

Hurricane 2000 Pre-Keith

Flight 001001H

<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	CO2004.CON

Notes:

Takeoff: 1602Z
Land: 0030Z

Prior to and during takeoff, the radar altimeter (RA-159) was replaced by the RA-232 (1559:01-1606:00) due to spiking. Prior to and during landing the RA_159 was replaced by the RA-232 (0018:00-0033:00) due to spiking.

Two spikes in dewpoint #1 (due to dewpointer balancing procedure) were removed and patched using dewpointer #2 as reference (1652:00-1656:00 and 1852:00-1854:00).

There were time problems with the Micro 99 during final approach into MacDill AFB (0022Z-0033Z). The data were ended at 0021Z on the Standard Tape.

	<u>Takeoff</u>	<u>Landing</u>
Aircraft static pressure	1013.7 mb	1011.5 mb
Corrected tower pressure	1014.2 mb	1012.2 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

Flt ID: 001001H	From: KMCF	To: KMCF
Flt No: 01-01	Blk In: 0038	ATA: 0030
ETD: 1600Z	Blk Out: 1552Z	ATD: 1602Z
ETE: 0130Z	Blk Time: 8:46 8.8	Flt Time: 8:28 8.5
Sponsor Org: NOAA	Program: HRD	Purpose: HRD PRE KEITH AIRSEA INT. PRE KEITH

AOC Personnel

AC: KENUL, P ✓	Sys Eng: MCMILLAN, S ✓
CP: OMARA, T ✓ / TEBEEST, R ✓	Data Sys: ROLES, J ✓
Nav: ADLER, J ✓ / NEWMAN, E ✓	Radar:
FE: MOORE, H ✓	GPS/BT: CARPENTER, D ✓
FD: CZYZYK, S ✓ / SHEPHERD, T ✓	Cld Phys:
Avionics: ROGERS, M ✓	

Participating Scientists / Visitors / AOC

Name (Last, First)	Activity on Aircraft	Affiliation
BLACK, P ✓	PI	HRD
ABERSON, S -	Sci	HRD
SHAY, N ✓	Sci	U of Miami
JACOB, D -	sci	U of Miami
WALSH, E -	PI	NASA
CASTELS, T ✓	PI	UMASS

Proposed/Actual Mission Remarks (Recco, Fixes, Storm, PENET, NHOP #)
 TEAL03 15Z 1 BAD BT CONNECTION CH. 16
 BALANCE PW#2 ~1642:30
 BALANCE DW#1 1652:20
 BALANCE OW#3 ~1804:00
 BALANCE DW#4 185Z
 INE1 MUCH BETTER THAN 2

Flt ID: 001001H

Time Off: 1603Z

Time On: 0030

AVC (Lake/Off)

Wx Station (Lake/Off)

AVC (Land)

Wx Station (Land)

1013.7

28.95 1014.2

1011.5

1012.29.89

Number

Data Disposition / Date / Quality

Flt Lvl Tapes

Radar Tapes

Cloud Physics Tapes

Video Tapes

AXBT

37 4 BAD

AXCP

9 1 BAD

AXCTD

4 2 BAD

Dropsondes

8 1 LATE WIND

Forward

Left Side

Right Side

Down

Remarks

Time On

Time Off

Rate

Remarks

2949

001001H

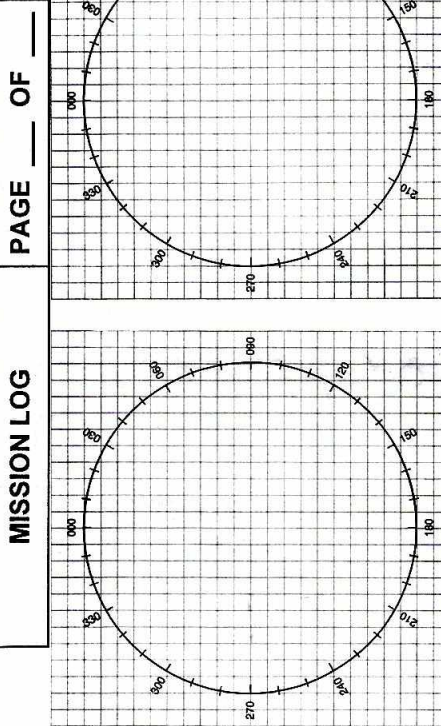
U.S. Dept. of Commerce/NOAA/Aircraft Operations Center

Form 413-50

TIME	LON	LAT	TK	HD	TA	TD	WD	WS	PA	GA	PS	SE	REMARKS
163400	26 45	83 45	222	224	-0.7	-41.0	309	5.4	4903	5161	547.2	1007.2	LEVEL 1616 PA
164016	26 26	84 08	231	232	-0.5	-41.2	293	3.4	4904	5163	547.2	1006.9	BT 12
164531	26 11	84 30	232	233	-0.1	-40.8	275	3.2	4904	5163	547.2	1006.1	BT 16
165045	25 56	84 51	233	234	0.3	-40.5	219	1.3	4905	5167	547.1	1005.3	BT 12
165516	25 40	85 16											BT 16
165518	25 40	85 16	232	232	0.1	-40.3	77	2.0	4904	5165	547.2	1006.1	DROPSONDE #1
170025	25 27	85 33	229	230	0.1	-39.8	34	4.6	4904	5163	547.2	1005.9	BT 12
170526	25 12	85 52	231	231	0.3	-19.2	78	6.2	4906	5167	547.1	1003.4	BT 16
171020	24 56	86 13	231	230	-0.2	-22.9	60	8.2	4905	5167	547.2	1006.8	BT 12
171502	24 41	86 33	230	230	-0.6	-30.1	083	10.6	4905	5167	547.0	1007.2	BT 16 + sonde
171954	24 25	86 54	230	230	0.3	-36.9	082	12.1	4905	5166	547.0	1005.9	BT 12
172446	24 10	87 15	230	231	-0.2	-39.7	086	11.3	4903	5162	547.2	1005.8	BT 16
173142	23 47	87 45											BT 12 / sonde
174538	24 00	89 00											BT 12 / sonde WINDS LATE
174739	24 07	89 07	339	341	0.3	-38.6	044	9.0	4904	5165	547.1	1005.4	sonde only
175332	24 34	89 18	339	341	0.6	-36.6	050	9.3	4903	5165	547.1	1004.5	BT 16
180115	25 10	89 33	340	342	0.6	-38.9	027	6.7	4905	5165	547.1	1005.1	BT 12
180844	24 46	89 41	342	343	-0.2	-38.9	007	3.1	4904	5161	547.2	1006.3	BT 16 / sonde
181552	26 19	89 59	340	341	0.9	-38.9	336	2.2	4904	5163	547.3	1003.2	BT 12
182342	26 56	90 15	339	339	1.2	-38.5	319	4.7	4904	5164	547.2	1003.3	BT 16
83059	27 29	90 30	338	338	1.0	-38.3	288	5.6	4906	5165	547.2	1003.7	BT 12 / sonde 000 BT
1833													DESCEND
184310	27 30	89 30	92	92	10.3	0.8	22	6.3	2327	2432	763.6	1013.5	BT 12 OK RADAR
185555	27 32	88 31	92	91	11.3	-0.6	336	5.0	2319	2426	763.6	1013.5	BT 16
190436	27 00	88 16	153	153	12.3	-11.6	66	6.0	2318	2421	764.2	1012.4	BT 12
191233	26 30	88 03											BT 16
192049	26 00	87 46	156	157	12.0	7.4	029	8.5	2322	2419	763.2	1011.3	CP 16
192851	25 30	87 32	158	157	12.8	2.1	018	9.9	2320	2416	763.8	1010.9	CTD 14
193654	25 02	87 17	153	152	13.1	3.0	043	7.5	2319	2414	763.9	1010.1	CP 12
194408	24 30	87 02											DESCEND TO 5000 RA CTD 14
195318	24 00	86 48	157	154	19.0	5.5	048	16.1	1467	1507	849.1	1009.1	CP 16
200146	23 30	86 36	160	157	17.8	15.2	056	11.5	1466	1506	848.9	1008.9	CTD 12
201005	23 00	86 25	161	158	17.8	14.5	082	12.7	1473	1511	848.5	1009.0	CP 14
201848	22 30	86 13	159	156	18.3	12.8	070	11.5	1464	1498	849.4	1008.4	BT 16
02859	22 01	86 01	158	150	17.3	15.7	059	14.9	1467	1500	849.4	1007.2	CP 12 / sonde
04331	22 53	85 33	30	34	18.5	18.3	72	16.5	1463	1499	849.3	1008.2	CTD 14
10006	23 49	85 03			17.6	16.0	74	14.3	1469	1508	848.8	1008.3	CP 16 UHF R-BAND
210804	24 16	85 18	335	339	17.4	12.4	088	9.7	1469	1512	849.0	1009.4	BT 12
211624	24 47	85 28	331	336	16.7	13.6	083	12.2	1466	1508	849.0	1010.2	CP 14
212524	25 18	85 44	334	338	17.0	13.8	072	9.6	1465	1512	849.1	1010.5	CP 16
2129													Climb to 8000 RA
213405	25 49	86 00	336	335	12.8	1.1	229	3.1	2327	2421	763.2	1010.2	BT 12
214230	26 20	86 15	336	336	12.9	0.0	205	3.6	2328	2417	763.3	1009.9	CP 14
215045	26 51	86 30	339	340	11.9	-2.5	220	1.7	2331	2424	763.0	1011.3	BT 16
215854	27 22	86 46	335	335	10.6	6.2	281	9.2	2330	2421	763.1	1011.2	BT 12
220701	27 52	87 01	335	335	12.3	-12.5	11	3.2	2335	2428	762.9	1008.9	BT 12
222647	28 07	85 36	82	81	9.5	-7.4	59	12.9	2332	2425	762.8	1013.8	BT 16
223509	27 36	85 23	159	159	10.9	0.3	16	4.0	2328	2423	763.1	1012.6	BT 12
224248	27 07	85 08	154	155	12.6	-1.8	19	2.1	2328	2425	763.0	1011.2	BT 16
225030	26 38	84 55	160	160	12.6	2.5	112	3.6	2325	2422	763.3	1010.3	BT 12
225827	26 08	84 42	159	160	12.8	0.8	346	2.4	2326	2423	763.3	1010.6	BT 16
230610	25 39	84 25	152	153	14.1	-3.5	323	5.0	2326	2424	763.2	1009.6	BT 12
231354	25 10	84 12	159	159	13.0	5.9	074	3.6	2328	2425	763.0	1010.6	BT 16
232122	24 41	84 00											BT 12
233000	24 10	83 46											BT 12
234230	24 31	83 16	002	005	3.3	1.3	109	10.7	4118	4319	607.3	1008.0	14000 RA

alt m²

CLEARANCES		
FREQ	ALT	HDG
		→ 4000
		170°
		212L
		200°
		270
		6K 180° 212K
		260° 270° 216K



POSITION REPORT

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

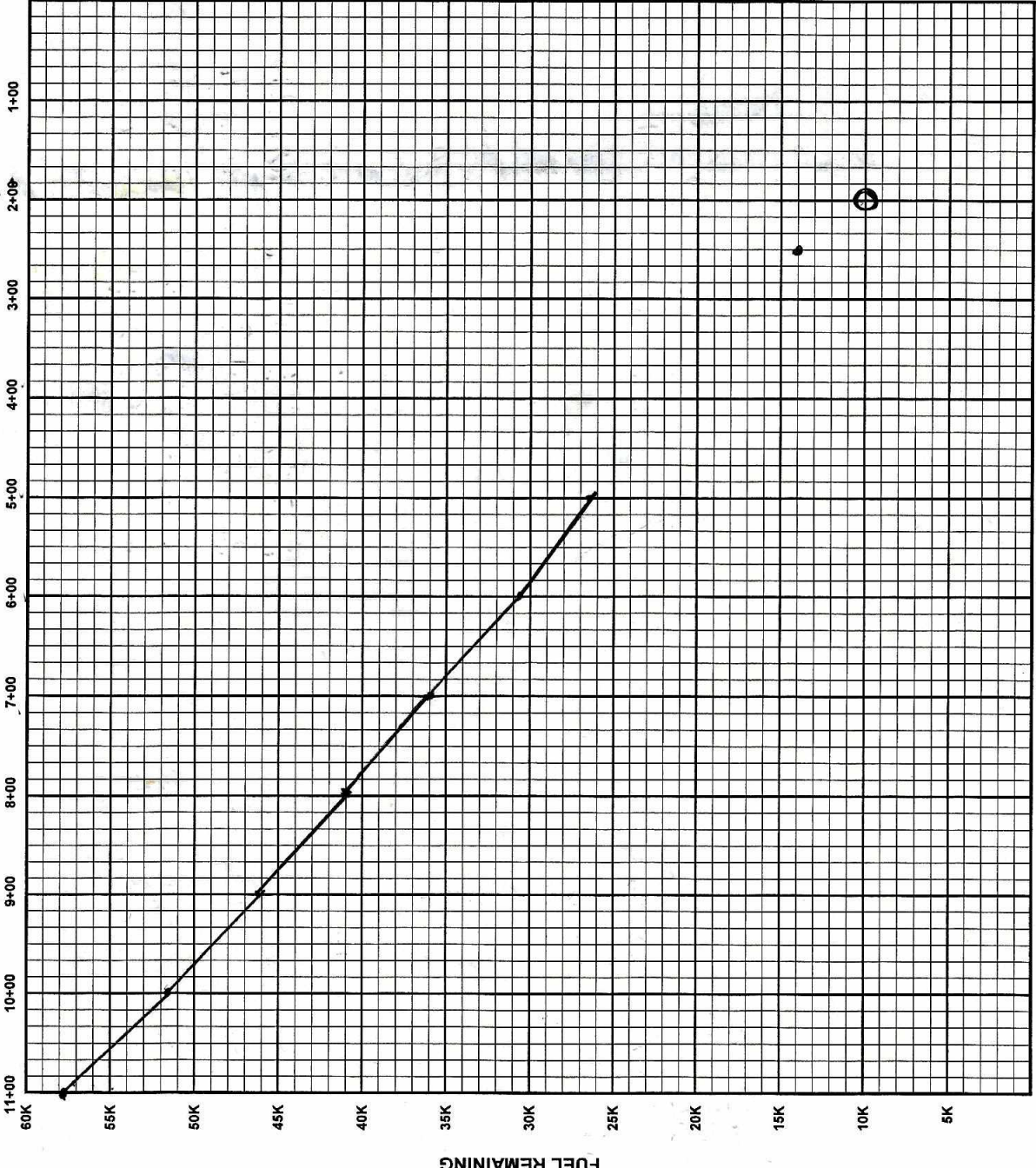
EMERGENCY MESSAGE
 TRANSMIT THE FOLLOWING MESSAGE TO ANY AGENCY ON THE AIR-GROUND FREQUENCY IN USE. IF UNABLE TO ESTABLISH COMMS, ATTEMPT CONTACT ON ANY OF THE FOLLOWING EMERGENCY FREQUENCIES:
 UHF/VOICE 2182 KHZ 8384 KHZ 500 KHZ
 243.0
 VHF/VOICE MF/VOICE HF/CW MF/CW
 121.5 2182 KHZ 8384 KHZ 500 KHZ
 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

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	
1546	ENG																				
1552	TAXI																				
1604	X✓	27 52.9 082 23.3	27 52.9 082 23.3	+0	27 51.9 082 23.3	+0	2W	081	2R	083	205	040	10	24K	210					072/7 MEF	
1620	△	27 29.7 082 26.9	27 29.7 082 27.0	+1.7 -1.1	27 29.7 082 26.9	+0	2W	226	1L	225	235	280	S	16K	241	①	608	118	1635	072/29.33	
1700	△	25 28.7 085 30.2	25 28.2 085 30.4	+1.5 -1.2	25 29.1 085 30.0	+1.2	1W	230	1L	229	293	020	10	16K	285	②	146	131	1731		
1730	△	25 32.9 087 37.9	25 32.2 087 38.1	+1.7 -1.2	25 33.1 087 37.9	+1.2	0	235	1L	234	306	035	15	14K	292	③					
1750	△	24 18.2 089 11.3	24 17.5 089 11.2	+1.7 +1.1	24 18.8 089 10.8	+1.5	1E	341	2L	339	297	080	10	16K	295	④	204	141	1831		
1830	△	27 32.6 090 29.9	27 30.3 090 29.7	+2.3 +1.2	27 32.5 90 28.9	+1.5	3E	096	0	096	305	300	10	17K	299						
1930	△	25 56.0 07 30.1	25 21.4 0730.3	+1.6 +1.2	25 25.6 87 28.8	+1.4 +1.3	2E	157	1R	158	258	020	12	8K	255	⑤					
2012	△	22 53.4 086 23.4	22 46.7 086 24.6	+6.7 -1.2	22 52.5 086 22.4	+1.1 +1.0	0	166	2R	168	222	060	10	5K	230	⑥	56	15	2027		
2047	△	23 04.5 085 25.9	22 56.8 085 24.6	+7.7 -1.7	23 04.2 085 24.1	+1.4 +1.5	0	026	4L	022	237	095	20	5K	239	⑦	47	12	2059		
2122	△	25 07.1 085 38.2	24 57.7 085 40.7	+9.4 -1.9	25 06.3 085 36.7	+1.8 +1.5	0	338	3L	335	236	070	10	5K	200	⑧	181	15	2216	18K GS → 260KTS	
2150	△	26 49.6 086 29.2	26 39.8 086 30.5	+9.8 -1.3	26 49.5 086 27.3	+1.6 +1.9	10	338	0	338	250	L/V		8K	245	⑨	69	17	2207		
0020																					LAND
0030																					BLOCK

* S. B. +0.3 * * S. B. +1.8

ROB
1600
1600 +10
46442

1760
1700
1600
1500
1400
1300
1200
1100
1000
900
800
700
600
500
400
300
200
100
0



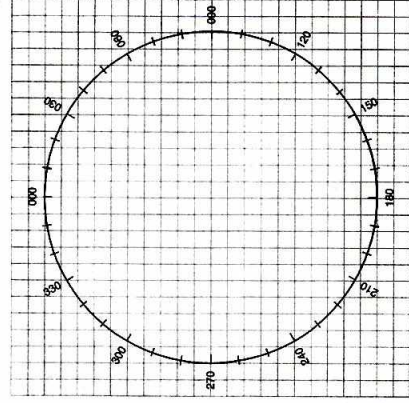
ENROUTE FUEL	
ENROUTE TIME	
ENROUTE FUEL (6K 5K 4.5K RULE)	
RESERVE AT DESTINATION	
REQUIRED RAMP	
ACTUAL RAMP FUEL	

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

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

CEX - TRUE BEARING METHOD					CEX SIGHT			
COMPASS TYPE	INS1	INS2	WET		GMT	GHA	CORR	ITAS
MCH (READING)								
MTH (SEXTANT)								
CE								
-VAR								
DEV								

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



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

WIND FACTOR	200	250	300	350
10,000 ALT	1.0	1.0	.99	.99
20,000 ALT	.99	.98	.97	.97
30,000 ALT	.97	.96	.95	.94
40,000 ALT	.96	.94	.92	.90

TRUE AIRSPEED CROSS-CHECK							
TIME	IAS	PRESS ALT	"IF" FACTOR	EAS	OAT	TAS	ITAS
1635	216	160	/	/	+6	225	276

DISTANCE REMAINING

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

MISSION PREFLIGHT LOG

DESTINATION **MCF**

MISSION

NAVIGATOR **ADREFFENMAN**

FLIGHT DIRECTOR **CZYREK**

SCHEDULED / ACTUAL TAKEOFF Z | DATE OF TAKEOFF

AIRCRAFT COMMANDER **KENVUL** | SCHEDULED / ACTUAL TAKEOFF Z **1600 / 1602** | DATE OF TAKEOFF **01 OCT 00**

18 SOB

WP	WCP	LAT / LON	RTE	MH	VAR +E-->	TH	DR +R-->	TRK	GS	WD	WS	ALT	TAS	LEG / TOT DIST	LEG / TOT TIME	PROP ETA	ETA	ATA	REMARKS
1		26 42 083 48																	
2		26 54 087 36																	
3		24 05 084 57																	
4																			
5																			
6																			
7																			
8																			
9																			

POSITION Report 22 48
NY 88 46

11342
3556

INS PERFORMANCE

	INS 1	INS 2
BEGIN ALIGN TIME	1415	1415
ALIGN STATUS (0-5)	0	0
END NAV TIME	0030	0030
START NAV TIME	1545	1545
DELTA T	10.5	10.5

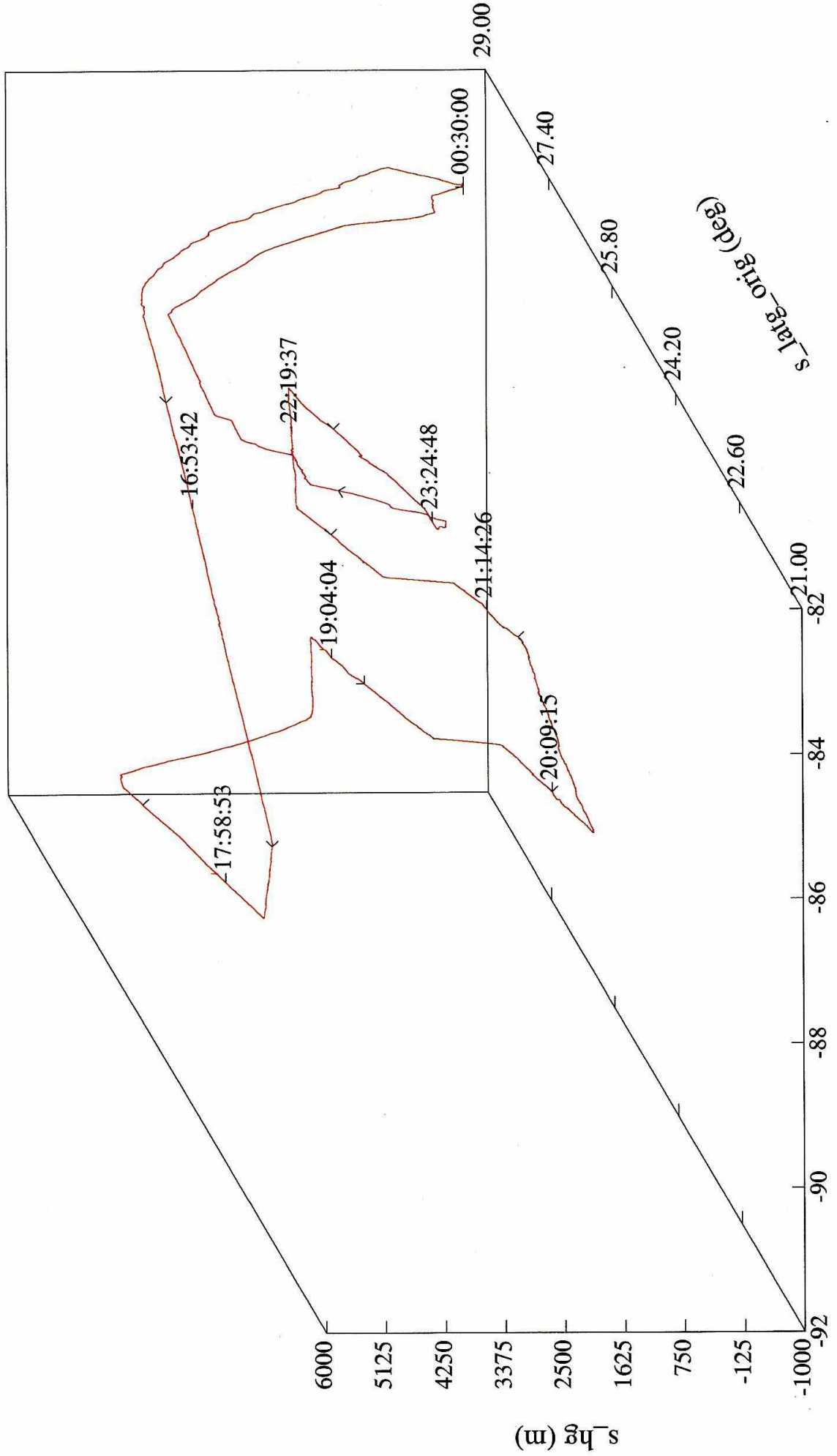
TERMINAL ERRORS

	INS 1	INS 2
DELTA LAT	4.3	4.3
DELTA LON	7.6	7.5
RGS	1	4
RADIAL ERROR	16	2

REMARKS

HUR00, Air/Sea Interaction (pre-Keith)

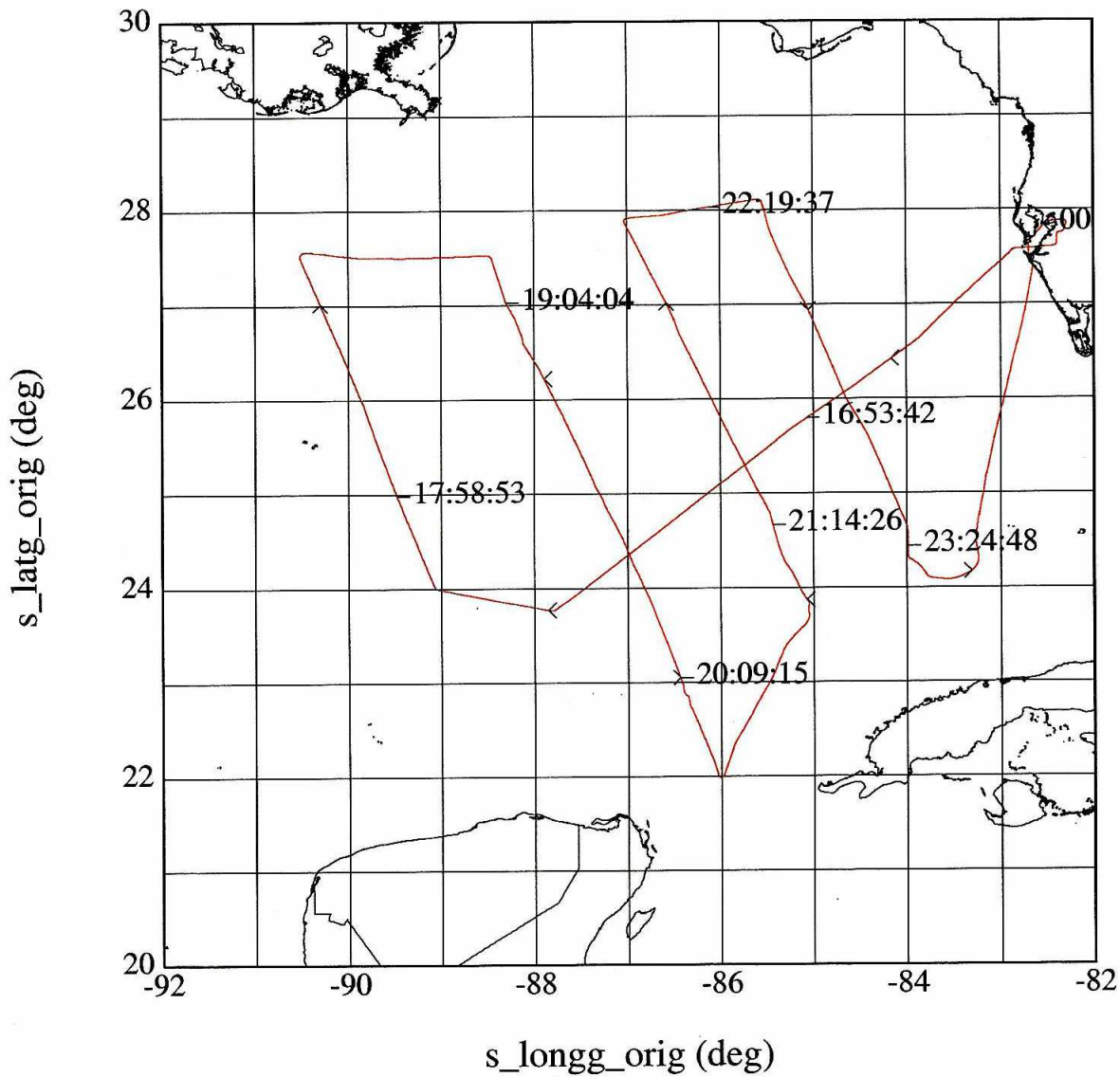
001001Hs_P, 15:48:31-00:30:00



s_longg_orig (deg)

HUR00, Air/Sea Interaction (pre-Keith)

001001Hs_P, 15:48:31-00:30:00



	mean	sigma	min	max
— s_latg_orig (deg), 1 s/sec	25.69	1.62	21.99	28.12
— s_longg_orig (deg), 1 s/sec	-85.93	2.19	-90.51	-82.29