

Flt ID: 010916H	From: KMCF	To: KMCF
Flt No: 01-41	Blk In: 0259	ATA: 0246
ETD: 1700Z	Blk Out: 1811Z	ATD: 1822Z
ETE: 8+4.5	Blk Time: 8.8	Flt Time: 8.4
Sponsor Org: HRD	Program: CAMEX IV	Purpose: Hurricane GABRIELLE

AOC Personnel

AC: TAGGART, B	Sys Eng: DELGADO, J
CP: TENNESEN, D	Data Sys: LYNCH, T ✓
Nav: NEWMAN, C. ✓	Radar:
FE: BAST, G	GPS/BT: McMillan, S
FD: SITEPIHERD, T ✓	Cld Phys:
Avionics:	

Participating Scientists / Visitors / AOC

Name (Last, First)	Activity on Aircraft	Affiliation
BLACK, M ✓	PI	HRD
MARR, F ✓	Co PI	HRD
BARNES, G ✓	Cld. m P	U. Hawaii
SAMACHE, J ✓	RADAR	HRD
DODGE, P ✓	RADAR	HRD
ABERSON, S ✓	TEMP DROP	HRD
HUDSON, J ✓	CCN	DRI
EASTIN, M ✓	obs	Colo State U.

Proposed/Actual Mission Remarks (Recco, Fixes, Storm, PENET, NHOP #)

DELAYED T.O. due to PMS probes
 2ND T.O. DELAY waiting ON NASA
 1907 Bal DPT 1, 2, & 3
 2024 Bal DPT 1
 ~ 2200 DPT 1 T.U.

PEN 1	2059	3316	7218
2	2144	3334	7154
3	2228	3358	7138
4	2327	3342	7119
5	0015	3359	7105

Flt ID: 010916H Time Off: 1822Z Time On: 0246Z

A/C Take Off	Wx Station (Take Off)	A/C Land	Wx Station (Land)
Pressure 1015.4	30.00	1017.0	30.06

	Number	Data Disposition / Date / Quality	
Flt Lvl Tapes	2	Shepherd	
Radar Tapes	2	} HRD	
Cloud Physics Tapes	1		
Video Tapes	4		
AXBT	18	all good	
AXCP			
AXCTD			
Dropsondes	30	2 bad / 1 no wind / 1 no launch defect	
		OK - verified with N42 drop log	

Video

	Forward	Left Side	Right Side	Down	Remarks
Time On					
Time Off					
Rate					

Remarks

CAMEX 2001

Hurricane Gabrielle

Flight #1 010916H

<u>Sensor or system</u>	<u>Number or Name</u>
INE	1
Accelerometer	1
Temperature Probe	1
Dew Point Probe	1 & 3
Altitude (for vertical wind)	RA-159
Static Pressure	Rosemount Fuselage
Dynamic Pressure	Rosemount Fuselage
Time Source	Micro 99
Constants File	CO2012.CON

Notes:

Takeoff: 1822Z

Land: 0246Z

There was a data gap from 193900 - 193525.

The radar altimeter (APN-159) was replaced by the APN-232 due to spiking during take off and landing (181900 - 182530 take off; 024200 - 024900 landing). No offset was applied. The APN-159 was replaced by the APN-232 due to spiking 203300 - 203315. A +20.0 meter offset was applied

Due to a balancing spike, dew point #1 was replaced with dew point #3 201049 - 202447. A 0.0 meter offset was applied. Dew point #1 was responding slowly and was replaced by dew point #3 from 222927 - 225016 with a 0.0 meter offset. At 003334 dew point #1 began reacting slowly again and was replaced by dew point #3 for the remainder of the flight 003334 - 024900. A 0.0 meter offset was applied.

During times when aircraft was flying through heavy precipitation, the dew point temperature exceeded the ambient temperature resulting in relative humidities greater than 100%. This could also be due in part to wet bulbing effect on the total temperature sensor. No adjustments were made.

	<u>Takeoff</u>	<u>Landing</u>
Aircraft static pressure	1015.4 mb	1017.0 mb
Corrected tower pressure	1015.9 mb	1017.9 mb

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 Director: Tom Shepherd, (813) 828-3310 ext. 3053

010916H

INE 1
AZI 1
TT 1
DP 1+3

~~DATA Gaps~~

~~193900-193925~~

~~IF use DW3~~

~~sub 1 for 3~~

~~183130-191050~~

All DP data "questionable"

183130-191100, 193845-200100, 201230-202310

015530-020810, 023030-023800

1+2

TT2

210640-210955 overcooling potential wet bulbing

211120-212700

220825-223115

231540-231850

233700-234715

RA159 spike

✓ 203300-203315 sub 232 for 159 E +20m offset

✓ sub 232 for 159 024200-024900 Landing

✓ sub 232 for 159 181900-182530 Take off

DP 1819-183108 DP1

183109-191054 all questionable

191055-193900 DP1

193900-193925 data gap

200036-201230 DP1

201231-202310 all questionable

202311-222925 DP1

✓ * 222927-225016 sub E DP3 0.0 offset

224806-003355 DP1

✓ * 003334-015525 DP3 switch to DP3 w/0.0 offset

015526-020800 all questionable

020801-023020 DP3

023021-023915 all questionable

023916-024900 DP3

✓ Bal Spike DP1 202050-202305

201049-202447 Sub DP3 for DP1

RENAV (OVER)

w/0.0 offset

1)	191500	+0.3	-0.4	29 25.3	78 40.3	✓
	203000	+0.6	-0.9	31 39.7	74 12.0	✓
	211500	-0.2 +0.8	-0.5 -1.5	33 54.1 X	71 36.1 X	✓
	220000	+0.4	-1.6	33 19.9	71 3.6	✓
5)	224500	+0.5	-2.0	33 1.5	71 6.9	✓
	233000	+0.2	-2.8	33 37.2	71 16.9	✓
	001500	+0.2	-2.9	33 59.0	71 4.6	✓
	010000	-0.4	-3.7	32 8.0	74 18.0	✓
	014500	-0.4	-3.4	30 19.5	78 4.9	✓
10)	023000	-0.7	-3.9	28 15.6	81 31.9	✓
11)	024900	-0.4	-3.6	27 50.6	82 31.4	✓

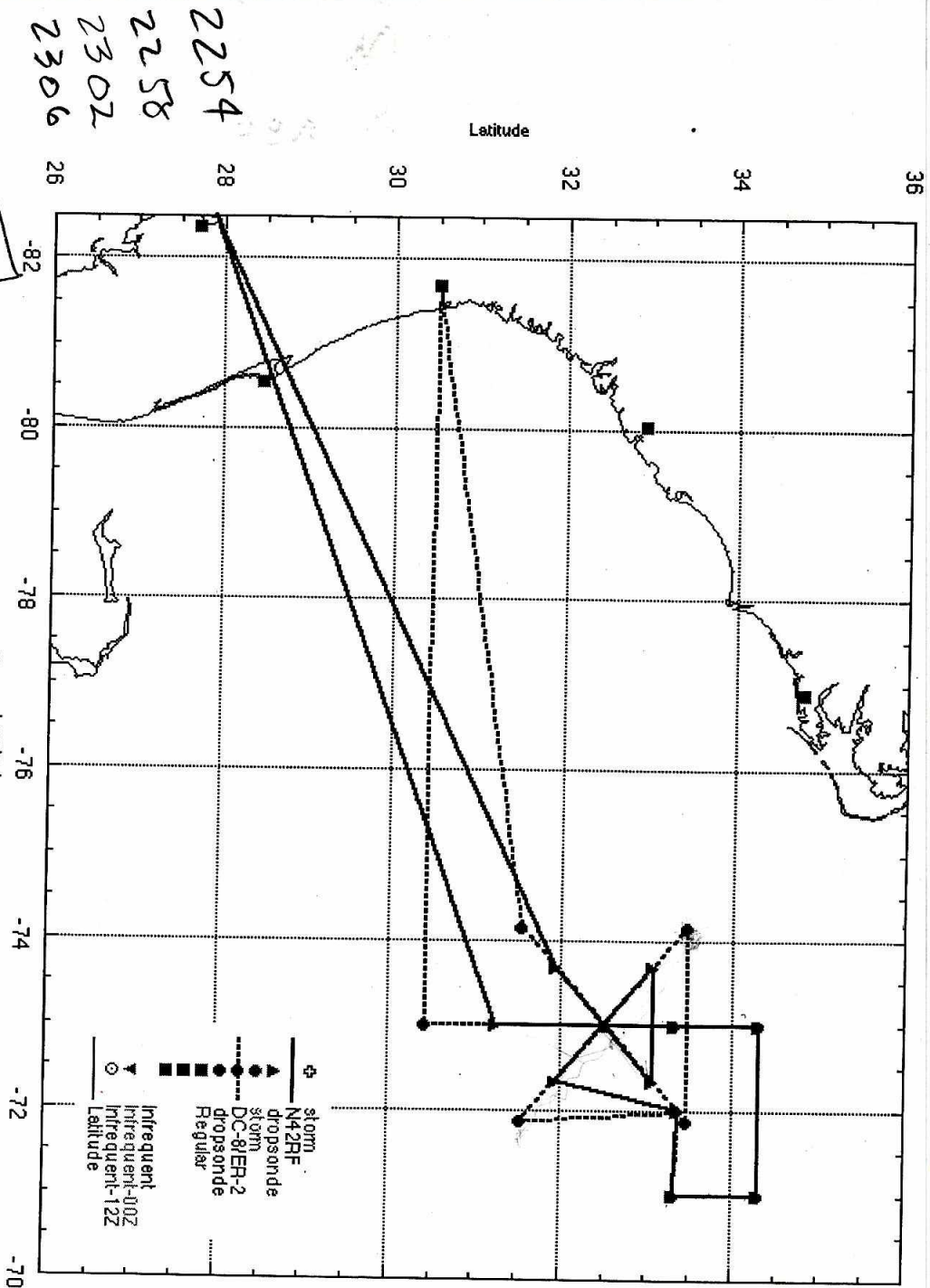
Time	Lat	Long	Trk	Hdg	Wind Dir	Wind Spd	T _a	T _d	Press. Alt.	Geo. Alt.	Sfc Press.	Press. Sfc	Dyn. Press	Remarks
184310	2752	8059	70	70	265	19.0	8.5	-31.2	3943	4126	1002.2	620.9	81.1	5CT BLO OVR LAND
185855	2840	7952	046	044	299	16.0	6.8	-31.7	3946	4165	1008.0	620.9	86.1	5CT BLO
191520	2926	7839	056	056	253	16.5	5.2	-17.0	4120	4345	1008.1	606.8	82.6	BKN BLO
201600	3102	7504												D1 NO WINDS
201755	3105	7507												D2
2023	3120	7446												Sharp moisture gradient
203645	3158	7339	56	52	309	30.4	5.5	-3.2	4074	4231	999.8	610.7	88.6	D3 B1
														No LAUNCH Det reboot
204610	3233	7306	30	25	320	359	4.7	-1.1	4094	4230	998.1	606.8	89.7	D4
205920	3318	7216												D5 B2
2059	3316	7218												CENTER
211353	3359	7132	271	264	155	34.2	5.2	6.1	3879	3941	992.1	625.6	74.3	D6 B3
213135	3246	7259												D7 D8 213907
214431	3334	7153												D9 B4
215838	3304	7163												D10 B6
220050	3323	7104	000	001	181	29.1	8.6	2.8	3610	3661	992.1	648.4		
220830	3402	7103												D11 B7
221030	3412	7106												D12 B8
221542	3435	7115												D13 B9
222435	3413	7133	178	172	88	33.3	6.2	8.5	3594	3646	993.6	657.1	71.5	D14 B10
2228	3358	7133												CENTER
223951	3308	7132												D15 B11
224345	3303	7114	100	105	242	34.8	8.9	2.8	3597	3651	991.4	649.3	82.7	
225410	3253	7013												D16 B12
225600	3308	7000												D17 B13
230200	3330	6954	355	355	188	50.0	8.7	0.0	3596	3683	996.3	649.8	71.8	D18 B14
230600	3351	6956												D19 B15
230712	3357	6958												D20
231019	3409	7007												D21 B16
231400	3412	7027												D22 B17
231805	3412	7049												D23 B18
232201	3403	7106												D24
2327	3342	7119												CENTER FIX
232910	3325	7102												D25
234400	3454	7059												D26

3304
7108

DATE 9/16/01	SCHEDULED RX TIME —	AIRCRAFT NUMBER N42RF	FLIGHT DIRECTOR Stoepher
WX MISSION IDENTIFIER NOAAZ W408A GABRIELLO			OB NUMBER —
VORTEX DATA MESSAGE			
A	1612059Z	DATE and TIME of FIX	
B	33DEG 16MIN ^NS	LATITUDE of FIX	
	72DEG 18MIN ^WE	LONGITUDE of FIX	
C	NA MB M	MINIMUM HEIGHT of STANDARD LEVEL	
D	60 KT	ESTIMATE of MAXIMUM SURFACE WIND OBSERVED	
E	360DEG 10 NM	BEARING and RANGE FROM CENTER of MAXIMUM SURFACE WIND	
F	301DEG 49 KT	MAXIMUM FLIGHT LEVEL WIND NEAR CENTER	
G	360DEG 1 NM	BEARING and RANGE FROM CENTER OF MAXIMUM FLIGHT LEVEL WIND	
H	EXTRAP 993 MB	MINIMUM SEA LEVEL PRESSURE COMPUTED FROM DROPSONDE OR EXTRAPOLATED FROM FLIGHT LEVEL. IF EXTRAPOLATED, CLARIFY IN REMARKS.	
I	3 C 14113 M	MAXIMUM FLIGHT LEVEL TEMP / PRESSURE ALTITUDE OUTSIDE EYE	
J	5 C 14139 M	MAXIMUM FLIGHT LEVEL TEMP / PRESSURE ALTITUDE INSIDE EYE	
K	3 C 1 NA C	DEWPOINT TEMP / SEA SURFACE TEMP INSIDE EYE	
L	NA	EYE CHARACTER: Closed wall, poorly defined, open SW, etc.	
M	NA	EYE SHAPE/ORIENTATION/DIAMETER: Code eye shape as: C - Circular; CO - Concentric; E - Elliptical. Transmit orientation of the major axis in tens of degrees, i.e., 01-010 to 190; 17 - 170 to 350. Transmit diameter in nautical miles. Examples: C8= Circular eye 8 miles in diameter. E09/15/5=Elliptical eye, major axis 090-270, length of major axis 15 NM, length of minor axis 5 NM. CO8-14=Concentric eye, diameter inner eye 8 NM, outer eye 14 NM.	
N	12345/NA	FIX DETERMINED BY / FIX LEVEL. FIX DETERMINED BY: 1-Penetration; 2-Radar; 3-Wind; 4-Pressure; 5-Temperature. FIX LEVEL (Indicate surface center if visible; indicate both surface and flight level centers ONLY when same): 0-Surface; 1-1500 ft; 9-925mb; 8-850mb; 7-700mb; 5-500mb; 4-400mb; 3-300mb; 2-200mb; NA-Other	
O	1 1 7 NM	NAVIGATION FIX ACCURACY / METEOROLOGICAL ACCURACY	
P	REMARKS MAX FL WIND 49 KT N QUAD 2058 Z 20 miles sfc center		

INSTRUCTIONS: Items A thru G (and H when extrapolated) are transmitted from the aircraft immediately following the fix. The remainder of the message is transmitted as soon as available for scheduled fixes and at the Flight Director's discretion for unscheduled (intermediate) fixes.

3315,2 7219.1



HURRICANE RESEARCH MISSION PLAN: GABRIELLE/HL2001

NOAA/Hurricane Research Division Sunday, September 16, 2001 9:00:35 AM
Aircraft: N42RF GS: 240 kts Proposed takeoff: 16/1700Z

TRACK DISTANCES

#	LAT (d m)	LONG (d m)	RAD/AZM (nm/dg)	LEG (nm)	TOTAL (nm)	TIME (h:mm)
0	MACDILL			0.	0.	0:00
1	31 56	73 40	50/225	552.	552.	2:17
2	32 30	73 00	0/0	50.	602.	2:30
3	33 04	72 20	50/45	50.	652.	2:42
4	33 04	73 40	50/315	74.	726.	3:01
5	31 56	72 20	50/135	100.	826.	3:26
6	33 21	71 60	75/45	86.	912.	3:47
7	33 18	71 00		55.	967.	4:01
8	34 18	71 00		60.	1027.	4:16
9	34 18	73 00		109.	1136.	4:43
10	33 18	73 00		60.	1196.	4:58
11	32 30	73 00	0/0	48.	1244.	5:10
12	31 15	73 00	75/180	75.	1319.	5:29
13	MACDILL			570.	1889.	7:52

IF DC-8/ER-2 TAKEOFF AT 1815 UTC THEN FIRST PASS IN COORDINATED. BOX TO NE REPRESENTS THE CONVECTION WORK WHICH CAN BE REPEATED UNTIL WE LEAVE.

my Celphone #

813-245-9307

LT NEWMAN - NOAA HURRICANE

1 of 1
31.8 74.5 1330Z 064 17 knots F/NF

TO TIME: 1700Z
LAND: 0200Z CMC
OAK GROVE:

OUR CALL SIGN:
NOAA 42
Type AIRCRAFT: P-3

TRUE AIRSPEED: ≈ 270
ALTITUDE: APPROX 14,000'
SQUAWK: WE WILL CALL
HUNTERS you

N42RF AVAPS DropSonde Log

N42RF Project: Hurricane '01

Flight ID 010916H

Mission: Gabrielle

Flight #: #2

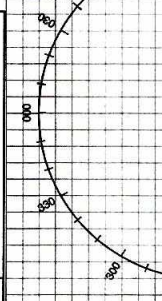
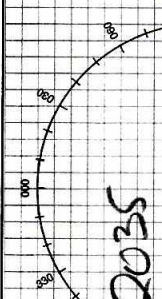
System Status: _____

Drop #	Sonde Serial Number	Chn. #	Time (Zulu)	Press. offset	Winds time	Operator Initials	Comments / Drop Status / Failure Reason	GOOD ☒
1	011 ZAS 414	1	20:16:08	-1.6	—	TL	No winds	
2	011 ZAS 256	2	20:17:55	+1.4	65			✓
3	011 ZAS 037	3	20:37:00	-1.1	—		CPU locked up-reboot	✓
4	011 ZAS 261	1	20:46:10	-1.3	32			✓
5	011 ZAS 252	2	20:59:20	-1.2	25			✓
6	011 ZAS 032	3	21:13:50	-1.3	31			✓
7	011 ZAS 278	4	21:31:35	-1.1	18			✓
8	990 BAS 039	1	21:39:07	-1.2	24			✓
9	011 ZAS 413	2	21:44:26	-1.7	38			✓
10	994 OLS 064	3	21:55:28	-1.4	32			✓
11	011 ZAS 233	4	22:08:31	-1.8	20			✓
12	003 115 200	1	22:10:31	-1.6	45			✓
13	003 115 311	2	22:15:45	-1.8	30			✓
	003 115 252	3	22:24:37	?	30			✓
	003 115 250	4	22:39:59	-1.5	20			✓
16	003 115 201	1	22:54:06	-1.6	26			✓
17	003 115 220	2	22:58:10	—	20			✓
18	003 328 079	3	23:02:03	-1.5	30			✓
19	011 ZAS 031	4	23:06:06	-1.9	40		NO Launch Detect	
20	003 430 033	1	23:07:15	-1.6	20			✓
21	003 135 325	2	23:10:25	-1.6	20			✓
22	993 915 105	3	23:14:05	-1.7	30			✓
23	003 328 1A7	1	23:18:10	-1.6	20			✓
24	003 115 221	2	23:22:01	-1.7	30			✓
25	011 ZAS 262	1	23:41:16	-1.0	30			✓
26	003 115 207	2	23:49:00	-1.6	50			✓
27	003 328 075	3	23:54:04	-1.4	30			✓
28	003 148 111	4	23:59:05	-1.5	30			✓
29	003 ZAB 083	1	00:08:02	-1.9	30			✓
30	003 328 078	2	00:14:13	-1.7	30			✓
31								
33								

[illegible]

MISSION LOG

PAGE ____ OF ____

POSITION REPORT

1. POSITION
2. TIME
3. ALTITUDE
4. NEXT POSITION
5. ETA
6. NEXT POSITION

EMERGENCY MESSAGE

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 8384 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]