



NOAA P-3 N43RF

Hurricane Research

H. LILI AIR-SEA INTERACTION



Flight ID: I021002

<u>Sensor or system</u>	<u>Number or Name</u>
INE	1
Accelerometer	1
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 several time/data gaps related to major data system problems:

024311Z - 024610Z, 044811Z - 050310Z (during eyewall penetration), 051831Z - 051930Z, and 052011Z - 052050Z.

The radar altimeter 159, RA159, had numerous spikes during the following time frames: 0331Z - 0333Z, 0342Z - 0345Z, 0617Z - 0620Z, 0632Z - 0635Z, 0641Z - 0644Z, 0830Z - 0833Z, 0851Z - 0854Z, 0912Z - 0915Z, 1039Z - 1045Z, 1049Z - 1053Z, and 1057Z - 1100Z. These spikes were removed and patched over using the RA232 (radar altimeter 232) and pressure altitude as references.

The Buck Research dewpoint temperature sensor, DW3, had erroneous data during the following time periods: 0330Z - 0335Z, 0422Z - 0424Z and 0953Z - 0956Z. The erroneous data was removed and patched using the EdgeTech dewpoint sensor, DW2, as a reference. During 101726Z - 103316Z, DW3 values were replaced by DW2 values.

There were several occurrences during the flight where dewpoint temperature exceeded ambient temperature from heavy precipitation events.

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

All other instruments worked optimally during the flight.

Both INE groundspeed values were not that good from mid-flight until landing. INE1 was the best of the two.

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	1016.1 mb	1015.4mb
Corrected Tower Pressure	1016.1 mb	1015.8 mb
Flight Director:	A. Barry Damiano	(813) 828-3310 ext. 3073

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AOCWF1

Flt ID: <i>I0210012</i>	From: <i>KMCF</i>	To: <i>KMCF</i>
Flt No.: <i>03-01</i>	Blk In: <i>1129Z</i>	ATA: <i>1120Z</i>
ETD: <i>0200Z</i>	Blk Out: <i>0151Z</i>	ATD: <i>0202Z</i>
ETE:	Blk Time: <i>9:38 (9.6)</i>	Flt Time: <i>9:18 (9.3)</i>
Sponsor Org: <i>HRD</i>	Program: <i>HURRICANE RESEARCH</i>	Purpose: <i>H.L.I.F. AIR-SEA INTERACTION</i>

AOC Personnel

AC: <i>TENNESEN ✓</i>	Sys Eng: <i>SMITH ✓</i>
CP: <i>HALVERSON/SILAH ✓</i>	Data Sys: <i>LYNCH ✓</i>
Nav: <i>ADLER ✓</i>	Radar:
FE: <i>CURRY/FLOYD ✓</i>	GPS/BT: <i>TONG ✓</i>
Avionics: <i>SANS SOULT ✓</i>	Cld Phys:
FD: <i>DAMIANO ✓</i>	

Participating Scientists/Visitors/AOC

Name (Last, First)	Activity on Aircraft	Affiliation
✓ SHAY, L. (NILE)	PT	RSMA5
✓ BLACK, M.	HAPS	HRD
✓ CIONE, J.	AXBT	HRD
✓ COOK, T.	AXCP	RSMA5
✓ GUHIN, S.	AXCP	RSMA5
✓ WALSH, E.	SAR	NASA

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

0334Z No KLLW
 2323 960
 8636
 83/115475
 0453Z
 2329
 8656
 NO RAINS

0649Z
 2341 955
 8722
 0949Z
 24° 07'
 87° 55'
 955
 4

0450
 Teal 74 10K
 5-6
 Teal 0547Z
 2335
 8709

064 Forecast 23.8
 24/57 86.8
 205/13
 2341Z
 22° 59'
 8545 968 drop
 77
 2 later Sinker
 45 CP
 20 BT

DAME - 1.2 on ground
 20 19:30 diff

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AOCWF2

Flt ID: *1021002* Time Off: *0202Z* Time On: *1120Z*

	A/C (Take Off)	Wx Stn (Take Off)	A/C (Land)	Wx Stn (Land)
Pressure	<i>1016.1</i>	<i>30.02 / 1016.2</i>	<i>1015.4</i>	<i>30.01 / 1015.8</i>

	Number	Data Disposition/Date/Quality
Slow/Fast Flt Lvl Tapes		
Radar Tapes	<i>1</i>	
Cloud Physics Tapes		
Video Tapes	<i>—</i>	
AXBT	<i>19</i>	<i>1 in tube</i>
AXCP	<i>27</i>	
AXCTD	<i>18</i>	
Dropsondes	<i>43</i>	<i>20 messages sent ; 6 with no winds</i>

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

Remarks

Time	Lat	Long	Trk	Hdg	Wind Dir	Wind Spd	T _a	T _s	Press. Alt.	Geo. Alt.	Slc Press.	Press. Slc	Dyn. Press	Remarks
022100	2700	8310	223	218	117	28	5.3	1.4	3822	4069	1014.7	630.7	86.1	Dunk
023400	7610	8356	216	210	115	36	15.7	8.9	1908	2010	1016.0	811.2	79.3	RW
024028	2554	8413	223	224	123	38	16.2	14.8	1703	1809	1015.0	824.7	63.7	Sample/CP
024541	2542	8431			115	42					1014.0			CTD
025047	2530	8448			117	43					1013.2			Sample/CP
025227	2526	8454			115	50					1013.0			Sample
025704	2515	8511												BT 12/50
030152	2504	8527			118	50					1011.0			BT 14
030700	2457	8546			114	56					1009.7			CTD 12
031212	2439	86			111	59					1007.8			CP/sonde
031710	2427	8622			99	62								RT 16
032230	2408	8627			97	72								BT/sonde
032914	2343	8635			93	98					989.4			CP 16/sonde
033215	2332	8636			84	85								FWALL Sample/sonde
033240	2330	8636												Sample
033619	2319	8642			316	73					969.7			CP/sonde
033717	2318	8645			331	66					978.9			sonde
034236	2311	8607			350	44					996.6			CP
034746	2304	8727			358	33					1002.1			CP/sonde
035240	2258	8746			4	37					1004.3			BT 12
035849	2251	8811			8	27					1006.3			RT 16
040823	2247	8840			2	20								RT 14/sonde
042056	2232	8750			337	25					1005.5			RT 16
043534	2218	8651			238	30					1004.4			BT/sonde
044005	2241	8650												RT 16
044757	2309	8650			228	64								CP 16/sonde
050025	2340	8659												sonde
050	23													sonde
050817	2341	8659												sonde/RT 16
051318														CT 16
051612	2406	8658												CP 14
052147	2428	8659			99	54					1003.6			CTD
052732	2450	8700												CP/sonde
053247	2509	8700			96	55					1007.2			CTD 12
053811	2529	8700			98	55					1009.3			CP/sonde
054555	2555	8705			99	55					1010.0			CP/sonde
054741	2552	8711			97	53					1010.1	1008.8		sonde
0555	2534	8745			84	50					1008.9			CTD

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Time	Lat	Long	Trk	Hdg	Wind Dir.	Wind Spd	T _a	T _s	Press. Alt.	Geo. Alt.	Slc Press.	Press. Slc	Dyn. Press	Remarks
060432	2517	8824			75	47					1008.1			CTD
062415	2454	8859			77	39					1007.5			CP/sonde
061952	2443	8844			68	38					1005.9			CTD
062517	2432	8829			71	41					1004.7			CP/sonde
063021	2421	8815			64	46					1003.6			CTD
063528	2409	8800			60	51					999.9			CP/sonde
064016	2358	8748			56	66					993.8			CTD
064432	2348	8735			46	82					991.0			BT CP
064654	2347	8728			24	55					991.3			EYE WALL sonde
064829	2341	8722												sonde
														sonde / CP
065024	2339	8713			191	805								sonde
065502	2334	8658			180	72					993.0			CTD
070041	2327	8640			181	55					999.5			CP/sonde
070530	2321	8624			174	56					1002.4			CTD
071040	2311	8610			170	52					1004.0			CP/sonde
072122	2244	8618			192	44					1005.0			BT
073536	2212	8629			203	40					1006.5			BT
074026	2225	8612			199	44					1006.6			CP
074812	2238	8556			191	45					1006.8			CTD
074952	2250	8539			185	45					1007.1			CP/sonde
075304	2302	8522			178	43					1007.9			CTD
075924	2314	8505			172	45					1009.0			CP
080450	2328	8448			168	42					1009.7			CTD
080956	2339	8430			164	43					1012.4			CP/sonde
081613	2358	8402			150	41					1011.3			CTD
082332	2412	8348			148	38					1012.1			CP/sonde
083712	2504	8403			134	40								BT/sonde
084236	2451	8420			141	45					1011.6			CP
084837	2437	8438			148	46					1010.2			CTD
085350	2426	8453			155	44					1009.4			CP
085940	2413	8510			160	48					1008.8			CTD
090540	2400	8527			164	47								CP
090941	2353	8535												sonde
091159	2348	8544			175	48					1007.3			CTD
091823	2334	8601			182	46					1006.4			CP

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Time	Lat	Long	Trk	Hdg	Wind Dir	Wind Spd	T _a	T _s	Press. Alt.	Geo. Alt.	Sfc Press.	Press. Sfc	Dyn. Press	Remarks
0944	24	88						955						sonde
09426														EYEWALL sonde
09454	2359	8743												BT
094920														EYE sonde
095735	2415	8758												EYEWALL sonde
095155														sonde BT
161900	2516	8640	47	60	141	55	9.9	8.9	3212	3346	1004.6	682.4	77.9	
105100	2646	8418	55	61	130	28	-2	-4.3	4735	5023	1011.4	559.5	101.7	CLR

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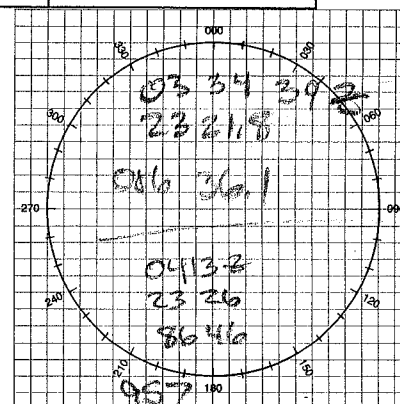
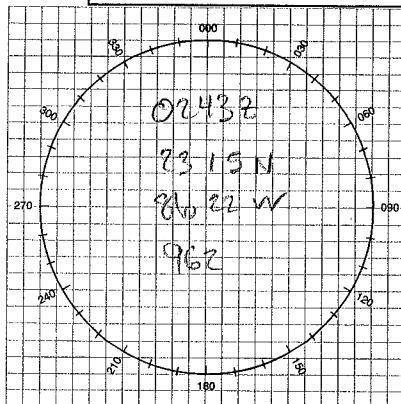
Time	Lat	Long	Trk	Hdg	Wind Dir	Wind Spd	T _a	T _s	Press. Alt.	Geo. Alt.	Stc Press.	Press. Stc	Dyn. Press	Remarks
0944	24	88						9.5						Sound
09426												EYE WALL		Sound
09454	2359	8743										EYE		BT
094920												EYE WALL		Sound
095135	2415	8758												Sound
095155														BT
161900	2516	8640	47	60	141	55	9.9	8.9	3212	3346	1014.6	6824	77.9	
105100	2646	8418	55	61	130	28	-2	-4.3	4735	5023	1011.4	559.5	101.7	CRK

130

CLEARANCES			
FREQ	ALT	HDG	OTHER
			R 080° 1600 46360
			1605
			211K
			212K
			22 / 20
			22

MISSION LOG

PAGE OF



POSITION REPORT

1. POSITION 0847 Z
2. TIME 2335 N
3. ALTITUDE 8709 W
4. NEXT POSITION 953 M
5. ETA
6. NEXT POSITION

TRANSMI
FREQUEN
ANY OF T

UHF/VO
243.0

MAYDA'
THIS IS

- POSITI

- HEADI

- AT

- FLIGH'

- WE AR

- NATUF
ASSIS'

- ASSIS
- PILOT

- WE HA

[illegible]