

Flt ID: 010225I	From: KMRY	To: KMRY
Flt No: 01-22	Blk In: 0828Z	ATA: 0818
ETD: 0330Z	Blk Out: 0224Z	ATD: 0240Z
ETE: 0800Z	Blk Time: 6.1 6:04	Flt Time: 5.6 5:38
Sponsor Org: NOAA/ETL	Program: PACJET	Purpose: IOP14

AOC Personnel

AC: Taggart, B	Sys Eng: MCNAMARA, R ✓
CP: HALVERSON, H / TEBEEST, R ✓	Data Sys: LYNCH, T ✓
Nav: NEWMAN, C 10 ✓	Radar:
FE: WADE, S / FLOYD, D	GPS/BT: DELGADO, J ✓
FD: SHEPHERD, T ✓	Cld Phys:
Avionics: ROGERS, M ✓	

Participating Scientists / Visitors / AOC

Name (Last, First)	Activity on Aircraft	Affiliation
KINGSMILL, D ✓	PI	DRI
PERSGON, D ✓	PI	ETL CIRES
JORGENSEN, D ✓	RADAR	NSSL
MILLER, D ✓	DATA SYN	NPS
BARUFFALDI, ROBERT ✓	OBS	NWS
SMITH, RON ✓	OBS	YALE U.
ZEPELIN, JENNIFER ✓	MEDIA Reporter	CBS-DENER
MC EWAN, EVERET ✓	MEDIA CAMERA	CBS

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

034355 ZEPD JW

 778
 240
 538

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

AOCWF2

Flt ID: 010225I Time Off: 0240Z Time On: 0818Z

	A/C (Take Off)	Wx Station (Take Off)	A/C (Land)	Wx Station (Land)
Pressure	1002.3	29.89	1004.0	29.92

	Number	Data Disposition / Date / Quality
Flt Lvl Tapes	2	
Radar Tapes	1	
Cloud Physics Tapes	1	
Video Tapes	0	
AXBT	4	
AXCP		
AXCTD		
Dropsondes	2	1 no winds until very late

Video

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

Remarks

Pacjet

IOP 14

Flight #14 010225I (A)

<u>Sensor or system</u>	<u>Number or Name</u>
INE	1
Accelerometer	1
Temperature Probe	1
Dew Point Probe	2
Altitude (for vertical wind)	APN-159
Static Pressure	Rosemount Fuselage
Dynamic Pressure	Rosemount Fuselage
Time Source	Micro 99
Constants File	CO3012.CON

Notes:

Takeoff: 0240Z

Land: 0818Z

The radar altimeter (APN-159) was replaced by the APN-232 due to spiking during take off and landing (023701-025100 take off; 080900-082000 landing). No offset was applied.

Dew pointer #2 had an overshooting spikes that were removed (063330-063430, 063700-063800).

There were times as the aircraft flew through saturated conditions that the dew point temperature exceeded the ambient temperature. These problems, due to water build-up on the hygrometer mirror and/or a wet bulb effect on the total temperature probe, were not corrected.

	<u>Takeoff</u>	<u>Landing</u>
Aircraft static pressure	1002.3 mb	1004.0 mb
Corrected tower pressure	1012.2 mb	1013.2 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

3548 3454

P-3 CHIEF SCIENTIST EVENT/RADAR LOG

Flight Number: 010225I

PACJET IOP #14

Date: 25 Feb 2001

Aircraft ID: N43RF

Chief Scientist: Kingsmill

Doppler Scientist: Jorgensen (NSSL)

Radar Tech: Rogers

Cloud Physics Sci: Kingsmill

Data Tech: Lynch

Radar parameters: PRF1/PRF2 3200/2133, 0.25 microsecond pulse

Setup file = PACJ2

Pulses/sample = 32

Threshold on REF

Alternate Setup = PACJ1: PRF 1600, 0.50 pulse

Mission Description: Microphysics and radar monitoring of frontal precipitation along the southern California coast

Scientific Crew: Ola Persson (observer), Dave Jorgensen (Radar), Doug Miller (Comms), Dave Kingsmill (PI)

AOC Crew: Taggart (P), Tebeest (P), Wade (FE), Shepherd, (FD) Newman (N), Rogers (tech), Lynch (data), McNamara (tech), Delgado (dropsonde)

Event Log

<i>Time (Lat, Lon), Track (deg), Static Pressure (mb), Radar Alt (m)</i>	<i>Event & Comments</i>
021919 Z (36.58906, -121.85629) 95.421°, 1005.6 mb, 1500.0 m	Engine Start
022450 Z (36.58940, -121.85629) 39.326°, 1005.4 mb, 1501.0 m	Block Out
023947 Z (36.58356, -121.83420) 292.154°, 1002.6 mb, 1507.0 m	Takeoff
024118 Z (36.61845, -121.89500) 344.462°, 968.4 mb, 1504.0 m	winds just off the sfc are 180/5 knots. Skies clear
024737 Z (36.46471, -122.16243) 212.995°, 813.1 mb, 1786.0 m	Radars up and running. No echoes on TA or LF
030037 Z (35.79595, -121.80208) 146.713°, 976.2 mb, 305.0 m	Executing porpoise manuv (down to 500 ft, up to 5000 feet, then return to 1000 ft) as we move SE to pt. 2 (just offshore Pt. Conception).

030254 Z (35.68072, -121.71013) 146.227°, 941.7 mb, 608.0 m	Playing with the TA thresholding a bit. Switched to SQI to eliminate 2nd trip ground echo.
030713 Z (35.45432, -121.52405) 145.160°, 928.1 mb, 729.0 m	Radar config back to normal. No echoes on TA or LF except ground clutter
031857 Z (34.89918, -121.06418) 146.173°, 978.3 mb, 294.0 m	Beginning another porpoise manuevere
032906 Z (34.38129, -120.66473) 152.096°, 977.5 mb, 303.0 m	AXBT launch near Pt. Conception
032932 Z (34.36272, -120.64943) 127.290°, 977.5 mb, 304.0 m	At pt. 2, turning eastward to pt. 4
033453 Z (34.35902, -120.31509) 90.798°, 977.4 mb, 308.0 m	Another BT launch
034824 Z (34.28053, -119.46608) 99.266°, 977.6 mb, 312.0 m	at pt. 3 in the Channel, climbing to 5k ft for run to pt 5 which is 33 22 119 38. From Pt. 5 we'll go west to investigate area of explosive cyclone development on the latest satellite imagery near 32.75N 125W
040018 Z (33.85015, -119.51143) 189.874°, 845.5 mb, 1509.0 m	2nd trip echo on the TA is atrocious here at 5k ft, particularly when looking toward the beach. Switching to SQI thresholding (0.33) since the precip is basically stratiform. The SQI threshold gets rid of the 2nd trip nicely.
040256 Z (33.68640, -119.54716) 190.164°, 845.5 mb, 1511.0 m	Extensive stratiform precip extending N-S from the beach near LA. Max reflectivities to only 30-35 and is probably bright band from our range
040738 Z (33.38554, -119.60951) 190.236°, 845.5 mb, 1513.0 m	at pt. 6, spiral down to 1000 ft, then head to new pt 7'
042248 Z (33.18346, -120.29022) 255.580°, 978.3 mb, 299.0 m	Interesting rain pattern on the LF about 100 km south of our location. Strong cell to about 40 dbz with trailing convective line to the SW
043407 Z (32.99781, -121.09624) 254.749°, 978.4 mb, 305.0 m`	Convective line to our South extends ENE-WSW. Broken line of linear cells from about our 125 degrees/125 km to 220 degress/175 km. Max dbz to about 45 in spots. Most of the linear feature is 35-40 dbz
044153 Z (32.85840, -121.64104) 252.126°, 978.4 mb, 303.0 m	Increasing the SQI threshold to .35 to reduce some of the noise.
045100 Z (32.68987, -122.27980) 254.095°, 978.4 mb, 306.0 m	executing another porpoise maneuver. The convective line south of us by 125 km may mark the location of the cold front. Winds at 500 ft are 340/12 knots so we're on the cold side of the front.
050217 Z (32.49885, -123.05147) 253.481°, 979.6 mb, 297.0 m	AXBT away
050625 Z (32.42110, -123.35495) 252.236°, 979.5 mb, 298.0 m	sfc pressure is going up a few mb as we move west over the last 20 min or so. No echoes on LF near pt. 7' where the sat imagery shows the baroclinic leaf development.
052355 Z (32.07700, -124.60963) 253.023°, 979.7 mb, 303.0 m	Another BT away. There is no precip evident on the LF where the satellite imagery shows the baroclinic leaf. Sfc P now 1016 mb
052446 Z (32.06145, -124.66931) 253.101°, 979.9 mb, 302.0 m	beginning another porpoise pattern. Down to 500 ft, then up to 20k feet, south to cross line, deploy dropsonde on warm side, then return to cold side at 20k ft, spiral down to 1000 ft, then parallel line to the ENE to collect Doppler data.
053341 Z (32.06680, -124.66884) 178.731°, 662.5 mb, 3477.0 m	Westerly winds about about 2 km. Going through the top of the cold front?
053545 Z (32.05853, -124.76527) 342.532°, 616.3 mb, 4041.0 m	Going back to SQI thresholding on the TA to keep the 2nd trip out of the data on the TA
053640 Z (32.11430, -124.74939) 41.998°, 595.2 mb, 4311.0 m	16.5k ft is the highest we can go due to ATC
053933 Z (32.03989, -124.58618) 171.727°, 539.9 mb, 5052.0 m	at 16.5k ft, tracking South to cross the band. Band is now about 110 km away.

055401 Z (31.01806, -124.16791) 160.255°, 537.3 mb, 5100.0 m	In the middle of the line, mostly stratiform precip, a few embedded convective cells to the freezing level which is about 2.2 km
060006 Z (30.56818, -123.97945) 160.196°, 537.3 mb, 5110.0 m	Dropsonde away on warm side of band. Reversing track to cross back over to the warm side, then a spiral descent to 1000 ft to run up the band toward the coast.
060128 Z (30.46601, -123.93570) 160.064°, 537.3 mb, 5110.0 m	End of leg, reversing course. No winds on the 1st dropsonde, getting another one ready for launch
060428 Z (30.44557, -124.06674) 338.768°, 537.4 mb, 5108.0 m	Dropsonde #2 away. Looks good. Tracking toward the band
061027 Z (30.87446, -124.23637) 340.519°, 537.3 mb, 5103.0 m	Radars died at 0958Z. Rebooting
061159 Z (30.98333, -124.28177) 339.868°, 537.3 mb, 5102.0 m	Radars back up. In the center of the line now. Line has very little southward motion since the first time we crossed it
061616 Z (31.29646, -124.41225) 340.678°, 537.4 mb, 5093.0 m	end of northbound run. Spiral descent to 1000 ft, then run ENE parallel to the band
062302 Z (31.38029, -124.27913) 125.787°, 748.1 mb, 2517.0 m	Going through the 0C level at 2.5 km AGL.
063117 Z (31.37081, -124.23610) 93.163°, 980.3 mb, 294.0 m	at 1000 ft, coming right to intercept the band.
064000 Z (31.08443, -123.80296) 90.894°, 980.5 mb, 298.0 m	start of leg. The leading edge is about 15 km to our right. Many kinks to the band. Trying to keep a mean position of about 10-15 km from the leading edge.
065753 Z (31.35381, -122.55588) 77.349°, 980.2 mb, 297.0 m	End of the leg. The line is weakening as we move East. Climb and RTB
081822 Z (36.58835, -121.84845) 112.718°, 1005.6 mb, 5259.0 m	Land MRY. Radar recording secured on final approach
082845 Z (36.58905, -121.85617) 321.023°, 1007.0 mb, 6943.0 m	Block In

Flight ID : 010225 I

Landing : _____

[illegible]

N43RF AVAPS DROP LOG

Project : PacJet '01

Mission : PACSET IS

Flight ID : 010225BI

Take Off : _____

Landing : _____

[illegible]

NOAA • AOC • SED

N43RF DROP STATION LOG

Project : PacJet '01

Mission :

PACKET #14

Flight ID : 010225I

Operators :

Take Off :

Landing :

[illegible]

NOAA • AOC • SED
N43RF DATA STATION LOG

Project : PacJet '01

Mission : PACJET #3

Flight ID : 010125 I

Operators : Roles

Take Off : 1416

Landing : 2231

RAMS DAT 1 On [8/9]: <u>1359</u>	RAMS DAT 1 Off: <u>2238</u>	Data : <u>Slow</u> <u>Fast</u> <u>AVAPS</u>
RAMS DAT 2 On [8/9]: <u>1359</u>	RAMS DAT 2 Off: <u>2238</u>	Data : <u>Slow</u> <u>Fast</u> <u>AVAPS</u>
RAMS DAT 3 On [8/9]:	RAMS DAT 3 Off:	Data : <u>Slow</u> <u>Fast</u> <u>AVAPS</u>
Printer On : <u>1359</u>	Printer Off :	Disk Recording : <u>Enabled</u> / Disabled
MARS DAT 1 On [8/9]: <u>1418</u>	MARS DAT 1 Off: <u>2217</u>	CPU Selected : A <u>B</u>
MARS DAT 2 On [8/9]:	MARS DAT 2 Off:	VCR's Used : <u>N</u> <u>1</u> <u>B</u> <u>D</u>
MARS DAT 3 On [8/9]:	MARS DAT 3 Off:	VCR Mode : VHS / <u>S-VHS</u> 2/12
PMS DAT 1 On : <u>1406</u>	PMS DAT 1 Off: <u>1823</u> ¹ <u>Retries</u>	
PMS DAT 2 On : <u>1826</u>	PMS DAT 2 Off: <u>2220</u> ³ <u>Retries</u>	Tapes Given To
PMS DAT 3 On :	PMS DAT 3 Off :	RAMS :
VCR Tape 1 On : <u>1412</u> ⁴ <u>Tapes</u>	VCR Tape 1 Off: <u>2232</u>	MARS :
VCR Tape 2 On :	VCR Tape 2 Off :	PMS :
VCR Tape 3 On:	VCR Tape 3 Off :	VCR :

CARCAH Tasking

Mission Number : WXWXE

Storm Name : TRAIN

ASDL Setup

Flight Level (Minobs) Sample Frequency : 30 sec

Flight Level (Minobs) Block Time : 10 min

Data Station Operator Notes

3118 DRK records

NOAA • AOC • SED
N43RF DATA STATION LOG

Project : PacJet '01

Mission : PacJet 14

Flight ID : 010225I

Operators : Lyner

Take Off : 02:40

Landing : 08:18

RAMS DAT 1 On <u>01:01 02:22</u>	RAMS DAT 1 Off : <u>08:29</u>	Data : <u>Slow</u> <u>Fast</u> <u>AVAPS</u>
RAMS DAT 2 On [8 / 9] :	RAMS DAT 2 Off :	Data : Slow Fast AVAPS
RAMS DAT 3 On [8 / 9] :	RAMS DAT 3 Off :	Data : Slow Fast AVAPS
Printer On : <u>02:22</u>	Printer Off : <u>08:29</u>	Disk Recording : <u>Enabled</u> / Disabled
MARS DAT 1 On <u>08:09 02:45</u>	MARS DAT 1 Off : <u>08:16</u>	CPU Selected : A <u>B</u>
MARS DAT 2 On [8 / 9] :	MARS DAT 2 Off :	VCR's Used : <u>N</u> <u>O</u> <u>B</u> <u>D</u>
MARS DAT 3 On [8 / 9] :	MARS DAT 3 Off :	VCR Mode : VHS / <u>S-VHS</u> <u>2</u> / 12
PMS DAT 1 On : <u>02:28</u>	PMS DAT 1 Off : <u>08:14</u>	
PMS DAT 2 On :	PMS DAT 2 Off :	Tapes Given To
PMS DAT 3 On :	PMS DAT 3 Off :	RAMS : <u>John S</u>
VCR Tape 1 On : <u>02:24 / 08:00</u>	VCR Tape 1 Off : <u>02:55 / 08:29</u>	MARS : <u>John D</u>
VCR Tape 2 On :	VCR Tape 2 Off :	PMS :
VCR Tape 3 On :	VCR Tape 3 Off :	VCR : <u>↓</u>

CARCAH Tasking

Mission Number : LDXDXE

Storm Name : Train

ASDL Setup

Flight Level (Minobs) Sample Frequency : 30s

Flight Level (Minobs) Block Time : 10m

Data Station Operator Notes

8-9

Tape Eras - 0/0

L4B 2199 | 21990 | 41

NOAA • AOC • SED Flight Performance Log

Aircraft : N43RF

Project : PacJet '01

Mission : PacJet # 14SED Crew: Delgado, Lynch, McHannan, RogersFlight ID : 010225IPre-Flight: 00:45Take-Off: 02:40

Landing: _____

System			Pre-Flight	In-Flight	Post-Flight		
NAV	INE #1	Aligned to: <u>0</u>	✓ TL		-2	-1.6	1
	INE #2	Aligned to: <u>1</u>	✓ TL		-5	-1.4	2
	GPS		✓ TL		Lat	Long	CS
	Diff GPS		NU				
RADAR	Nose		✓ TL				
	L/F	R/T SN: <u>103</u>	✓ TL		Mod Switch Off? ✓ TL		
	Tail	R&T SN: <u>102 / 202</u>	✓ TL		Mod Switch Off? ✓ TL		
	MARS Data System		Clean DAT? ✓ TL		# DATs: <u>1</u>		
PMS	2DG-C	Ch 1/64: <u>1</u>	✓ MR		✓ MR		
	2D-P Mono	Ch 1/32: <u>1</u>	✓ MR		✓ MR		
	FSSP	Ref VDC: <u>8.2</u>	✓ MR		✓ MR		
	SEA Data System		Clean DAT? ✓ TL		# DATs: <u>1</u>		
TEMP		Cal High	Cal Low			Cal High	Cal Low
	Temp #1	<u>30.0</u>	<u>-30.6</u>	✓ TL			
	Temp #2			✓ TL			
	Temp #3	(Starboard)		NI			
	Dewpoint #1	(General Eastern)		✓ TL			
	Dewpoint #2	(Edge Tech 137)		✓ TL			
PRES	Dewpoint #3	(Buck 1011C)	✓ TL				
	Attack Angle	(AP/DAP)	✓ TL				
	Slip Angle	(BP/DBP)	✓ TL				
	Differential	(PQ1/PQ2/PQ3/PQ4)	✓ TL				
	Absolute	(PS1/PS2)	✓ TL				
	Radome Transducers		Plugs? ✓ TL				
FLTLVL	Cabin Transducer	(Station 5)	✓ TL				
	Apn-159	SN: <u>71-02</u>	✓ TL		Off? ✓ MR		
	Apn-232	SN: <u>1761</u>	✓ TL		Off? ✓ MR		
	King Liquid Water		✓ TL		✓ MR		
	J&W Liquid Water		✓ TL		✓ MR		
	Lyman Alpha Hygrometer		Plugs? ✓ TL		Plugs? ✓ TL		
	Down PRT-5	(SST)	✓ TL		✓ MR		
	Side PRT-5	(CO ²)	✓ TL		✓ MR		
	Up PRT-5		Open? ✓ MR		Closed? ✓ MR		
	RAMS Data System		Clean DATs ✓ TL		# DATs: <u>2</u>		
MISC	F/D Laptop		✓ RJM		Off? ✓ MR		
	C.I. Printer		✓ TL		✓ MR		
	ASDL		✓ MR		Off? ✓ MR		
	Exterior Walk Around		✓ TL				
	Video	<u>A B C D</u>	NU		Lens Covers? ✓ MR		
	AXBT Receivers		✓ TL	<u>(3)</u>			
	AXBT Sonobouys		# On Board: <u>11</u>	# Dropped: <u>4</u>	# Good: <u>4</u>		
	AVAPS		✓ TL				
	GPS Dropsondes		# On Board: <u>16</u>	# Dropped: <u>2</u>	# Good: <u>1</u>		
	FCU	<u>B C D</u>	✓ TL	<u>(1)</u>	UPS Off: ?		
USER	SatComm		✓ MR ✓ MR		Accelerometers		
	NASA GORE		✓ RJM	<u>(2)</u>	#1 (2 G): <u>8194</u>		
					#2 (2.5 G): <u>6686</u>		
					#3 (3 G): <u>5967</u>		
				#4 (3.5 G): <u>2892</u>			

Please Note any Discrepancies

[illegible]

POSITION REPORT

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:

UHFVOICE	VHFVOICE	MF/CW	HF/CW
243.0	121.5	2182 KHZ	8364 KHZ
MAYDAY, MAYDAY, MAYDAY		MAYDAY	
THIS IS NOAA		NOAA	

- POSITION _____ N / S
_____ E / W AT _____ Z

- HEADING _____ TRUE/MAG
_____ KTS TRUE/INDICATED

- ALT _____
_____ 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

PAGE OF

(G) - GPS (I) - INS (R) - RADIO (V) - VISUAL (C) - CELESTIAL (D) - DR

125.4	505	BA	BA	NA
128.65	NA	NA	NA	NA