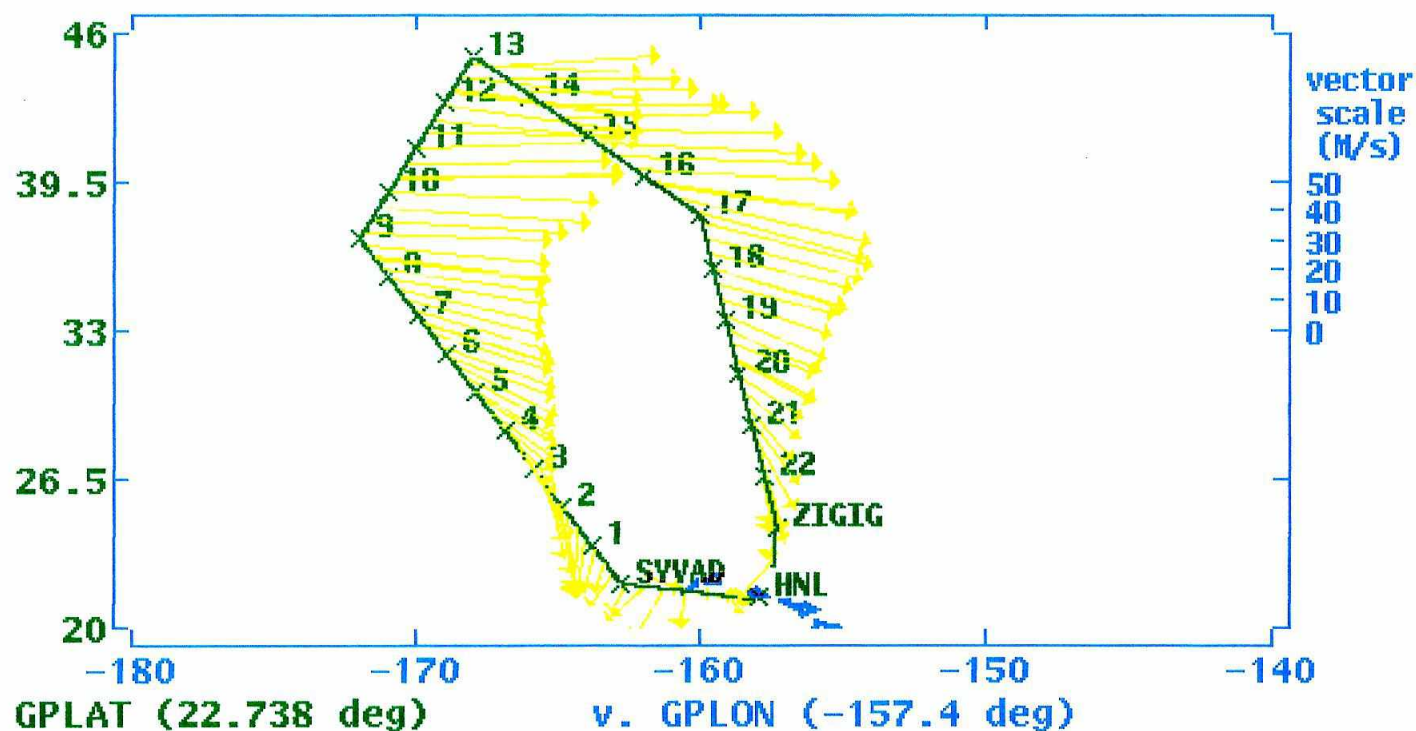
- (1) Apply power to computer, VAPS fan and VAPS chassis
- (2) Verify no **ER** status lights on the four MWG cards
- (3) Set the computer time to GPS time
- (4) Start AVAPS and run the hardware checks via the **Utility** function
- (5) Start **Soundings** and set the **Project Name** and **Flight ID** (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:

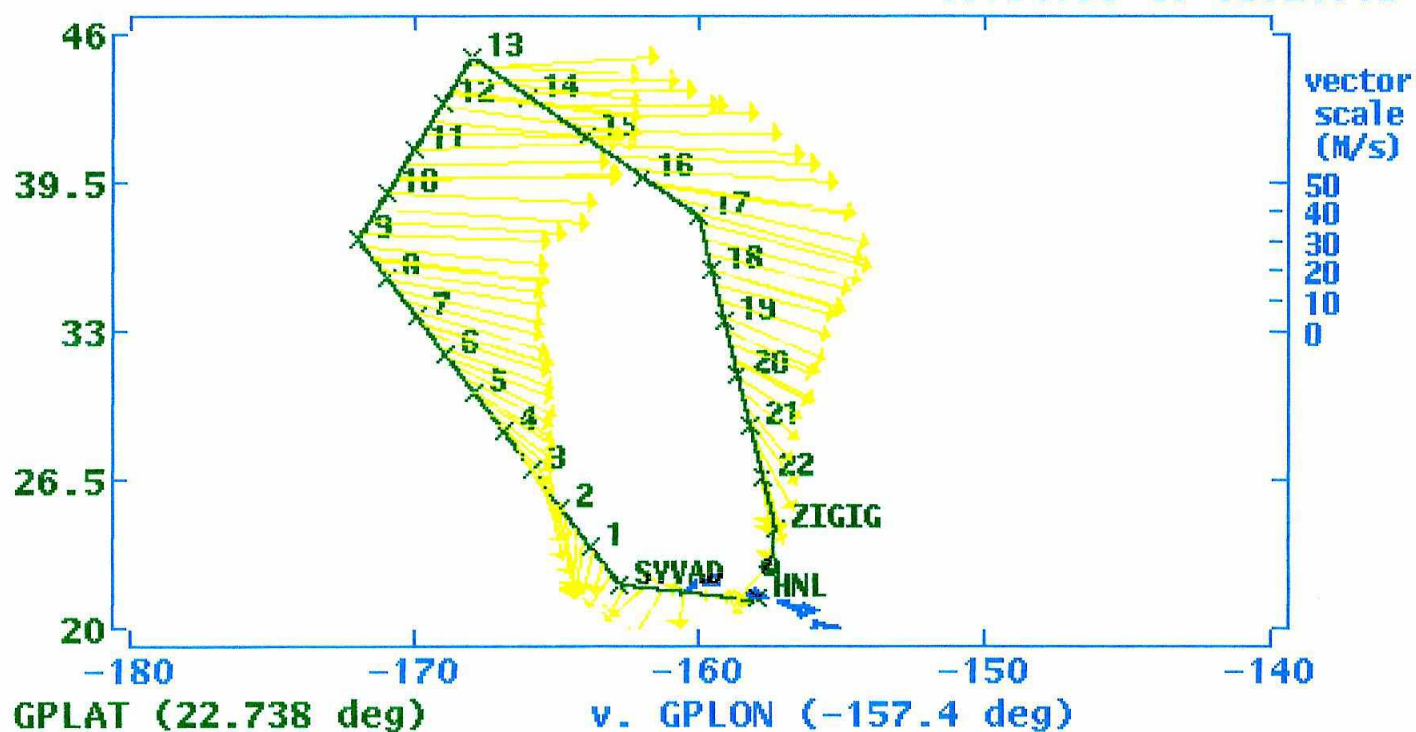
- ☐ When selecting a sonde frequency, select a frequency other than the default (if there is a default), and away from other sondes in use.
- ☐ Do not pull the Power Enable Pin during pre-launch setup until after the Umbilical is attached.
- ☐ If pre-launch is complete, and more than 5 minutes remain 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.

'wint strm ftrk' (winds@eider) Proj. 425 Flt Feb-07-99 03:21:
19:54:59 to 03:21:13



'wint strm ftrk' (winds@eider) Proj. 425 Flt Feb-07-99 03:21:
19:54:59 to 03:21:13



Winter Storm Reconnaissance (Mission 9)
990206N N49RF 6 Feb 1999 Honolulu - Honolulu

<u>DATA TYPE</u>	<u>SENSOR or OPTION</u>
INE	VEW_PITR, VNS_PITR
Accelerometer	ACINS_PITR
Temperature Probe	AT1
Altitude (for vertical winds)	PALT
Static Pressure	PS1M
Dynamic Pressure	QC1M
Dewpoint Probe	DPRC

Notes:

46 dropsondes launched, 2.5 failures.

Four dewpoint spikes were noted, from 210350z-210600z, 230935z-231500z, 021915z-022400z, and 030610z-031200z.

Numerous APN-232 radar altimeter spikes were noted from 212127z-212140z, 212609z-212615z, 212916z-212920z, and 032231z-032244z.

	Take Off	Land
Corrected Tower Pressure	1022.7	1019.0
Aircraft Static Pressure	1021.2	1018.4

Flight Director: Jack Parrish, (813) 828-3310, Ex 3077

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HURRICANE SYNOPTIC SURVEILLANCE MISSION PLAN: WSR HI N49

Prepared by the Hurricane Research Division at 09:53:06 PM on 02/05/99.
File: 990206n.ftk

Aircraft: N49RF Altitude: FL410-450 Proposed takeoff: 06/2000Z

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DROP LOCATIONS

=====

#	LAT (d m)	LON (d m)	RAD/AZM (nm/dg)	TIME (h:mm)
1	23 35	163 49		1:03
2	25 15	164 51		1:19
3	26 56	165 52		1:34
4	28 37	166 53		1:50
5	30 17	167 55		2:06
6	31 58	168 56		2:21
7	33 39	169 57		2:36
8	35 19	170 59		2:52
9	37 00	172 00		3:07
10	39 00	171 00		3:24
11	41 00	170 00		3:42
12	43 00	169 00		3:59
13	45 00	168 00		4:17
14	43 15	166 00		4:35
15	41 30	164 00		4:54
16	39 45	162 00		5:13
17	38 00	160 00		5:32
18	35 43	159 33		5:51
19	33 26	159 06		6:10
20	31 09	158 39		6:28
21	28 52	158 12		6:47
22	26 35	157 45		7:06

NOAA G-IV POC: Sean White - 813.833.3275

CALL SIGN NOAA49
TAIL NUMBER N49RF
ALTITUDE FL410-450
AIRSPEED Mach 0.77 (450KTAS)

DEPARTURE

DATE 06 FEB 99
TIME 2000Z

NCEP DROP LOCATIONS indicated by a drop number.

28 37 #4

#	LAT(N)/LONG(W) (degrees and minutes)	DIST(NM)	ETE	ETA Date/Zulu Time	
	Honolulu (PHNL)	----	----	06/2000 Takeoff time	
	SYVAD (21 54/162 48)	272	0+40	06/2040	30 17N
1	23 35/163 49	115	0+16	06/2056	Drop 4
2	25 15/164 51	115	0+16	06/2112	
3	26 56/165 52	114	0+16	06/2128	
4	28 37/166 53	114	0+16	06/2144	
5	30 17/167 55	114	0+16	06/2200	
	3 additional dropsondes				
6	31 58/168 56	113	0+16	06/2216	
	3 additional dropsondes				
7	33 39/169 57	113	0+16	06/2232	
	3 additional dropsondes				
8	35 19/170 59	112	0+16	06/2248	35 44 171 13.8 MEL1 (51)
	3 additional dropsondes				36 10 171 24.4 MEL2
9	37 00/172 00	112	0+16	06/2304	36 35 171 44.6 MEL3
	3 additional dropsondes				37 30 171 45.3 MEL4 (54)
10	39 00/171 00	129	0+17	06/2321	38 00 171 30.4 MEL5
	3 additional dropsondes				38 30 171 15.4 MEL6 (57)
11	41 00/170 00	129	0+17	06/2338	39 30 170 45.4 MEL7
	3 additional dropsondes				40 00 170 30.5 MEL8 (60)
12	43 00/169 00	129	0+17	06/2355	40 30 170 15.4 MEL9
	3 additional dropsondes				41 30 169 45.4 MEL10 (63)
13	45 00/168 00	129	0+17	07/0012	42 00 169 30.5 MEL11
	3 additional dropsondes				42 30 169 15.4 MEL12
14	43 15/166 00	135	0+15	07/0027	43 30 168 45.4 MEL13 (66)
	3 additional dropsondes				44 00 168 30.5 MEL14
15	41 30/164 00	136	0+15	07/0042	44 30 168 15.4 MEL15 (69)
	3 additional dropsondes				44 34.5 167 30
16	39 45/162 00	138	0+15	07/0057	44 08.5 167 00
	3 additional dropsondes				43 42 166 30
					42 48.5 165 30
					42 23.5 165 00
					41 57 164 30
					41 04.5 163 30
					40 38.4 163 00
					40 12 162 30
					39 17.4 161 30
					38 53.4 161 00
					38 26.9 160 30

17	38 00/160 00	141	0+15	07/0112
	3 additional dropsondes			
18	35 43/159 33	138	0+18	07/0130
19	33 26/159 06	138	0+18	07/0148
20	31 09/158 39	139	0+18	07/0206
21	28 52/158 12	139	0+18	07/0224
22	26 35/157 45	139	0+18	07/0242
	ZIGIE (24 19/157 18)	139	0+18	07/0300
	Honolulu (PHNL)	183	0+40	07/0340
	Cumulative	3375	7+40	

37 25	(78)
36 50 159 46.0	(79)
36 05	(80)