

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

- ☒ 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 as determined by the HRD/CPS.
- ☒ 4. Complete appropriate instrumentation preflight checklists as supplied in the cloud physics operator's kit.

E.3.2 In-Flight

- ☒ 1. Operate instruments as specified in the cloud physics operator's kit and as directed by the HRD/CPS unless superseded by directions from the on-board LPS.

E.3.3 Postflight

- ☒ 1. Complete summary checklist 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 to the OAO/Flight Director, who will arrange delivery as follows:
 - a. Outside of Miami - to the HRD operations center (FGOC).
 - b. In Miami - to OAO/Science and Program Division. [Note: all data removed from the aircraft by HRD personnel should be cleared with the OAO/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 Checklist

DATE OCT 8 1985AIRCRAFT 42RFFLIGHT ISABELA. INSTRUMENT STATUS AND PERFORMANCE

System	Preflight	Inflight	Down time	#Tapes/data units
Johnson-Williams (JW)	✓	?		
PMS probes	✓			19 tapes.
2D-P	✓		~ 10 min	
2D-C	✓	BAD	ALL OF FLT.	
FSSP	✓			
DAS	✓			
Display(s)	✓			
Formvar	✓			
Nimbiometer	✓	?		
Lyman-Alpha				
U.V.				
Dew Point	✓	? OK		
CO ₂ Radiometer	✓	?		
Microwave Radiometer	✓			
Ice Particle Counter				
Mee				
ERT				
Aerosol				
Filters				
Bulk-Water				
INC				
CCN				

B. REMARKS

HAVE DRI FIELD MILLS ON BOARD, WILL USE
 2D-C CRAPPED OUT. LOW END DIODE VOLTS, etc.
 ALL IN CLEAR AIR.
 2D-P looks bad 225300

DATE OCT 8 1985

FLIGHT 851008H

OPERATOR R. BLACK

2-D Knollenberg Data Tape Log

Tape #	EOF #	Time On	Time Off	Comments
1		174809	190041	at 1500 ft. error light on
2		190049	190754	OK
3		190759	191557	all these are in a wide (80 mi)
4		191558	192643	band
5		192644	193948	1500'
6		193949	195139	1500'
7		195139	200420	1500'
8		200420	201245	going to 500' 200420
9		201245	202351	this tape also @ 500'
10		202352	203922	also at 500' until 203030
11		203922	210425	at 2500 ft. (743 m) T=19°C
12		210426	213453	1500' 21.6°C going NORTH
13		213459	214308	1500' TRK 1.1 NORTH
14		214309	220125	2D-P flake out getting worse
15		220129	222819	221721 going N again
16		222819	223849	
17		223849	225009	
18	1@ 225247 ON 225846	225009	235610	2D-P FLAKED OUT 225300
19		235610	242009	climb out. 2D-P bad.