NOAA P-3 N43RF
Hurricane Research
H ISIDORE IN STORM SURVEY

Flight ID: I020921

Sensor or system	Number or Name
INE	2
Accelerometer	2
Temperature Probe	1
Dew Point Probe	3 (Buck Research)
Altitude (for vertical wind)	Radar Altitude (RA-159)
Static Pressure	Rosemount Fuselage
Dynamic Pressure	Rosemount Fuselage
Time Source	Micro 99
Constants File	CO3022.CON

Notes:

There were no time/data gaps.

The radar altimeter 159, RA159, had a spikes during the following time frames: 2135Z - 2138Z, 2353Z - 2355Z and 0052Z - 0058Z. These spikes were removed and patched over using the RA232 (radar altimeter 232) and pressure altitude as references.

The King liquid water probe was not operating for the entire mission.

All other instruments worked optimally during the flight.

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.

	Takeoff	**Landing**
Aircraft Static Pressure	1010.5 mb	1010.3 mb
Corrected Tower Pressure	1010.4 mb	1010.4 mb
Flight Director:	A. Barry Damiano	(813) 828-3310 ext. 3073

U.S. Dept. of Commerce/NOAA/Aircraft Operations Center — AOCWF1

Flt ID: I020921	From: KMCF	To: KMCF
Flt No.: 02-34	Blk In: 0210Z	ATA: 0201Z
ETD: 1700Z	Blk Out: 1650Z	ATD: 1702Z
ETE:	Blk Time: 9:20 (9.3)	Flt Time: 8:59 (9.0)
Sponsor Org: HRD	Program: HURRICANE RESEARCH	Purpose: HAIRSIN FOR H. ISIDORE

AOC Personnel

AC: TENNESEN ✓	Sys Eng: SMITH ✓
CP: HALVERSON / SILAH ✓	Data Sys: LYNCH ✓
Nav: ADLER ✓	Radar:
FE: FLOYD ✓ / CURRY	GPS/BT: TANG ✓
Avionics: SANS SOUCI ✓	Cld Phys:
FD: DAMIANO ✓	

Participating Scientists/Visitors/AOC

Name (Last, First)	Activity on Aircraft	Affiliation
BLACK, P. ✓	PI	HRD
SHAY, L. (NICK) ✓	PI	RSMAS
COOK, T. ✓	AXBT	S
GUHIN, S. ✓	AXBT	S
WALSH, E. ✓	SAR	NASA
STEADLEY, S. (CDR) ✓	OBS	[redacted] NAVY
[redacted]	[redacted]	HRD
DODGE, R. ✓	HAPS	HRD
MATSUSOV, P ✓	High speed video	SCRIPPS

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

NO RLW

1852Z 1959Z
21°58' 21°59'
86°07 86°08'
947 MB 946 MB

2138Z
22°05'
86°14'
946 MB

0028Z
22°08'
86°34'
947 mb

0054Z
RA 159
Canyon

20 AXBT
42 CP/CTD

TEAL 22

(TEAL 74 J
Right plane)

4 penetration

U.S. Dept. of Commerce/NOAA/Aircraft Operations Center

AOCWF2

Flt ID:	Time Off:	Time On:
F020921	1702Z	0201Z

	A/C (Take Off)	Wx Stn (Take Off)	A/C (Land)	Wx Stn (Land)
Pressure	1010.5	29.85 / 1010.4	1010.3	29.85 / 1010.4

	Number	Data Disposition/Date/Quality
Slow/Fast Flt Lvl Tapes		
Radar Tapes	1	
Cloud Physics Tapes		
Video Tapes	3	
AXBT	20	
AXCP	30	
AXCTD	14	
Dropsondes	22	20 messages sent; 1 fast fall

Video

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

Remarks

Flight ID: I020921

U.S. Dept. of Commerce/NOAA/Aircraft Operations Center

Time	Lat	Long	Trk	Hdg	Wind Dir	Wind Spd	T_a	T_d	Press. Alt.	Geo. Alt.	Sfc Press.	Press. Sfc	Dyn. Press	Remarks
171200	2727	8231	212	209	101	16	15.1	8.7	2147	2241	1009.9	729.3	90.7	SFT CLD
172800	2622	8253	197	193	126	21	14.6	10.7	2039	2127	1011.2	792.3	102.4	SFT CLD
175005	2426	8231			122	22					1007.8			BT 16
180103	2410	8344			139	32					1005.9			BT 12
180604	2354	8355			155	36					1004.6			BT 16
181107	2338	8407			151	42					1004.0			BT 12
181609	2323	8419			152	38					1002.0			BT 16
182048	2306	8431			156	37			1524	1501	1000.7	843.1		BT 12
182448	2256	8441												(83) SONDE/CP
183000	2246	8459												CTD 12
183500	2237	8516			147	51			1573	1510	996.0			CP 14
184002	2227	8535			140	65			1602	1504	996.2			CTD 12
184502	2216	8550												(10) SONDE 4/CP
185005	2203	8605			100	59								SCP 12
185319	2148	8609			285	100			1919		962.2			SONDE
185737	2104	8609												SONDE
190740	[illegible]	[illegible]	[illegible]		253	45			427	303	963.3			
191840	[illegible]	[illegible]	[illegible]											
192601	2003	8609												[redacted]/CP 16
192621	2004	8609			268	37			1538	1509	999.7			SONDE
193105	2022	8609												CTD 12
193617	2041	8609												CP 14
194111	2059	8609			261	57			1575	1509	994.9			CTD/SONDE
194623	2119	8609			260	66			1635	1516	989.7			CP 14
195120	2138	8609			275	89				1579	976.5			CP 12
195328	2146	8609												[redacted] SONDE
195959	2147	8609			276	102				1604	960.2			SONDE
195702	2159	8608												CP/EVE
200037	2213	8608			96	97				1534				SONDE (17)
200242	2221	8608												CP 12
200727	2240	8608												CP (7)
201238	2259	8608			98	58					993.7			SONDE/CP
201734	2318	8607			102	51								CP
202257	2337	8607			100	45								CP
203024	2401	8612			102	39					1000.1			(56) SONDE/CP 16
203612	2348	8634												CP 12
203756	2344	8640			86	43					998.9			BT 14

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U.S. Dept. of Commerce/NOAA/Aircraft Operations Center Form

Time	Lat	Long	Trk	Hdg	Wind Dir	Wind Spd	T_a	T_d	Press. Alt.	Geo. Alt.	Sfc Press.	Press. Sfc	Dyn. Press	Remarks
204856	2330	8703												BT (12)
204903	2319	8723			39	33								BT 14
205407	2307	8741			40	35				304	998.9			BT 12
205530		end	1	K	leg					—				
210038	2252	8759			230	39					998.6			(32) SONDE/CP 16
210519	2244	8743			26	40					997.3			CP 12
211004	2236	8727			20	41					995.3			CP
211518	2228	8709			28	50				1469	993.6			CTD 12/SONDE 34
212009	2220	8657			34	69				1565	987.7			CP
212512	2212	8635												~~SONDE~~ CP
	~~22~~	~~86~~												SONDE
212812	2207	8624												BT
212840	2207	8622		EYEWALL NW										SONDE (32)
214022	2202	8605			201	93								SONDE
214104	2200	8602			205	93								SONDE
214130	2159	8601			202	98								SONDE
214159	2150	8547												CP 12
214902	2144	8537			204	73					990.1			CP 14
215833	2132	8519			202	54					994.9			SONDE/CTD
215948	2122	8500												CP
210501	2112	8443			198	39								CTD 12
211013	2103	8426			190	50					1000.0			CP 16
211609	2111	8442			200	37	18.9	17.7			998.8			SONDE (32)
222942	2156	8517												BT 12
224009	2241	8459			142	50					998.4			BT 14
225159	2327	8439			137	50								BT 16
225730			start		1K	leg								BT
225946			end		1K	leg								
231507	2413	8421			138	35					1004.1			BT 16/CP
232011	2500	8405												CP 12
232601	2446	8424			133	35					1004.7			CP
233154	2433	8443			131	37					1004.6			CTD 16
233744	2419	8501												CTD 12
234339	2406	8520			130	51					1002.3			CTD 14
234939	2352	8540			120	55					1001.3			CTD
235539	2337	8600			107	50								CP
000135	2322	8621			101	62					997.0			CP/BT
000709	2307	8641			86	65					994.0			CP/BT 12

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U.S. Dept. of Commerce/NOAA/Aircraft Operations Center — Form

Time	Lat	Long	Trk	Hdg	Wind Dir	Wind Spd	T_a	T_d	Press. Alt.	Geo. Alt.	Slc Press.	Press. Slc	Dyn. Press	Remarks
001213	2251	8659			65	70				1989	992.0			CP 14/BT 12
001653	2235	8708			45	70								CP 14/BT 12
002640	2213	8740												SONDE (BW)
002821	2208	8734												BYE
003121	2216	8725			139	96							47	SONDE/SONDE
003737	2237	8612												BT
010800	2430	8452	31	38	110	35	1.7	-1.0	4744	4967	1000.4	559.0	98.7	CLR

23025 19 SOB

FLIGHT LOG	NAVIGATOR	AIRCRAFT COMMANDER	FLIGHT DIRECTOR	SCHEDULED / ACTUAL TAKEOFF Z	DATE OF TAKEOFF
ON ISADORE	ADLER	TENESEN	DAMIANO	1700 / 1701	21 SEP 02

VAR +E==>	TH	DR +R==>	TRK	GS	WD	WS	ALT	TAS	LEG / TOT DIST	LEG / TOT TIME	PROP ETA	ETA	ATA	REMARKS
														22 3[illegible]
														85 40
														22 11N
														086 05
														1729
TIME	FUEL	FF	CAL FF	ENDUR								47		26 / 1758
1654	58.6	/	/									9 / 2600		26
1800	52.0	5.2	6.6 / 5.0	@5.5 7+35	0135									1824
1910	45.7	4.9	6.3 / 5.4	@5.4 6+40	0150									1827
2000	41.2	4.9	4.5 / 5.4	5+50	0150									
2200	31.7	4.	9.5 / 4.7	4+35	0215									1752 1756
2300	26.3	4.5	5.4	@5.3 / 3+05	0200									+26 / 1822
0000	21.4	4.4	4.9	2+15	0215									1825
					58.6									+28 / 1853
					12.0									
					44.6									

INS PERFORMANCE

	INS 1	INS 2
BEGIN ALIGN TIME		
ALIGN STATUS (0-5)	0	0
END NAV TIME	0201	0201
START NAV TIME	1633	1633
DELTA T	9+28	9+28

TERMINAL ERRORS

	INS 1	INS 2
DELTA LAT	+5.8	-2.0
DELTA LON	-2.1	-1.5
RGS	8	4
RADIAL ERROR	7	2

REMARKS

tail 22

IP

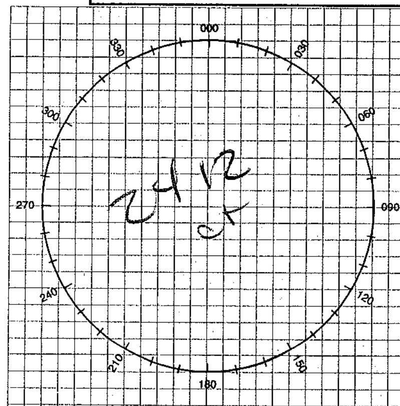
[illegible] 1854

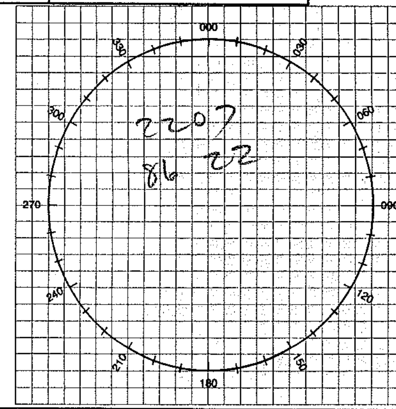
CLEARANCES

FREQ	ALT	HDG	OTHER
			090° → 1600 0076q
			→ 7K
			180

MISSION LOG

PAGE ___ OF ___





POSITION REPORT

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

TRANSMIT
FREQUENC
ANY OF TH

UHF/VOIC
243.0

MAYDAY
THIS IS N

- POSITIC
- HEADIN
- AT ___
- FLIGHT
- WE ARE
- NATURI
- ASSIST/
- PILOT II
- WE HAV

TIME	FIX TYPE	POSITION	INS 1 POSITION	K ERR	INS 2 POSITION	K ERR	MH	VAR +E==>	TH	DR +R==>	TRK	GS	WD	WS	ALT	TAS	NEXT PT	DIS
1644 1650	Eng Mrl																	
1650 1701	Block T/O																	
1705	x✓	27 53.6 082 21.6	27 53.6 082 21.5	+0 +.1	27 53.6 082 21.5	+0 +.1				3L	080	203	120	20	4000	225		
1723	△	26 39.6 082 47.8	26 39.4 082 47.9	+.2 -.1	26 39.5 082 48.0	+.1 -.2				4R	195	270	115	15	6500	272		
1806	△	23 54.9 082 54.4	23 54.3 083 54.7	+.6 -.3	23 54.5 083 54.6	+.4 -.2				6R	215	227	165	35	6500	243		
2026	△	23 46.2 086 36.8	23 43.9 086 36.5	+2.3 +.3	23 45.9 086 37.4	+.3 -.6				5R	236	280	040	35	5000	222		
2146	△	21 48.3 085 44.1	21 44.3 085 44.0	+4.0 +.1	21 47.9 085 44.4	+.4 -.3				20L	125	214	205	85	5000	236		
2233	△	22 07.4 085 12.9	22 03.0 085 14.1	+4.4 -1.2	22 08.0 085 13.8	-.6 -.9				8L	020	277	160	55	5000	235		
2329	△	24 39.3 084 33.4	24 33.7 084 34.4	+5.6 -1.0	24 40.2 084 35.2	-.9 -1.8				8R	232	225	140	30	5000	222		
0032	△	22 20.6 [illegible]	22 15.0 [illegible]	+5.6 -1.1	22 21.5 [illegible]	-.5 -.6				24L	031	235	130	95	5000	239		
0140	△	26 52.2 083 17.4	26 46.0 083 19.9		26 54.1 083 18.5					3L	034	265	070	20	5000	281		
0201	△	KMCF																
		27 51.5 082 30.8	27 44.7 082 32.9	+5.8 -2.1	27 53.5 082 32.3	-2.0 -1.5												

40

75
150
329
945