

FLT ID: 980830T FM: KOPF TO: KOPF
 FLT NO: BLK IN: 0337 ATA: 0333
 ETD: 19Z BLK OUT: 19Z4 ATD: 1933
 ETE: 9 BLK TIME: 8:13 (8.2) FLT TIME: 8.0
 SPONSOR ORG: HAD PROGRAM: Research PURPOSE: Air/Sea Interaction

OAD PERSONNEL

AC McKim ✓	SYS ENG Goldstein
CP Teunesen / Taggart ✓	DATA SYS Lynch ✓
NAV Kozak ✓	RADAR
FE Wade / Moore ✓	BT/ODW Carpenter
RADIO Sans Souci ✓	CLD PHYS
FD Parrish ✓	DOPPLER McFadden ✓

PARTICIPATING SCIENTIST/VISITORS/OAD

LAST, FIRST NAME	ACTIVITY ON A/C	AFFILIATION
Black, P. ✓	PI	HAD
Leighon, P. ✓	Radar	
Landreaux, C. ✓	Drops	
Camacho, J. ✓	Radar	
Coin, J. ✓	Drops	
Jacob, D. ✓	Visitor	U of M

ALT
 1014.5
 32.7
 21.2
 1012.8
 SP 1013
 SP 1013

PROPOSED/ACTUAL MISSION/REMARKS (RECCO, FIXES, STORM, PENET, NHOP #)
 Fly Air/Sea Interaction pattern through H. Danielle, EP 212 27.7 74
 2110Z EA
 2100Z 27°41'N, 74°01'W 985 0056Z 27°59'N, 74°12'W 982 mb
 2224Z 27°47'N, 74°09'W 984 0208Z 28°05'N, 74°18'W 983 mb
 2338Z 27°52'N, 74°10'W 984
 15 BTs, 3.5 Failed. 5 penetrations - HAD
 29 Dropsondes, 1 Failed winds.
 Dropped Jose Portegas' ashes in eye last pass. Danielle

480830 I H. Danielle Air-Sea Interaction

Time	LAT	LONG	TK	WD	WS	PA	GA	TA	TD	SL	PS					
1924	25 54.6	80 16.4				3		33.1	21		1012.9					
193415	25 55	80 16	85	100	4	509	539	25.3	19.7	1013.9	945	↑				
1945	25 58	79 24	72	48	2	3525	3748	7.4	-7.9	1012.8	652	↑				
200445	26 44.9	78 02.7	60	324	12.6	3976	4211	4.5	-12.7	1012.8	683					
201645	27 11	77 12	58	340	18	3974	4204	5.1	-16.7	1011.9	618.4					
2029	↓ 40	ER														
203640	27 39	75 48	93	7	4	2314	2420	14.5	10.1	1008	76		Sonde BT			
2042	27 39	75 25	90	3	37.5	2315	2408	15.2	9.7	1007.6	764					
204826	27 38	74 56	Drop 50 mi out				Sonde									
2056	27 39	74 22	Sonde													
205600	BT															
205715																
2100	27 41	74 01								985						
210425	27 39	73 42	91	182	58	2453	2459	14.9	13.4	997	751		2051	982		
211214	27 39	73 08	89	163	46	2381	2458	15.5	11.7	1004.5	758					
212809	27 46	72 07	317	171	48	2323	2439	13.8	9.4	1011.7	763.6		BT	2		
220015	27 22	74 10	Drop sonde				BT 3									
221138	28 36	74 09	Sonde				BT									
222005	28 03		Drop sonde													
222050	BT															
222045	Sonde															
222426	27 47	74 09				2501		16	15	984						
222735	27 33	74 09	179	284	62	2471	2459	16.4	9.6	993	750					
223603	26 59	74 09	Drop sonde				BT									
224731	26 16	74 14	BT				S PT - Drop sonde									
2304	26 29	75 16	285	313	35.5	2828	2443	15.0	8.2	1010.2	763					
230950	26 36	75 28	SW PT				Drop sonde									
2319	27 02.7	74 58.8	46	325	43.4	2328	2419	14.3	10.2	1007.8	763.3					
23206	27 14	74 46	46	315	43	2373	2448	14.9	11.1	1005	759					
2331	27 36	74 18	Sonde													
233127	27 38	74 18	BT													
233210	27 40	74 15	Sonde													
233735	27 52	74 10								984						
233735	27 57															
234643	28 24	73 24	Sonde				BT									
234850	28 30	73 17	45	146	52.7	2342	2431	14.6	11.3	1002.5	761.6					
235948	29 01.8	72 51	276	141	43	2317	2440	13.7	9.9	1011.6	766					
002145	29 09	74 45	275	63	33	2322	2432	14.3	10.3	1009.8	763.7					
003825	29 06	75 27	135	41	40	2322	2439	14.3	10.2	1010.8	763.8		BT 7	Drop sonde		
004238	28 33	74 51	Drop sonde				BT									
005134	Sonde															
005214	BT															
005305	Sonde															
0056	27 59	74 12								982						
005824	27 52	74 03	137	211	55	2518	2487	15.6	12.7	990	745					
010923	27 21	73 31	BT				SONDE									
012135	26 54	72 53	23	216	41.8	2344	2469	13.0	10.7	1012.6	761.6					
013145	27 40	72 32	↓ to SK													
0140	28 03.8	72 34.7	270	106	51	1480	1544	19.4	12.1	1011.0	647.8		AT E PT, SK			
0208	28 08.6	74 19.9	CPA				Eye SK									
020515	28 03	74 14								983						
0208	28 05	74 18								983						
0226	27 45	75 35	↑ ~ 75 mi WSW of eye													
0240	27 16	76 39.6	240	336	28	3660	3884	6.0	1.4	1012.6	630	↑				
0337	25 54	80 16.9				15		32.5	19.6							

DATE	SCHEDULED FIX TIME	AIRCRAFT NUMBER	ARWO
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WX MISSION IDENTIFICATION
 NOAA 3 WX04A DANIELLE 08

(ABBREVIATED) (DETAILED) VORTEX DATA MESSAGE

A	30/2224 Z	DATE AND TIME OF FIX
	27 DEG 47 MIN (N) S	LATITUDE OF VORTEX FIX
B	74 DEG 09 MIN E (W)	LONGITUDE OF VORTEX FIX
C	NA MB NA M	MINIMUM HEIGHT AT STANDARD LEVEL
D	NA KT	ESTIMATE OF MAXIMUM SURFACE WIND OBSERVED
E	NA DEG NA NM	BEARING AND RANGE FROM CENTER OF MAXIMUM SURFACE WIND
F	86 DEG 68 KT	MAXIMUM FLIGHT LEVEL WIND NEAR CENTER
G	360 DEG 20 NM	BEARING AND RANGE FROM CENTER OF MAXIMUM FLIGHT LEVEL WIND
H	984 MB	MINIMUM SEA LEVEL PRESSURE COMPUTED FROM DROPSONDE OR EXTRAPOLATED FROM FLIGHT LEVEL. IF EXTRAPOLATED, CLARIFY IN REMARKS.
I	14 CI 2352 M	MAXIMUM FLIGHT LEVEL TEMP/PRESSURE ALTITUDE OUTSIDE EYE
J	16 CI 2501 M	MAXIMUM FLIGHT LEVEL TEMP/PRESSURE ALTITUDE INSIDE EYE
K	15 CI NA C	DEWPOINT TEMP/SEA SURFACE TEMP INSIDE EYE
L	CLOSED WALL	EYE CHARACTER: Closed wall, poorly defined, open SW, etc.
M	C 20	EYE SHAPE/ORIENTATION/DIAMETER. Code eye shape as: C - Circular; CO - Concentric; E - Elliptical. Transmit orientation of major axis in tens of degree, i.e., 01-010 to 190; 17-170 to 350. Transmit diameter in nautical miles. Examples: C8 - Circular eye 8 miles in diameter. EO9/15/5 - Elliptical eye, major axis 090-270, length of major axis 15 NM, length of minor axis 5NM. CO8-14 - Concentric eye, diameter inner eye 8 NM, outer eye 14 NM.
N	27 DEG 47 MIN (N) S	CONFIRMATION OF FIX: Coordinates and time
	74 DEG 09 MIN E (W)	
	30/2224 Z	
O	1, 2, 3, 4, 5 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 - 1500ft; 9-925mb; 8 - 850 mb; 7 - 700 mb; 6 - 600 mb; 5 - 500 mb; 4 - 400 mb; 3 - 300 mb; 2 - 200 mb; NA - Other.
	1 / 2 NM	NAVIGATION FIX ACCURACY/METEOROLOGICAL ACCURACY

REMARKS
 MAX FL WIND 68 KT N QUAD 2219 Z
 SLP EXTRAP FROM (1500 FT / 925 MB / 850 MB) DROPSONDE ~~800 FT~~ DROPSONDE.
~~SFC CNTR~~ / ~~NM~~ FROM FL CNTR
 MAX FL TEMP C / NM FROM FL CNTR
 MOST MODERATE AIR IN BROADS N QUAD.

SST FROM NEAR SOUTH OF EYE 26.2 DEG C.

INSTRUCTIONS: Items A through 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 ARWO's discretion for scheduled (intermediate) fixes.

UBRF
**TROPICAL CYCLONE AIR-SEA INTERACTION
 EXPERIMENT**

Pre-Landfall Symmetric Ocean Feature Module

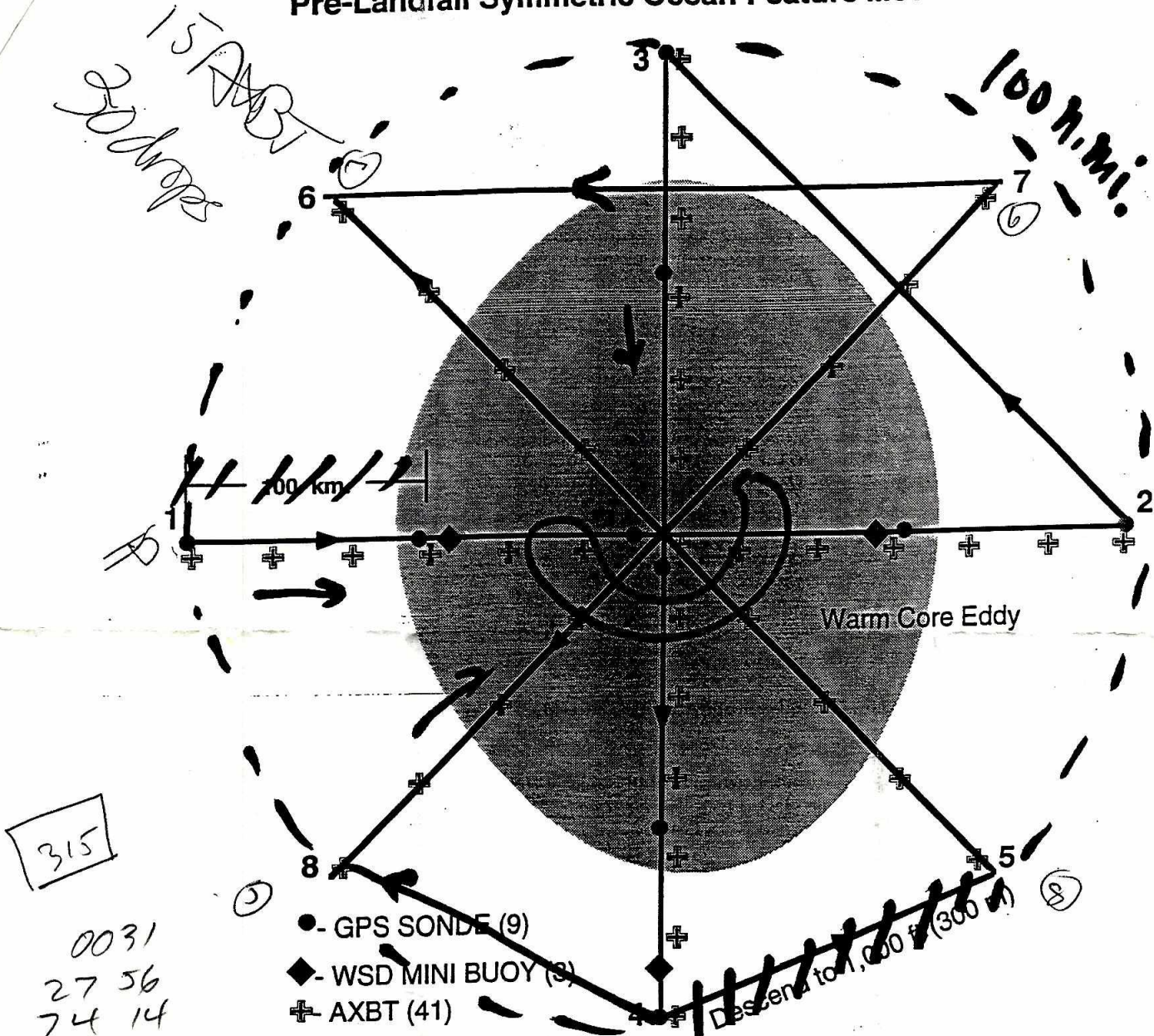


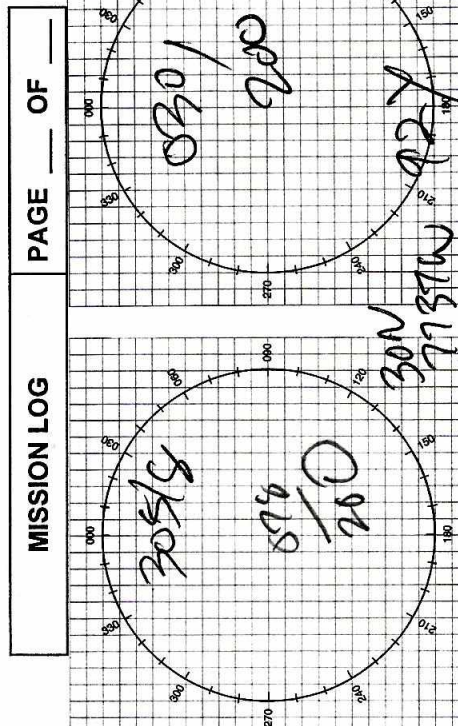
Fig. 22. (a) Pre-landfall symmetric ocean feature survey pattern

- Note 1. A/C Flies 1-2-3-4 at 5,000 ft (1,500 m) and 5-6-7-8 at 1,000 ft (300 m). Each leg is 200 km radius from the center of the eddy.
- Note 2. Display specific humidity and θ_e on 1-s display and 10-s listing.
- Note 3. Set airborne Doppler radar to continuously scan perpendicular to the track on all radial penetrations, and F/AST on downwind legs.
- Note 4. Mini-buoys (WSDs) are to be deployed by Air Force prior to/at the beginning of the experiment

0053

CLEARANCES		
FREQ	ALT	HDG
185		2151 - 982 M
		986 M
		2012
		26
		2584
		2400

OTHER



POSITION REPORT	
1. POSITION	30N 1050
2. TIME	2010
3. ALTITUDE	200
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 121.5 MF/VOICE 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

TIME	FIX TYPE	POSITION	INS 1 POSITION	K ERR	INS 2 POSITION	K ERR	VAR +E=>	TH	DR +R=>	TRK	GS	WD	WS	ALT	TAS	NEXT PT	DIST	TIME	ETA	REMARKS			
1920		2554.6 8016.4																					
1924																							
1933																							
1949	GPS	2606.9N 7908.9W	2606.9N 7908.9W	0	2606.9N 7908.9W	0		059	11	058	266	106	25	232	262					End of Start check			
2010	GPS	2740 N 7401 W	2739.3N 7401.5W	+17	2740.2 N 7401.4 W	-20								810							Level off 6M		
2015	GPS	2801.7N 7408.7W	2801.7N 7408.7W	+18	2801.9 N 7408.5 W	-18								810							Start PM		
2024	GPS	2746.7 N 7408.7 W	2744.9 N 7409.0 W	+18	2747.9 N 7408.4 W	-10		37	41	313	277	115	40	82	241						Start PM		
2035	GPS	2749.1 N 7404.1 W	2746.6 N 7404.6 W	+18	2751.8 N 7403.7 W	-19								810								Start PM	
2050	GPS	2759.1 N 7412.1 W	2753.4 N 7413.4 W	+17	2801.8 N 7411.4 W	-21								810								Start PM	
2058	GPS	2808.9 N 7418.3 W	2808.2 N 7418.5 W	+18	2815 N 7417.6 W	-26								810								Start PM	
2059	GPS																						
2033	VIS	2554.6 8016.4	2544.2 8020.4	+104	2557.9 8025.5	-33																	

274 2804 7419 0000 2756N 2410E 983 miles/hr 32 983 miles/hr 0031 2756 m

MISSION PREFLIGHT LOG				NAVIGATOR		AIRCRAFT COMMANDER		FLIGHT DIRECTOR		SCHEDULED / ACTUAL TAKEOFF Z		DATE OF TAKEOFF	
DESTINATION		MISSION		DR		WD		TAS		PROP		REMARKS	
WP	LAT / LON	RTE	MH	VAR	TH	TRK	GS	ALT	LEG / TOT DIST	LEG / TOT TIME	ETA	ATA	
1	27 50.00N 75 59.00W	MOYR							257 257				
2	27 52.22N 75 58.50W								207 194		1600		(800)
3	28 30N 75 00W								148 612				
4	26 10N 75 00W								200 81				
5	26 10.00N 75 20.00W								578 690		00 02		00 00
6	24 05N 72 35W								208 808				MM
7	24 05N 75 25W								149 1047				
8	26 40N 72 20W								214 1261				
9	28 N 74 W								113 1374				
									259 1733				

INS PERFORMANCE	
INS 1	INS 2
BEGIN ALIGN TIME	1700 1700
ALIGN STATUS (0-5)	0 0
END NAV TIME	0339 0339
START NAV TIME	1919 1919
DELTA T	8200 8220

TERMINAL ERRORS	
INS 1	INS 2
DELTA LAT	+10.4 -33
DELTA LON	-4.0 5.9
RGS	3 3
RADIAL ERROR	1 3

REMARKS

983