

PRX

U.S. Dep't. of Commerce / NMAO / NOAA / Aircraft Operations Center

FLT ID: 2010901H1	From: KMCK	To: KMCF
FLT #:	Blk In: 0017 Z	Lnd Time: 0007 Z
ETD: 1600 Z	Blk Out: 1558 Z	T/O Time: 1611 Z
ETE: 8+00	Total Blk: 8.3	Total Flt: 7.9
Sponsoring Org: NHC	Program:	Purpose: INVEST
AOC Flight Crew		
Aircraft Commander: HANVerson	Data System: B25ED	
Co-Pilot: KERDS / SWEENEY	Avaps: RICHARD	
Navigator: KIDDER /	System Engineer: PAUL	
Flight Eng: KLIPPEL	AA:	
Flt Director: SEARS / MORGAN	AA:	
Avionics: OLNEY	Crew Chief:	
Participating Scientists, Visitors, & Add'l Aircrew on back.		# of people listed on back: 2
	A/C - Takeoff	Wx Station - Takeoff
	A/C - Land	Wx Station - Land
Pressure		
ATIS - Takeoff		
ATIS - Land		
Data Source	Number	Data Disposition / Date / Quality
Flight Level Tapes		
Radar Tapes		
Dropsondes	Good:	Bad: Sent:
AXBT	12 BTs	2 CRS 1 QUESTIONABLE
List other data sources on back in Remarks section.		
Remarks (Storm Name, Mission ID, Recco Times, Fix Times)	2 CRS	Recco Times: Fix # Fix Time
Storm Name: 01 HHA	1633	
Mission ID: INVEST	1701	
	0750	
	1834	
	1904	
	1944	2138
	2000	2149
	2042	2243
	2112	

ALHH 2011

U.S. Dep't. of Commerce / NMAO / NOAA / Aircraft Operations Center

FLT ID:

T/O Time:

Z

Lnd Time:

Z

Name (Last, First)

Activity on Aircraft

Affiliation

JAMES, B

SCI

DM

BREWER, J

SCI

DM

Remarks:



N42RF ERROR SUMMARY

Low-Level Invest

TD-13



Flight ID: 20110901H1

<u>Sensor or system</u>	<u>Number or Name</u>
INE (for wind derivation)	INE1
Accelerometer	ACCI1
Temperature Probe	TT1
Dew Point Probe	TDM2X
Static Pressure	PSFX
Dynamic Pressure	PQF1X
Vert. Wind	ALTI1X
Constants File	/acdata/adc/42_11v5.adc
Project Directory	/acdata/2011/MET/20110825H1

Special note: There was a major problem with the attack angle output during this mission that results in erroneous vertical winds for the entire mission.

Notes:

There were two data gaps throughout the flight. The times are listed below.

222321Z – 222644Z

222811Z – 222829Z

Dewpoint sensor 2 (TDM2 [EdgeTech]) generated erroneous data between 235518Z – 001237Z. The erroneous data were replaced with dewpoint sensor 1 (TDM1 [Buck]) and TDM3 [Maycomm TDL] outputs via direct substitution:

TDM2X = TDM1 (235518Z – 000818Z)

TDM2X = TDM3 (000819Z – 001237Z)

RINU-1550 GPS altitude (ALTI1) experienced multiple instances where erroneous data were collected. The data were modified using the Novatel GPS (NVLGPS) altitude values. The times and equations follows.

183210Z – 183224Z $ALTI1X = ALTNVL - 1.1$

183237Z – 183248Z $ALTI1X = ALTNVL - 1.1$

190247Z – 190330Z $ALTI1X = ALTNVL - 7.0$

211617Z – 211623Z $ALTI1X = ALTNVL - 3.5$

211721Z – 211724Z $ALTI1X = ALTNVL - 3.5$

211730Z – 211741Z $ALTI1X = ALTNVL - 3.5$

211848Z – 211850Z $ALTI1X = ALTNVL - 3.5$

214548Z – 214554Z $ALTI1X = ALTNVL - 3.1$

There were two instances where static pressure from the fuselage (PSF) spiked. The spikes were removed and replaced using statistical techniques using static pressure from the wingtip as a reference. The spikes occurred at 194956Z – 194958Z and 170610Z – 170614Z.

There were two instances where measured fuselage dynamic attack pressure (PQF1) spiked. The spikes were removed and replaced substituting values from the measured radome dynamic attack pressure. The times and equations of the substitutions follow.

194956Z – 194958Z $PQF1X = PQR + 0.9$

170610Z – 170614Z $PQF1X = PQR + 0.8$

During the flight there were instances where dewpoint temperature values exceeded derived ambient temperature values resulting in humidity values above 100%. These situations occurred during heavy precipitation events.

All other instruments worked optimally during the flight.

There were 12 AXBTs deployed, 12 were good.

There were 2 AXCPs deployed, 1 was good, 1 was questionable.

There were 2 AXCTDs deployed, 2 were good.

Takeoff/Landing data: Data during landing and takeoff are potentially suspect. It is recommended that ground data not be used for scientific analysis.

SPECIAL NOTE!!! The variable names dpj_wgs, dpj_was, and dpj_wz in the netCDF file represent vertical ground, vertical air, and vertical wind speeds respectively, computed using Dave Jorgensen's vertical wind algorithm. It is recommended that these values be used for vertical wind analysis.

	Takeoff(1611Z)	Landing(0017Z)
--	-----------------------	-----------------------

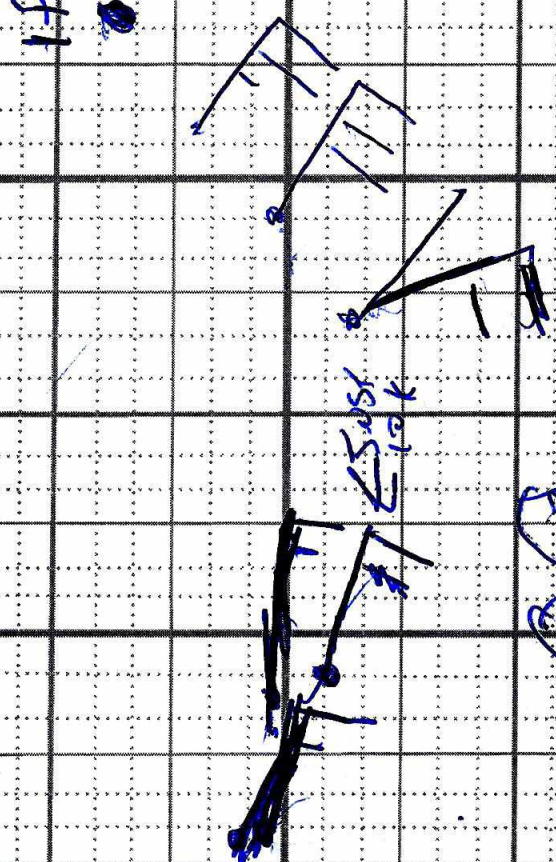
Aircraft Static Pressure	1017.7 mb	1016.2 mb
--------------------------	-----------	-----------

Corrected Tower Pressure	1018.1 mb	1016.7 mb
--------------------------	-----------	-----------

Flight Director:	Ian Sears	(813) 828-3310 ext. 3039
------------------	-----------	--------------------------

201090111

1P



LIGHT CENTER

26

LIGHT var.

LIGHT

VARIOUS

pushing

25

SOUND

AN 17

16

90

88

91

90

89

IN BOUND
Screw
DOWN

N

23.5

24.8
92 W

25 48.8
70 46.8

3.5

225 + 90

DATE		SCHEDULED RX TIME	AIRCRAFT NUMBER	FLIGHT DIRECTOR
WX MISSION IDENTIFIER				OB NUMBER
VORTEX DATA MESSAGE				
A	01 / 2201 Z	DATE and TIME of FIX		
B	26 DEG 25 MIN N S	LATITUDE of FIX		
	91 DEG 33 MIN W E	LONGITUDE of FIX		
C	NA MB M	MINIMUM HEIGHT of STANDARD LEVEL		
D	NA KT	ESTIMATE of MAXIMUM SURFACE WIND OBSERVED		
E	NA NM	BEARING and RANGE FROM CENTER of MAXIMUM SURFACE WIND		
F	2102 DEG 200 KT	MAXIMUM FLIGHT LEVEL WIND NEAR CENTER		
G	246 DEG 7 NM	BEARING and RANGE FROM CENTER OF MAXIMUM FLIGHT LEVEL WIND		
H	EXTRAP 1008 MB	MINIMUM SEA LEVEL PRESSURE COMPUTED FROM DROPSONDE OR EXTRAPOLATED FROM FLIGHT LEVEL. IF EXTRAPOLATED, CLARIFY IN REMARKS.		
I	26 C / 458 M	MAXIMUM FLIGHT LEVEL TEMP / PRESSURE ALTITUDE OUTSIDE EYE		
J	26 C / 458 M	MAXIMUM FLIGHT LEVEL TEMP / PRESSURE ALTITUDE INSIDE EYE		
K	25 C / 30 C	DEWPOINT TEMP / SEA SURFACE TEMP INSIDE EYE		
L	NA	EYE CHARACTER: Closed wall, poorly defined, open SW, etc.		
M	NA	EYE SHAPE/ORIENTATION/DIAMETER: Code eye shape as: C - Circular; CO - Concentric; E - Elliptical. Transmit orientation of the major axis in tens of degrees, i.e., 01-010 to 190; 17-170 to 350. Transmit diameter in nautical miles. Examples: C8= Circular eye 8 miles in diameter; E09/15/5=Elliptical eye, major axis 090-270, length of major axis 15 NM, length of minor axis 5 NM. CO8-14=Concentric eye, diameter inner eye 8 NM, outer eye 14 NM.		
N	13	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; 1-1500 ft; 9-925mb; 8-850mb; 7-700mb; 5-500mb; 4-400mb; 3-300mb; 2-200mb; NA-Other		
O	1 / 1 NM	NAVIGATION FIX ACCURACY / METEOROLOGICAL ACCURACY		
P	REMARKS			
	MAX FL WIND 27 KT NE QUAD 1942 Z			

3105

Playback Log

Flight Number

Takeoff Time

Storm

AXBT/AXCP Contract Number

Landing Time

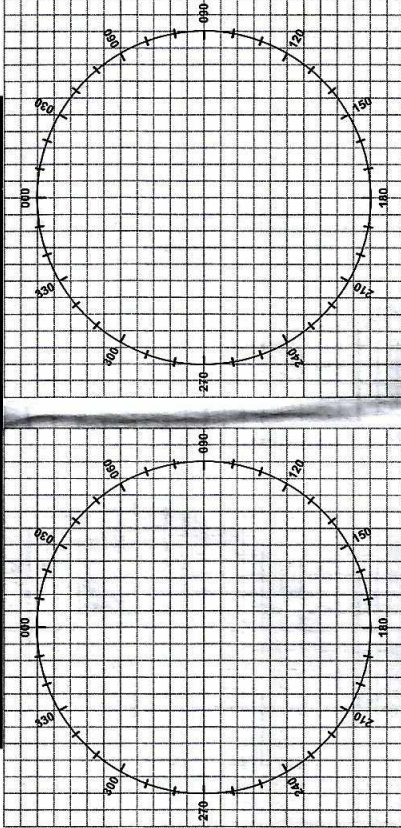
[illegible]

DAMP 012

CLEARANCES			
FREQ	ALT	HGD	OTHER
1600	119	3674	20.01 Rwy 04
	As filed	080 1600	2700 MSA
			1420 IP 225 Inbound
			FOFH 550 NewOr, Keokuk
			SEC RZ PLW
			1350B 7
			N04A 47

MISSION LOG

PAGE 1 OF 1



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 42, NOAA 43, NOAA 44

- 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 13 SOULS ON BOARD

- NATURE OF EMERGENCY

- ASSISTANCE DESIRED

- PILOT INTENTIONS

- WE HAVE ENDURANCE REMAINING

TIME	FIX TYPE	POSITION	INS 1 POSITION	KERR	INS 2 POSITION	KERR	VAR +E=>	TH +R=>	DR	TRK	GS	WD	WS	ALT	TAS	NEXT PT	DIST	TIME	ETA	REMARKS
1553	STBY																			
1557	TAXI	K161A																		
1610	T/O	135.5																		
1615	Δ	090/12 27.53 8316	27.53 8316	0	27.53 8316	0	184 SW	179	0	184	224	025	7	1405	219	SUMAR				
1627	C	133.35 11330																		
1714	Δ	27.41 08705	27.41 08706	0	27.41 8706	-1	262 SW	260	3R	264	216	115	16	14K	265					133.48 8833
1720	C	123.97	8833																	
1728	C	AF 429	RELAY																	133.48 8933
1741	C	04006L	IFR				226	0	226	229										
1811	Δ	26.26 09006	26.27 09006	-1	26.26 09006	0	226	0	226	229	219	1407	7	1.5	219					113.42
1815	Δ	26.27.5 09004	26.30 09042																	
1824	C	W-93	US4A																	
1911	Δ	26.15 8918	26.17 8918	-2	26.16 8918	0	210	0	210	213	236	112	22	1.5	217	NN				
1934	C	OPS NORM	OPS NORM																	
2023	Δ	26.10 91	26.14 91	-4	26.10 09001	-1	181	181	181	241	241	347	20	1.5	220					
2033	C	26.35 0912	26.35 0912																	

281-230-5552 8933

