CVO EVENTS FOR 990816 - MONDAY.

After several days of convective clouds and broken decks, and with the 850 mb low to the NW predicted to gain strength there was slight hope for good stratus for today. Yet, a flight was planned and the 6 and 7 am images, and later the COAMPS output indicated bands of clouds. One band near the coast, and other further out, separated by a band of clear space or fragmanted clouds.

FLIGHT:
Crew: Hoshor, Kelly, Gill
Author: Kelly

Takeoff about 1540 UT.

St in study area have some areas that look completely overcast, and some areas slightly broken. The flight lines, which were all oriented 170/350 degrees magnetic, were in solid cloud cover near the east side of the southern restricted flight area in which we are cleared to fly. On the first descent, we registered cloud top at about 1700 ft agl and cloud base at about 900 ft agl. At other locations the cloud base was down as low as 500 ft agl. Cloud-level winds were 007 to 010 degrees true (349-352 magnetic).

1615 first sub-cloud run at 300 ft from point near north end of study area. As we flew further south, the cloud bases descended, and more drizzle was visible below cloud base.

1627-1633 orbit about cloud top while restarting the aircraft data system.

1638-1651 reverse-heading racetrack at 1200 ft (We started at 1500 ft, but this put us in and out of cloud in the north half of the pattern)

1653-1705 reverse-heading racetrack. First leg at 800 ft, second at 1000 ft.

1705 subcloud pass at 300 ft, then climb above cloud top to 3000 ft. From this vantage point it appeared our first flight line was quite close to a broken cloud cover area to the west, so we moved the flight line a few miles east before continuing.

1717 porpoising between 1000 and 3000 ft

1725-1738 racetrack at 1200 ft

1739-1751 racetrack at 900 ft

1752 one-way run at 300 ft, then climb to 3000 ft. It is still completely clear above the st over the area we've been flying. To the north we see quite a lot of upper-level cloud cover.

1800 porpoising between 900 and 3000 ft. At end last descent, leveled out briefly at 300 ft, then started climb-out sounding at 1000 fpm, to 14 kft.

1825-1835 Rodi maneuvers at 14 kft.

Land 1902 UT

General observations:
Peak fssp concentrations were mostly about 40/cm3, and did not vary much with height in the cloud. The south ends of both passes had higher cloud tops and more drizzle than the north ends. More sub-cloud drizzle was encountered at the south ends than at the north ends. Winds well above cloud top were southerly, while those in the cloud and sub-cloud layer were northerly. Wind speeds were stronger below cloud than in cloud. The inversion layer above cloud top dried rapidly just above cloud top.

Status:
No PVM data were recorded. At some point (preflight?) the calibration switch was accidentally switched on. That switch is being changed to prevent recurrence. All other probes appeared to be operating properly, at least to the extent that they were checked in flight.

Processing: Radar quick look available. K/A processing on site in progress. Raw data also being transferred to LAR.

PVM problem: Probe taken off the A/C. Bench tests indicate that pinhole alignment was off. Hermann Gerber reset the pinhole. Calibration on bench OK. Toggle switch replaced by pushbotton for 'quick-calib'.

LICOR zero-leak test before the flight. Full calibration was done since last flight.