

Flt ID: H011201	From: KPAE	To: KPAE
Flt No.: 02-11	Blk In: 2136Z	ATA: 2132Z
ETD: 1500Z	Blk Out: 1452Z	ATD: 1503Z
ETE:	Blk Time: 6:44 (6.7)	Flt Time: 6:29 (6.5)
Sponsor Org: OAR	Program: IMPROVE	Purpose: IOP#2

AOC Personnel

AC: TENNESEN TAGGART ✓	Sys Eng: ROLES ✓
CP: TENNESEN TENNESEN / HALVERSON ✓	Data Sys: McMILLAN ✓
Nav: ADLER ✓	Radar:
FE: BAST ✓	GPS/BT:
Avionics: ROGERS ✓	Cld Phys:
FD: DAMIANO	

Participating Scientists/Visitors/AOC

Name (Last, First)	Activity on Aircraft	Affiliation
BOND ✓	PT	UW
HILL ✓	OBS (RADAR)	NWS SEA (MID)
McFARLAND ✓	OBS	UW
SHARP ✓	OBS	UW
1851Z DPT ZONE		

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

13016 10 4 29.12 RADARS DOWN 1617Z 1648Z WE bad	0700-2100 1725Z WE TURN PT P 43°43' 123°28' 1833Z SW lead	Baldwi 1519Z PT. A at 8am PT Q → PT P PT P → PT Q PT Q → PT P PT P → PT Q PT Q → PT P PT P → PT Q PT Q → PT P PT P → PT Q	18K → 16K a 16K 16 → 14K o 14K 14K → 12K o 12K	Q → P 12 → 10K P → Q @ 10K NEW a 1822Z 44°19' 122°05'
43 53 123 02.4 P	NEW a = 44°27' 1837Z 121°45'	1827Z 43°49' new P 123°13'		

985.6

985.4

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

AOCWES

Flt ID: <i>14011201</i>	Time Off: <i>1503Z</i>	Time On: <i>2132Z</i>
A/C (Take Off)	Wx Stn (Take Off)	A/C (Land)
Pressure	<i>965.3</i>	<i>29.17 (963.6)</i>
	<i>964.3</i>	<i>29.10 (963.4)</i>

	Number	Data Disposition/Date/Quality
Slow/Fast Flt Lvl Tapes	<i>2</i>	
Radar Tapes	<i>1</i>	
Cloud Physics Tapes	<i>1</i>	
Video Tapes	<i>1</i>	
AXBT		
AXCP		
AXCTD		
Dropsondes		

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

Remarks *8-5* *29.11* *130 21-30* *2052Z* *10* *-RA* *4* *29.13*

JAL 070

mikes

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TITLE (MAX 21 CHARACTERS) -- EX  HURRICANE PAINE
IMPROVE II FLT #2
YYMMDDL  FLT I.D.
011201H
HHMMSS START TIME      -99999 DEFAULT TO START OF DATA FOR PRINTOUT ONLY
150001
HHMMSS END TIME        999999 DEFAULT TO END OF DATA FOR PRINTOUT ONLY
213500
HHMMSS TAKE OFF TIME
150300
* NUMBER OF TAPES (I2) ...FOR STANDARD TAPE OUTPUT ONLY
2
* -----LOGICAL UNIT OF INPUT DATA (I1)  5, 8 OR 9 FOR TAPE DRIVE
8
* -----LOGICAL UNIT OF OUTPUT TAPE DRIVE (I1) [FOR STANDARD TAPE ONLY]
8
* -----LOGICAL UNIT OF PRINTER (I1)
6
* -----DATE OF PROGRAM (MMDY)
06094
* -----STATIC PRESSURE PROBE (I1)
* 1 = PSW (WINGTIP)
* 2 = PSF (CO-PILOT/FUSELAGE)
* 3 = FUTURE USE
2
* -----DYNAMIC PRESSURE PROBE (I1)
* 0 = PQW(WINGTIP)
* 1 = PQF1 (FUSELAGE 1281)
* 2 = PQF2 (FUSELAGE 1221)
* 3 =FUTURE US
1
* -----INE SELECTION  (I1)
* 1 = INE 1
* 2 = INE 2
2
* -----ACCELEROMETER (I1) - USUALLY THE SAME AS YOUR INE SELECTION
2
* ----- TOTAL TEMPERATURE PROBE (I1) [1 OR 2]
1
* ----- DEWPOINT TEMPERATURE PROBE (I1) [1 OR 2]
1
* -----ALTIMETER OPTION (I1) - FOR VERTICAL WIND COMPUTATION
* 0 = PRESSURE ALTITUDE (OVER LAND)
* 1 = RADAR ALTITUDE APN-159 (OVER WATER)
* 2 = RADAR ALTITUDE APN-232 (OVER WATER)
0
* -----PRINTOUT RATE  SECONDS (I2)
30
* -----WINDSPEED/DIRECTION RUNNING AVERAGE TIME, SECONDS (I2)
10                                ! FOR STANDARD TAPE OUTPUT ONLY
* -----TIME OPTION (I1)
* 1 = MICRO 29
* 2 = TIME BASED GENERATOR #1
* 3 = TIME BASED GENERATOR #2
1
* -----NAME OF CONSTANTS FILE EX CO3863.CON
CO2013.CON
*****

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IMPROVE II

Flight #2 011201H

<u>Sensor or system</u>	<u>Number or Name</u>
INE	2
Accelerometer	2
Temperature Probe	1
Dew Point Probe	1 (Gen. Eastern)
Altitude (for vertical wind)	Pressure Alt.
Static Pressure	Rosemount Fuselage
Dynamic Pressure	Rosemount Fuselage
Time Source	Micro 99
Constants File	CO2013.CON

Notes:

There were no time/data gaps.

The General Eastern dewpoint probe was balanced from 1517Z - 1521Z. The spike generated by this action was removed and patched over using DW3, the Buck Research dewpoint probe, as a reference.

There were numerous instances where the General Eastern dewpoint probe, DW1, was measuring too warm compared to ambient temperature. The following modifications to the data were done to minimize this occurrence.

For the following time frames, DW1 was modified with respect to DW3, the Buck Research dewpoint probe, using statistical analysis: 1537Z - 1540Z, 1613Z - 1615Z, 1647Z - 1651Z, 1835Z - 1837Z, 1839Z - 1841Z, 1850Z - 1852Z, 1929Z - 1932Z, 1933Z - 1936Z, 1943Z - 1946Z, 1953Z - 1956Z, 1956Z - 1959Z, 2005Z - 2007Z, 2011Z - 2013Z, 2015Z - 2018Z and 2018Z - 2020Z.

There were other instances of this phenomena occurring where it was decided that no modification of the data could not be done.

All other instruments worked optimally during the flight.

	<u>Takeoff</u>	<u>Landing</u>
Aircraft static pressure	965.3mb	964.3mb
Corrected tower pressure	963.6mb	963.4mb

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

N42RF Analog Source & ADC Channel Assignments

IMPROVE 01

20 Nov 01

Analog Source	Instrument	ADC Input	KCON	Analog Source	Instrument	ADC Input	KCON
00	J-W Liquid Water	00	251	48		48	299
01	Total Temperature #1	01	252	49		49	300
02	Total Temperature #2	02	253	50		50	301
03	Dewpoint #1 - General Eastern	03	254	51		51	302
05	Attack Pressure (AP)	04	255	52		52	303
06	Dynamic Attack Pressure (DAP)	05	256	53		53	304
07	Sideslip Pressure (BP)	06	257	54		54	305
08	Dynamic Sideslip Pressure (DBP)	07	258	55		55	306
15	PS1 - Wingtip Rosemount 1281	08	259	56		56	307
04	PQ1 - Wingtip Rosemount 1281	09	260	57		57	308
10	Down PRT-5 Radiometer (SST)	10	261	58		58	309
		11	262	59		59	310
09	Side PRT-5 Radiometer (CO ²)	12	263	60		60	311
		13	264	61		61	312
12	Vertical Accelerometer #2	14	265	62		62	313
11	Vertical Accelerometer #1	15	266	63	Up PRT-5 Radiometer	63	314
16	Radome Attack Pressure	16	267	64		64	315
17	Radome Sideslip Pressure	17	268	65		65	316
18	PQ4 - Radome Diff Pressure	18	269	66		66	317
19	Radome Impact Pressure	19	270	67		67	318
		20	271	68		68	319
		21	272	69		69	320
		22	273	70		70	321
		23	274	71		71	322
24	Dewpoint #2 - Edge Tech	24	275	72		72	323
		25	276	73	Down Fieldmill Sensitive	73	324
26		26	277	74	Down Fieldmill Insensitive	74	325
27	Dewpoint #3 - Edge Tech	27	278	75	Down Fieldmill Super Insensitive	75	326
		28	279	76	Left Fieldmill Sensitive	76	327
		29	280	77	Left Fieldmill Insensitive	77	328
		30	281	78	Left Fieldmill Super Insensitive	78	329
31	King Liquid Water	31	282			79	330
32	PS2 - CoPilot Rosemount 1281	32	283			00	
33	PQ2 - CoPilot Rosemount 1281	33	284			01	
34	PQ3 - CoPilot Rosemount 1221F	34	285	02	True Airspeed T5(102)	02	
35		35	286			03	
36		36	287			04	
37		37	288			05	
38	Fieldmill HVPS Current	38	289			06	
39	Fieldmill HVPS Voltage	39	290			07	
40	Right Fieldmill Sensitive	40	291			08	
41	Right Fieldmill Insensitive	41	292			09	
42	Right Fieldmill Super Insensitive	42	293			10	
43	Up Fieldmill Sensitive	43	294			11	
44	Up Fieldmill Insensitive	44	295			12	
45	Up Fieldmill Super Insensitive	45	296			13	
		46	297			14	
47	Cabin Pressure Rmnt 1201F	47	298			15	

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DAC

Note : All Outputs are 0 -10 VDC

DAF

Time	Lat	Long	Trk	Hdg	Wind Dir	Wind Spd	T _a	T _c	Press. Alt.	Geo. Alt.	Slc Press.	Press. Slc	Dyn. Press	Remarks
151700	4719	12244	200	205	224	42	-22.0	-24.3	4801	4515	990.8	554.0	71.8	IN THN CLD
153400	4617	12305	175	184	221	49	-22.1	-22.2	4748	4048	947.3	558.6	68.1	IN CLD RW
155300	4522	12229	195	200	234	37	-3.4	-2.7	2012	1620	978.5	793.5	84.5	IN CLD RW
155944	4501	12302	188	198	230	58	-3.1	-4.3	2506	1764	987.5	793.9	74.8	PT A INCLD
161000	4427	12302	179	190	235	51	-2.5	-5.6	1977	1700	979.8	797.5	75.6	IN THN CLD
162150	4348	12302	175	185	228	51	-3.5	-4.2	2049	1666	964.3	780.7	77.3	BTN CLD PTF
162559	4346	12237	87	93	229	52	-7.7	-7.2	2588	1419	888.5	738.3	68.8	PT C INCLD
163400	4420	12234	0	352	230	49	-7.1	-7.1	2596	1658	919.0	738.1	74.2	OUT OF CLD
164235	4458	12234	1	354	225	48	-7.6	-6.9	2653	2195	948.5	730.1	72.1	PT B RW
164657	4501	12208	91	102	230	60	-13.4	-17.4	3513	2070	865.8	656.9	61.8	PT C INCLD
165700	4427	12205	179	192	240	63	-13.4	-16.0	3508	1810	836.1	656.9	72.6	IN CLD
170809	4349	12205	164	175	242	54	-13.3	-14.7	3586	1963	836.9	643.5	68.7	PT H INCLD
171213	4346	12140	84	97	233	70	-17.1	-19.0	4114	2623	853.2	607.6	79.4	PT I CLR
172831	4501	12137	358	345	230	64	-17.8	-21.8	4178	2560	833.2	596.2	71.1	PT D CLR
173600	4445	12130	177	190	238	69	-27.8	-33.8	5517	4292	887.7	504.0	76.3	CLR
173839	4435	12129												PT Q
175300	4412	12221	236	237	232	59	-25.5	-24.8	5077	3896	842.2	534.7	76.6	IN CLD
180400	4352	12307	237	235	228	68	-25.2	-27.6	5028	4388	952.6	538.2	67.5	ABV CLD
180931	4343	12327	238	236	226	68	-25.2	-45.2	5033	4495	969.5	538.2	76.4	PT P CLR
181900	4407	12235	63	66	232	67	-24.9	-26.2	5031	4473	951.7	538.1	81.5	IN CLD
182325	4419	12205	62	67	238	63	-25.3	-24.5	5026	3711	876.5	538.5	64.7	PT Q
183500	4404	12240	243	241	229	61	-23.2	-26.2	4749	3752	912.5	558.5	81.7	IN/OUT CLD
184335	4349	12313	241	241	239	62	-20.7	-23.2	4441	3924	965.5	582.2	73.5	PT P CLR
185100	4407	12234	61	65	226	64	-20.4	-15.6	4444	3726	900.2	582.1	81.5	IN/OUT CLD
185843	4428	12144	60	63	235	61	-20.6	-22.2	4440	3275	842.5	582.2	66.7	PT Q INCLD
191100	4411	12222	240	239	233	61	-20.1	-23.1	4226	2911	876.3	598.4	81.1	BTN CLD
192155	4354	12303	248	247	237	65	-15.8	-22.1	3803	3353	960.3	632.7	65.8	PT P CLR
193500	4427	12143	56	59	231	71	-15.8	-18.2	3802	2689	894.6	632.7	68.4	TURB INCLD
193728	4434	12129	61	66	224	62	-15.4	-20.2	3808	2830	902.9	632.5	71.2	PT Q
195500	4409	12228	235	237	239	62	-12.3	-16.1	3201	2420	935.5	683.7	77.6	IN/OUT CLD
200120	4359	12251	252	252	244	58	-11.2	-16.2	3202	2875	980.9	683.7	84.7	PT P
200900	4416	12209	60	62	235	68	-12.3	-14.0	3195	2068	877.0	683.6	79.6	IN CLD
201512	4433	12129	61	62	239	69	-11.1	-18.8	3203	2221	900.6	683.6	84.7	PT Q
202102	4418	12132	208	216	238	56	-17.9	-24.0	4132	2980	889.6	606.2	72.9	PT K
Special at K up to 17K														
203725	4501	12140	334	332	249	58	-26.6	-31.7	5355	3689		512.8	85.9	PT D
205100	4522	12258	289	283	243	58	-32.5	-34.4	6088	5588		466.5	93.6	THN CLD

① 4343
12328

18K at Q
P → Q 16K
16714 Q → P

P → Q 14K
A → P 14K → 12
P → Q 12K

Q → P 12-10K
P → Q 10K
Q → home

NOAA • AOC • SED Flight Performance Log

Aircraft : N42RF

Project : IMPROVE 01

Mission : IMPROVE #2SED Crew: Roger Rober McMillanFlight ID : 020101HPre-Flight: 1300 ZTake-Off: 1503Landing: 2131

System			Pre-Flight	In-Flight	Post-Flight		
NAV	INE #1	Aligned to :	STM				
	INE #2	Aligned to :	STM				
	GPS		STM		Lat	Long	GS
RADAR	Nose						
	L/F	R/T SN :			Mod Switch Off ?		
	Tail	R&T SN : /			Mod Switch Off ?		
	MARS Data System	DAT?		Start: 1514 Stop: 2100	# DATs :		
PMS	2DG-C	Ch 1/64: /					
	2DG-P	Ch 1/64: /					
	FSSP	Ref VDC:					
	SEA Data System			Start: 1454 Stop: 2120	# DATs :		
TEMP		Cal High	Cal Low			Cal High	Cal Low
	Temp #2			STM			
	Temp #1			STM			
	Dewpoint #1			STM			
	Dewpoint #2			STM			
	Dewpoint #3			STM			
PRESS	Attack Angle (AP/DAP)		STM				
	Slip Angle (BP/DBP)		STM				
	Differential (PQ1/PQ2/PQ3/PQ4)		STM	①			
	Absolute (PS1/PS2)		STM				
	Radome Transducers Plugs?		JR				
	Cabin Transducer (Station 5)		STM				
FLTLVL	Apn-159	SN: 71-01	MER		Off ? : ✓	MER	
	Apn-232	SN: 1797	MOR		Off ? : ✓	MER	
	King Liquid Water		JR				
	J&W Liquid Water		JR				
	Down PRT-5 (SST)		STM/JR				
	Side PRT-5 (CO ²)		STM/JR				
	Up PRT-5	Shutter?	MOR		Shutter?	MOR	
	RAMS Data System	DAT? CPU: A	MER	Start: 1448 Stop: 2139	Errors 8: 9: # DATs:		
	F/D Laptop		STM				
	C.I. Printer		STM	ST 1448 STOP:			
ASDL	Mission#	NA	Freq Time: Blk Time:				
MISC	Exterior Walk Around		JR				
	Video	(N) L R D		Start: 1448 Stop: 2139	VHS / S-VHS	2 / 12	
	FCU	- A - B - C -	STM		UPS Off : ?		
USER					Accelerometers		
					#1 (2 G):		
					#2 (2.5 G):		
					#3 (3 G):		
					#4 (3.5 G):		

Please Note any Discrepancies

[illegible]

KPAE

47.55

- 122.17

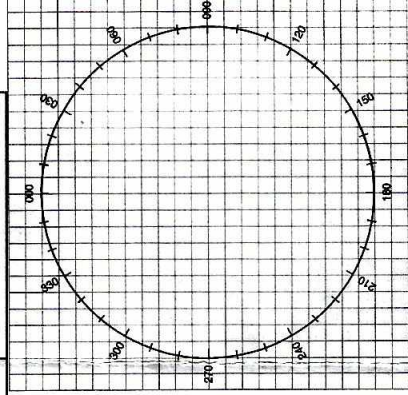
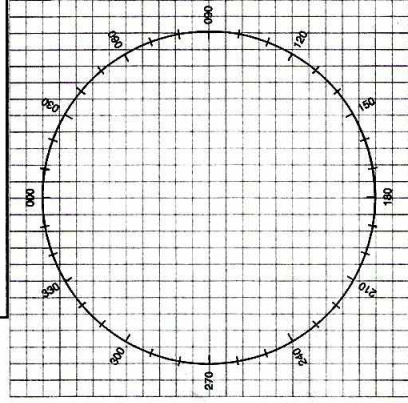
162 342 closed
A7 closed

HD 236011

CLEARANCES

FREQ	ALT	HDG	OTHER
			P 2 dep
			OLW
			V165 NW
			4706 Z
			R210° 23K
			29K
			17K 215K
			1181
			60K
			14F
			610° 210K
			340° 350° 26K
			280°
			6K
			330° 24K
			200° 180°

MISSION LOG



PAGE OF

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

- HEADING _____ TRUE/MAG _____

- AT _____ KTS TRUE/INDICATED

- FLIGHT LEVEL OR ALTITUDE _____

- WE ARE A P-3 AIRCRAFT WITH _____ SOULS ON BOARD _____
NATURE OF EMERGENCY _____

- NATURE OF EMERGENCY
- ASSISTANCE DESIRED

- ASSISTANCE DESIRED
- PII OT INTENTIONS

[illegible]