

Hurricane 1998

Hurricane Bonnie Landfall

Flight #6 980826H

<u>Sensor or system</u>	<u>Number or Name</u>
INE	2
Accelerometer	2
Temperature Probe	2
Dew Point Probe	1
Altitude (for vertical wind)	RA-159
Static Pressure	Rosemount Fuselage
Dynamic Pressure	Rosemount Fuselage
Time Source	Micro 99
Constants File	CO2989.CON

Notes:

Radar altimeter (RA159) had a spike at takeoff (1018:01-1020:08) and was replaced by RA232. RA159 had a spike at landing and was set to zero 1924:18-1927:00.

Dewpoint (DW1) had a spike due to balancing (1058:29-1104:10). The spike was removed and patched. Dewpoint (DW1) exceeded ambient temperature (AT2) several times due to heavy precipitation.

Dynamic slip pressure (DBP) had problems due to possible leak in the line. DBP was replaced by the dynamic pressure on the fuselage (PQF1) with an offset of +5.6 (1345:50-1807:22).

	<u>Takeoff</u>	<u>Landing</u>
Aircraft static pressure	1008.4	1009.7
Corrected tower pressure	1009.5	1011.5

The aircraft INE positions were renavigated with respect to GPS.

SPECIAL NOTE!!! Locations 80, 81 and 82 of record five on the standard tape contain vertical ground, vertical air and vertical speeds, respectively, computed using Dave Jorgensen's vertical wind algorithm.
It is recommended that these values be used for vertical wind analysis.

Flight Meteorologist: Stan Czyzyk, (813) 828-3310 ext. 3086

U.S. DEPT. COMM./NOAA/OAO - DATA SECTION WORK FORM NO.1 OAOWF1 FILE

FLT ID: 9808264	FM: KMCF	TO: KMCF
FLT NO: 98-071	BLK IN: 1933	ATA: 1925Z
ETD: 1000Z	DLK OUT: 1008Z	RTD: 1020Z
ETE: 1930Z	BLK TIME: 9.25 9.4	FLT TIME: 9.05 9.1
SPONSOR ORG: HRP	PROGRAM: LAND FALL HURR	PURPOSE: LANDFALL HURR BONNIE

OAO PERSONNEL

AC PHILIPPSBORN, R ✓	SYS ENG MCMILLAN, S ✓
CP TAGGART, B / OMARA, T ✓	DATA SYS GOLDSTEIN, A ✓
NAV STRONG, T ✓	RADAR BARR, J ✓
FE BAST, G ✓	BT/ODW
RADIO ROGERS, M ✓	CLD PHYS
FD CZ4ZYK, S ✓	DOPPLER WINTER, D ✓

PARTICIPATING SCIENTIST/VISITORS/OAO

LAST, FIRST NAME	ACTIVITY ON A/C	AFFILIATION
MARKS, F ✓	SCIENTIST	HRD
BARNES, G ✓	P.I.	U. of HAWAII
LEIGHTON, P -	SCIENTIST	HRD
ABERSON, S ✓	"	HRD
KIMBERLAIN, T ✓	"	HRD
WROE, D ✓	"	CSU
GERACI, M	MEDIA	U. of HAWAII
SPICKER, R	MEDIA	CH-28
		CH-28

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

JAMES NCCO AUMPS CO. RONA FROM 8/24 FLIGHT.

105830 BALANCE DWH

51107Z 61258Z 51408Z 51502Z 51631Z 51731 51749Z

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

FLT ID: 980 826H TIME OFF: 1020Z TIME ON: 1925

	A/C T/O	WX STN	A/C LAND	WX STN
PRESSURE	1008.4	29.81	1009.7	29.87

NO DATA DISPOSITION/DATE/QUALITY

1/SEC FLT LVL TAPES	2	
FAST FLT LVL TAPES		
RADAR TAPES		
DOPPLER TAPES		
ODW CASSETTES		
HARD COPIES		
AXBT	16	
AXCP		
ODW	6 55(54)	
GPS		

PHOTOGRAPHY

	FWD	LS	RS	VERT
ON				
OFF				
RATE				

REMARKS

TIME	LOT	LOW	TE	HVO	TR	TD	WD	WS	PR	GN	PS	SP	REMARKS
105300	2925	8144	48	46	-0.5	-4.0	5	19.2	5236	5504	523.4	1000.4	LEVEL 17K
112545													DESCEND
113440	3129	7902	46	35	6.9	7.3	315	47.1	3661	3747	844.2	946.4	LEVEL 12K RW
1157	3239	7756											5
121923	3348	7633											PT 2
122034	3352	7635											DROP #1
122048	3353	7636											BT
122305	3401	7647											DROP #2
122517	3403	7700											DROP #3
122801	3405	7718											DROP #4
123211	3403	7743											DROP #5
123328	3400	7751											BT 2
123435	3357	7756											DROP #6
123706	3347	7807											DROP #7
123954	3336	7818											DROP #8
124228	3324	7826											DROP #9
124525	3312	7838											DROP #10
124942	3259	7834											DROP #11
125008	3258	7832											BT 3
125244	3252	7818											DROP #12
125445	3254	7818											DROP #13
125733	3249	7755											DROP #14
125852	3246	7749											DROP #15
130159	3245	7733											BT 4
130454	3245	7718											DROP #16
130805													DROP #17
130922													DROP #18
131018	3245	7650											BT 5
131414	3248	7634											DROP #19
131752	3231	7633											DROP #20
132056	3232	7636											DROP #21
132339	3215	7639											DROP #22
132716	3203	7639											DROP #23
132717													DROP #24
133036	3157	7649											BT 6
133431	3151	7702											DROP #25
133800	3147	7714											DROP #26
134131	3140	7725											DROP #27
134507	3132	7739											DROP #28
134558													DROP #29
142740	3315	7909											BT 7
143122	3300	7963											DROP #30
143537	3234	7857											DROP #31
143538													DROP #32
143935	3215	7843											BT
144336	3210	7821											DROP #33
144655	3208	7758											DROP #34
145030	3215	7747											DROP #35
145030													BT
145457	3235	7747											DROP #36
145900													DROP #37
50200													DROP #38

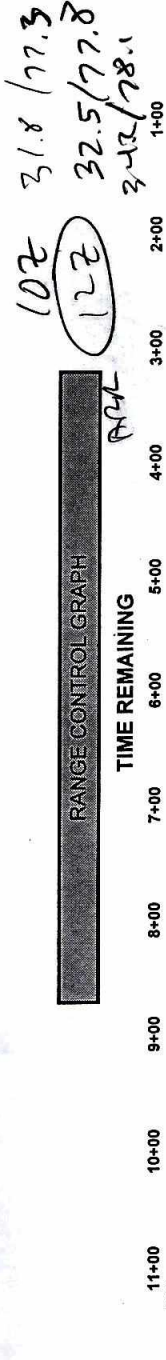
[illegible]

12K

370m to 6

REMARKS	CAF
	2000
	7/6k
	7
	7
	19.9
	3712
	6190
	11965

[illegible]



150 nm range

ENROUTE FUEL	
ENROUTE TIME	
ENROUTE FUEL (6X, 8K4 5K RULE)	
RESERVE AT DESTINATION	
REQUIRED RAMP	
ACTUAL RAMP FUEL	

TACTICAL (OFFSTA TO DESTINATION)	
DISTANCE (OFFSTA TO DEST)	4 ENG 3 ENG
ENROUTE TIME (OFFSTA TO DEST)	
BURN RATE (LBS/HR)	4500 5500
ENROUTE FUEL REQUIRED	
RESERVE AT DESTINATION	
FUEL AT OFFSTA	

POINT OF SAFE RETURN	
ETP DISTANCE (TO DEPARTURE)	4 ENG 3 ENG
ENROUTE TIME (TO DEPARTURE)	
BURN RATE (LBS/HR)	4500 5500
FUEL REQUIRED	
RESERVE AT DEPARTURE	
PSR FUEL	

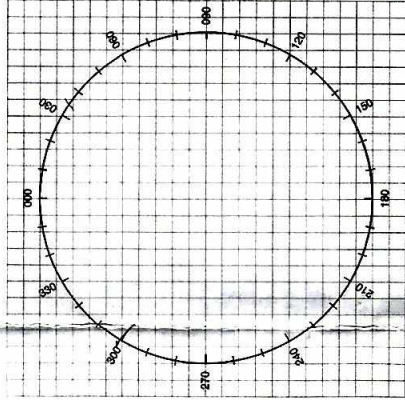
WIND FACTOR		
WINDSPEED	HEADWIND	TAILWIND
10	1.03	.97
20	1.06	.94
30	1.10	.92
40	1.14	.89
50	1.18	.87
60	1.22	.85

DISTANCE REMAINING

ETP = .5(TOTAL DISTANCE x OUTBOUND WIND FACTOR)

PRESS ALT		TIME		PRESS ALT		TIME	
10,000	1.0	200	1.0	250	300	350	
20,000	.99	.99	.98	.97	.96	.95	.94
30,000	.97	.96	.95	.94	.93	.92	.91
40,000	.96	.95	.94	.93	.92	.91	.90

TRUE AIRSPEED CROSS-CHECK							
TIME	IAS	PRESS ALT	"F" FACTOR	EAS	OAT	TAS	ITAS



CEX - TRUE BEARING METHOD				CEX SIGHT	
COMPASS TYPE	INS1	INS2	WET	GHT	
MCH (READING)				GHA	
- MTH (SEXTANT)				CORR	
CE				GHA	
- VAR				LONG +W -E	
DEV				EXACT LHA	
				LAT	
				BODY	
				DEC	
				HC/D	
				CORR	
				HC	
				Z	
				ZN	

CEX - ERB METHOD			
COMPASS TYPE	INS1	INS2	WET
MERB (DIAL 000)			
+ ZN			
= MTH			
MCH (READING)			
CE			
- VAR			
= DEV			

384

024

[illegible]

PAGE **OF**

TRANSMIT THE FOLLOWING MESSAGE TO ANY AGENCY ON THE AIR-GROUND
FREQUENCY IN USE. IF UNABLE TO ESTABLISH COMMS, ATTEMPT CONTACT ON
ANY OF THE FOLLOWING EMERGENCY FREQUENCIES:

UHF/VOICE VHF/VOICE MF/VOICE HF/CW MF/CW
243.0 121.5 2182 KHZ 8364 KHZ 500 KHZ

MAYDAY, MAYDAY, MAYDAY

THIS IS NOAA _____, NOAA _____, NOAA _____

- POSITION _____ N/S _____ E/W AT _____ Z

- HEADING _____ TRUE/MAG

- AT _____ KTS TRUE/INDICATED

- FLIGHT LEVEL OR ALTITUDE _____

- WE ARE A P-3 AIRCRAFT WITH _____ SOULS ON BOARD

- NATURE OF EMERGENCY _____

- ASSISTANCE DESIRED _____

- PILOT INTENTIONS _____

- WE HAVE _____

- ENDURANCE REMAINING _____

[illegible]

NOAA • AOC • SED
N43RF AVAPS DROP LOG

Project : Hurricane '99

Mission : DENNIS #1

Flight ID : 990826I

Take Off : _____

Landing : _____

[illegible]

N42RF AVAPS DropSonde Log

N42RF Project: Hurricane 99

Flight ID: 990826H

Mission: Dennis

Flight #: 2

System Status: OK

Drop #	Sonde Serial Number	Time (Z)	Chn #	Press. offset	Winds time	Operator Init.	Comments Drop Status	BAD ☒	GOOD ☒
1	991 845 157	1818	4	—	58	JWH			✓
2	991 845 144	1856	4	—	54	JWH			✓
3	991 845 140	1919	4	—	28	JWH			✓
4	991 515 141	1932	4	—	32	JWH			✓
5	991 515 134	1939	1	—	33	JWH			✓
6	991 515 132	1942	4	—	28	JWH			✓
7	991 845 147	1955	4	—	28	JWH			✓
8	991 845 141	2014	4	—	24	JWH			✓
9	991 845 154	2020	1	—	15	JWA			✓
10	991 845 151	2023	4	—	10	JWH			✓
11	991 515 137	2056	4	—	22	JWH			✓
12	991 845 199	2120	3	—		JWH	Tracked 8 SATs, but no wind data	✓	✓
13	991 845 158	2124	4	—	25	JWH			✓
14	991 515 142	2141	3	—	21	JWH			✓
15	991 845 192	2202	2	—	20	JWH			✓
16	991 845 156	2225	1	—	27	MER			✓
17	991 435 041	2254	2	—	77	MER			✓
18	990 435 512	2322	3	—	35	MER			✓
19	990 845 047	2351	2	—	29	MER			✓
20	991 515 139	0026	1	—	31	MER			✓
21	991 845 138	0051	2	—	35	MER			✓
22	991 515 023	0116	3	—	31	MER			✓
23									
24									
25									
26									
27	987 325 577								
28									
29									
30									
31									
32									
33									

Mission :

DENNIS #1

Flight ID : 990826

Operators : McNAMARA, LINO

Take Off :

Landing :

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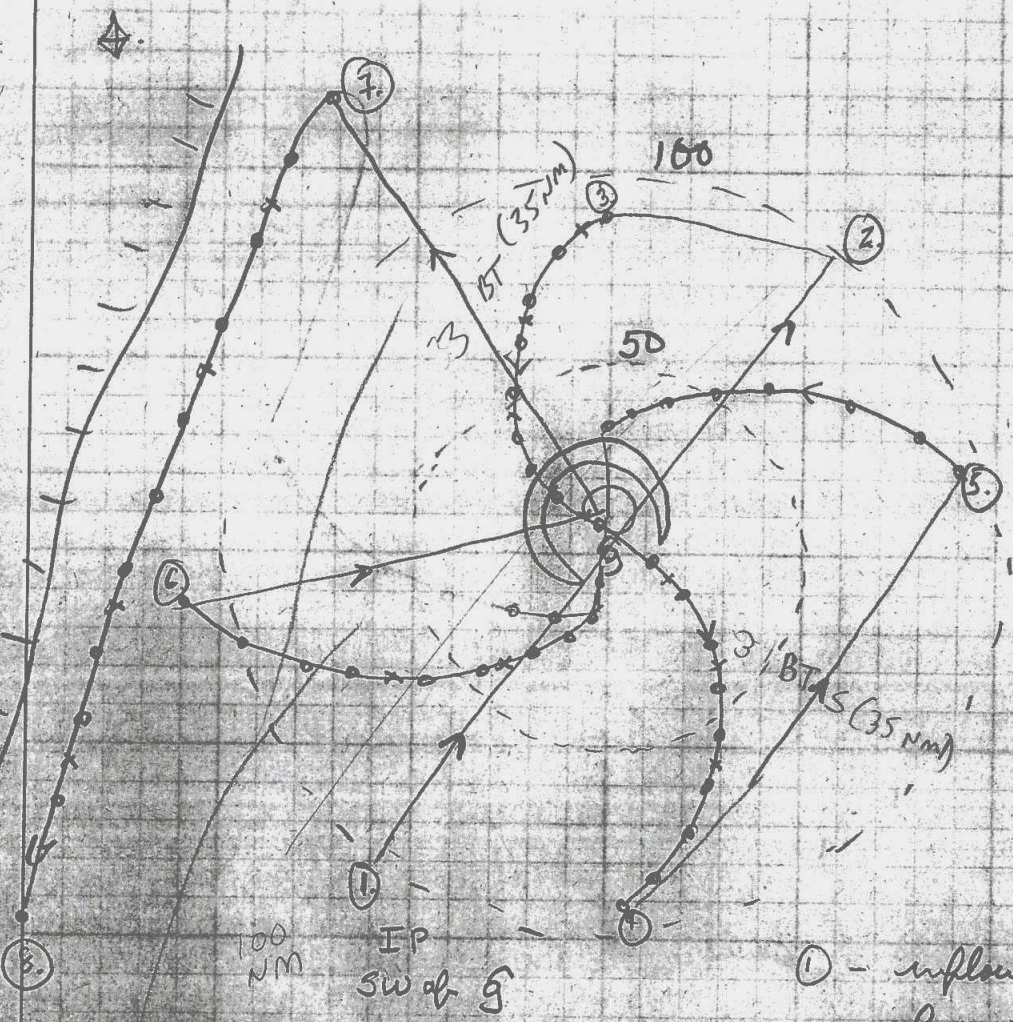
50 SHEETS
22-141
22-142
22-144
100 SHEETS
200 SHEETS



GP9
x AXBT

@ 12,000'

115° TO WIND



under at

KMHX 34.46N, 76.52W DIN

KLTIX 33.99N 78.43W DTC/ML

IP 31.3N 79.2W

11487 TRMM

- ① - inflow $\approx 25-30^\circ$ from concentric circles
- ② - enters EW $\perp$
- ③ - drop on either side of EW ≈ 5 km, $\approx$ just w/in reflex map
- ④ - may circle $\rightarrow$ eye to have sondes all fall before next run out
- ⑤ - drop AXBTs: 3-4 per spiral in
- ⑥ - final coastal run gets in + out flow from land

