

940924 I
H. OLIVIA

E.3 Cloud Physics Scientist (On-Board)

The on-board cloud physics scientist (CPS) is responsible for cloud physics data collection on his/her assigned aircraft. Detailed operational procedures are contained in the cloud physics kit supplied for each aircraft. General procedures follow. (Check off and initial).

E.3.1 Preflight

RAB

- 1. Determine status of cloud physics instrumentation systems and report to the on-board lead project scientist (LPS).
- 2. Confirm mission and pattern selection from the on-board LPS.
- 3. Select mode of instrument operation.
- 4. Complete appropriate instrumentation preflight check lists as supplied in the cloud physics operator's kit.

E.3.2 In-Flight

RAB

- 1. Operate instruments as specified in the cloud physics operator's kit and as directed by the on-board LPS.

E.3.3 Postflight

RAB

- 1. Complete summary check list forms and all other appropriate forms.
- 2. Brief the on-board LPS on equipment status and turn in completed check sheets to the LPS.
- 3. Take cloud physics data tapes and other data forms and turn these data sets in as follows:
 - a. Outside of Miami - to the HRD operations center (FGOC).
 - b. In Miami - to AOML/HRD. [Note: all data removed from the aircraft by HRD personnel should be cleared with the AOC flight director.]
- 4. Debrief as necessary at the appropriate operations center (i.e., FGOC or MGOC).
- 5. Determine the status of future missions and notify the appropriate operations center (FGOC or MGOC) as to where you can be contacted.

Cloud Physics Project Scientist Operational Check List

Date 24 SEPT. 94 Aircraft N43 Flight ID 940924I

A. Instrument Status and Performance:

System	Pre-Flight	In-Flight	Downtime	# of Tapes
Johnson-Williams	✓	✓		
PMS probes:				1 DAT
2D-P	✓	✓		
2D-C	✓	✓		
FSSP	✓	✓		
Data System	✓	✓		
Recorder	✓	✓		
Formvar	UNUSED			
DRI Charge Probe	UNUSED			
DRI Field Mills	✓	✓		
King Probe	✓	✓		

B. Remarks:

NO DISPLAY OF FL VARIABLES,
SO IN-FLIGHT CHECKING COULD NOT
BE PERFORMED
2D-P HAS BAD NOISE PROBLEMS.
SEE NOTES IN LOG BOOK
R. A. BLACK

SATURDAY 24 SEPT. 1994

940924 I

(1)

ALL TIMES FROM SEA SYSTEM

PMS time -3 sec.

TO 165140 PMS PROBES are OFF at this time.

1921:08 FILE ON 940925E H. OLIVIA?
radar eye appears to be ~ 20 n. mi.

1931:00 1st precip.

bad bits in 2D-C, 2 bit 3D IP at 1953:00
2D-P v. noisy. inbound. T = +4°C RA 4440
valid data looks fairly good.

1942:30 in eye 1944 at center

1955:00 - turn on W side of storm (orbit to coordinate w/42 + drop 0)
FSSP looks strange (graphs only)

heading back in 2005:00 2018 - in eyewall

2021 - NE eyewall, mostly v. small drops. low reflectivity,
like TINA in 1992.

2043:00 running south into rainband.

2051 in eye. Diameter is getting bigger.

2054:10 2D6-P went bad in shower of big drops. (SSS eyewall)

2103:00 turning. 2D6-P is very bad.

2109:00 T = +2, some images look like ice.

2110:00 turning inbound. 2D6-P is awful again.

2121:50 in eye

2125:00 eyewall NW side.

2132:00 at turn point (so near it)

2145:00 turning inbound 90° (east)

2154:50 in eye.

(2)

2209:00 turning on reciprocal course back to West

100 $\sqrt{540,000k} \rightarrow 5400 S$; $3600/kh \Rightarrow /kh, 15min. \text{ of tape left}$
00 of 2214:15

2221:30 eyewall on E. side \rightarrow eye 2223:10 at center

2226:00 W. eyewall 2 or 3 stronger bands on this side

2235:00 turning 90-270 & back in

2238:00 - 50 n. mi. out from center.

2246:30 W. eyewall

2250:30 E. eyewall, rain, some graupel $> 45 \text{ dBZ}$ TRK ESE

LAST PASS!

2300:00 climbing out for ferry back to Ptn Vallarta.