MEAPRS

Flight #05 H980608 IOP #05 (Thunderstorms in SW Nebraska)

DATA TYPE	SENSOR or OPTION
INE	1
Accelerometer	1
Temperature Probe	1
Altitude (for vertical wind)	Pressure Altitude
Static Pressure	Fuselage
Dynamic Pressure	Fuselage
Dewpoint Probe	2
Constants file:	CO2987.con

Notes:

There were no data/time gaps.

The RA232 radar altimeter was used in extrapolating surface pressure from flight level.

Downward spikes in radar altimeter data are a result of overflying land.

Sensors did operated optimally most of the time. Numerous problems with total temperature 1 and total temperature 2.

Total temperature sensor 1 had a data spike removed and patched over during the time period 0448Z - 0452Z.

Because of wet-bulbing/icing conditions of total temperature probe 1, the values of total temperature 1 were replaced with the values of total temperature 2 during the following time periods:

022242Z - 034805Z
035034Z - 035816Z
053528Z - 071418Z

From 0442Z - 0533Z both total temperature probes were not working optimally due to icing conditions.

Dewpoint sensor 2 was balanced from 0128Z - 0143Z. The spikes that were generated were removed and patched over.

Dewpoint temperature was warmer than ambient temperature throughout the flight especially during the following time periods:

025220Z - 031530Z
034800Z - 035220Z
035840Z - 040140Z
040540Z - 050640Z
051120Z - 051530Z
052940Z - 053630Z

The Johnson-Williams liquid water probe was working but an offset of +2.2 must be applied to the data.

One (1) GPS sonde was deployed at 0600Z.

Aircraft inertial 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 wind speeds, respectively, derived from Dave Jorgensen's vertical wind algorithm. It is recommended that these values be used for vertical wind analysis.

	Takeoff	Landing
Aircraft static pressure	966.2mb	964.5mb
Corrected tower pressure	966.0mb	965.2mb

Flight Meteorologist: A. Barry Damiano, (813) 828-3310 ext. 3073

FLT ID: H980608	FM: KOKC	TO: KOKC
FLT NO: 98-58	BLK IN: 0741	ATA: 0733Z
ETD: 0100Z	BLK OUT: 0050Z	ATD: 0100Z
ETE:	BLK TIME: 6:51	FLT TIME: 6:33
SPONSOR ORG: NSSL/NSF	PROGRAM: MEAPRS	PURPOSE: MCS NEAR GOODLAND KANSAS----

OAO PERSONNEL

AC KENNEDY	SYS ENG
CP TENNENSEN / KENUL	DATA SYS McMILLAN
NAV RATHBUN	RADAR DELGADO
FE BAST	BT/ODW
RADIO ROGERS	CLD PHYS CARPENTER
FD DAMIANO	DOPPLER

PARTICIPATING SCIENTIST/VISITORS/OAO

LAST, FIRST NAME	ACTIVITY ON A/C	AFFILIATION
ZIEGLER	PI	NSSL
SHEPHERD	ASST. PI	〃
SCHUUR	PMS	〃
BIGGERSTAFF	PMS	TEXAS A+M
SEO	OBS	〃
~~BARH~~ BARTHAZY	OBS	〃
CARBIN	OBS	SPC

PROPOSED/ACTUAL MISSION/REMARKS (RECCO, FIXES, STORM, PENET, NHOP #)

J-W has offset; cannot zero-out

0130Z Balance all 3 DWRs

to

0140Z

0243

DWI

Warm

U.S. DEPT. COMM./NOAA/OAO - DATA SECTION WORK FORM NO.2 OAOWF2 FILE

FLT ID: 19980608 TIME OFF: 0100Z TIME ON: 0733Z

	A/C T/O	WX STN	A/C LAND	WX STN
PRESSURE	966.2	29.92	964.5	29.88

	NO	DATA DISPOSITION/DATE/QUALITY
1/SEC FLT LVL TAPES	2	
FAST FLT LVL TAPES		
RADAR TAPES	2	
DOPPLER TAPES		
ODW CASSETTES		
HARD COPIES		
PMS	1	
AXBT		
AXCP		
~~ODW~~ GPS	1	

PHOTOGRAPHY

	FWD	LS	RS	VERT	
ON					
OFF					
RATE					

REMARKS 0576

H980608

NOAA FORM 59-4
(2-72)

DW2

210/030

TIME	LAT	LON	TRK	HD	WD	WS	TA	TD	PA	GA	SP	PS		PQ
010500	3522	9751	301	291	205	46	13.0	11.1	2296	2006	964.7	760.9	CLR	65.5
012300	3612	9853	325	315	245	51	-2.3	-34.5	4891	4565	946.6	548.1	BTN CLD	72.3
014400	3730	9957	327	318	239	47	-3.2	-29.9	4890	4286	918.5	548.3	BTN CLD	72.7
015600	3812	10037	325	316	241	45	-5.1	-12.9	4891	4185	910.9	548.2	BTN CLD	73.9
020600	3848	10111	325	316	237	48	-4.3	-13.9	4943	4143	897.0	544.4	BTN CLD	72.9
021600	3925	10143	0	352	243	41	-8.2	-16.1	5255	4337	886.0	521.8	BTN CLD	74.3
022600	4014	10146	357	353	240	30	-7.3	-8.2	4967	4055	892.1	546.2	IN CLD	70.9
023400	4042	10158	263	258	213	33	-.5	-.8	3954	2935	885.6	620.1	IN CLD	75.5
023900	start		10K	RA	leg									
024500	end leg													
024800	start		10K	RA	leg									
025240	4054	10201			190	35								
0255	UP	IFT												
0256	end leg													
0300	start leg		10K	RA	leg									
030640	end leg													
0301	Radar down													
0320	start leg	W side												
033210	start	start turn	leg				11K	PA	FORWARD	(NE)				
033700	4131	10157	44	47	162	15	1.8	-1.5	3448	2341	879.8	662.5	—	68.2
034200	end													
035540	end	leg												
040000	start	SW	leg											
040900	4143	10127	225	229	295	12	-8.1	-6.3	4566	3587	890.2	576.3	LT	68.0
041030	end													
041645	4130	10139	SW	at	Turn									
041900	start	NE	leg											
042600	4151	10103	44	46	210	10	-8.4	-6.7	4569	3705	903.4	572.1	—	76.7
043200	end													
043900	end	leg												
044230	start	SW	leg	at	17K	PA								
044600	4207	10034	225	229	161	24	-11.6	-10.8	5190	4428	905.1	526.8	—	71.6
044650	end													
045600	4146	10102	220	222	320	5	-12.7	-10.8	5192	4294	897.5	526.5	—	75.8
045945	End	leg												
050250	start	NE	leg	at	19K	PA								
050700	4153	10042	43	46	184	35	-12.7	-13.4	5857	5054	893.6	481.1	LT	77.3
050855	end													
051915	End	leg												
052130	start	leg	to	SW										
052500	4219	10021	223	220	183	24	-10.8	-13.8	5766	5058	904.2	487.1	—	69.0
053700	spiral	descent												
054200	End	spiral	descent											
060032	4106	9954	162	170	237	35	-4.8	-3.5	4590	3892	—	570.5	GPS	78.2
060700	4040	9943	161	168	232	34	-4.5	-7.5	4563	2957	—	571.1	—	74.5
062206	3937	9916	162	167	253	36	-4.3	-6.7	4586	4176	—	571.2	—	74.8
065000	3742	9827	161	169	248	38	-2.2	-9.9	4587	4249	—	570.7	—	74.4

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41.2 102.2 5W

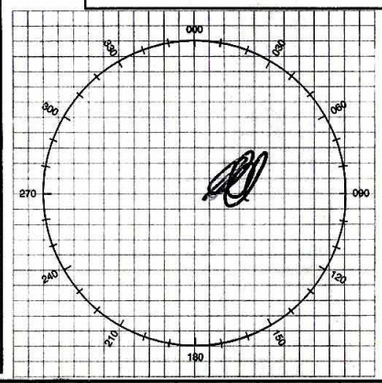
4130
10139

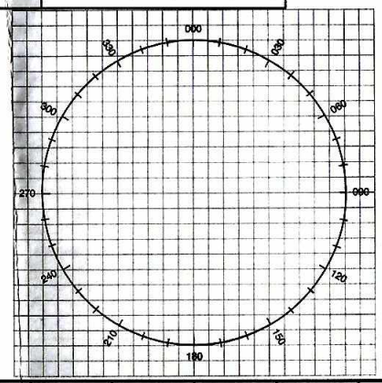
MISSION LOG

PAGE ___ OF ___

CLEARANCES

FREQ	ALT	HDG	OTHER
003			TRW V17 GLD 8+00 W/ZN
022			100 NM RAD OF GLD
023			
024 35			
			GLK V17 IRW
			LBF MCK





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	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 GPS	INS 1 POSITION	K ERR	INS 2 POSITION	K ERR	MH	VAR +E==>	TH	DR +R==>	TRK	GS	WD	WS	ALT	TAS	NEXT PT	DIST	TIME	ETA	REMARKS
0046 0050 0039																					ENG START BLOCK OUT TAKEOFF
0124	FM1	3617.6 9857.2	3617.5 9857.1	+.1 +.1	3617.4 9857.1	+.2 +.1			315	8R	323	260	192	44	16K	234					
0205		3846.3 10108.5	3846.3 10107.4	0 +1.1	3845.4 10108.3	+.9 +.2			316	9R	325	269	192	50	16K	236					
0242		4054.5 10200.4	4054.6 10158.9	-.1 +1.5	4053.1 10159.7	+1.4 +.7			032	2L	030	288	206	65	15K	226					
0322		4038.2 10215.1	4037.9 10213.6	+.3 +1.5	4035.2 10215.5	+3.0 -.4			355	4R	359	269	188	50	13K	224					
0402		4207.8 10114.6	4207.5 10112.5	+.3 +2.1	4204.3 10114.8	+3.5 -.2			229	1L	228	254	035	34	15K	227					
0436		4214.3 10033.5	4213.7 10031.4	+.6 +2.1	4209.4 10034.6	+4.9 -1.1			046	0	046	265	226	41	15K	225					
0507		4151.5 10043.4	4151.2 10041.0	+.3 +2.4	4146.8 10045.4	+4.7 -2.0			046	4L	042	308	248	64	FL190	249					
0553		4132.4 10011.1	4131.4 10008.4	+1.0 +2.7	4125.8 10014.0	+6.6 -2.9			153	10L	143	250	266	51	15K	223					
0629		3909.9 9903.5	3908.7 9901.4	+1.2 +2.1	3903.1 9907.9	+6.8 -4.4			170	8L	162	255	296	45	15K	224					
0702		3653.6 9809.2	3651.7 9806.9	+1.9 +2.3	3646.1 9814.0	+7.5 -4.8			174	8L	166	266	303	46	15K	232					
0732 0741		3523.6 9735.3	3521.7 9733.7 2	+1.9 +1.6	3516.2 9741.9 9	+7.4 -6.6															LAND BLOCK IN

NOAA FORM 56-49
(2-95)

MISSION PREFLIGHT LOG

DESTINATION	MISSION	NAVIGATOR	AIRCRAFT COMMANDER	FLIGHT DIRECTOR	SCHEDULED / ACTUAL TAKEOFF Z	DATE OF TAKEOFF
KOKC→KOKC	MRAPRS	NATHBUN	KENNEDY	DAMIANO	0100Z 0059Z	9 JUNE 98

	WP	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	OKC	35 24.1 97 36.2																	
2	DRW	35 21 97 37																	
	VIT GALE GAG	36 21 99 53																	
3	WOODWARD GCK	37 55 100 43																	
4	GOODLAND GLD	39 23 101 42																	

INS PERFORMANCE	INS 1	INS 2
BEGIN ALIGN TIME	2346Z	2346Z
ALIGN STATUS (0-5)	0	0
END NAV TIME	0735Z	0735Z
START NAV TIME	0045Z	0045Z
DELTA T	6+50	6+50

TERMINAL ERRORS	INS 1	INS 2
DELTA LAT	+1.9	+7.4
DELTA LON	+1.6	-6.6
RGS	0	1
RADIAL ERROR	2	9

REMARKS

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
AIRCRAFT OPERATIONS CENTER