The objectives of this flight were to fly a coordinated spiral with the J-31 under an MISR overpass. The B-200 would also over-fly the coordinates of the spiral at the same time. The coordination of the aircraft with the satellite overpass worked very well. All essential instruments worked well. We look forward to hearing that the experiment was also a successful one from the satellite’s perspective.

The C-130 lost the ADS data for the first 20 min of flight but the problem was fixed in time for the coordinated spiral.

We encountered a pollution layer on descent between 12500 and ~8000 feet with ~6 ppb of NOy. This was aged pollution (large particles) with a clear urban signature (elevated MTBE). On the en-route climb to point E1 we encountered the layer again around 10500 feet but it was much shallower so we descended again to 10500 feet and flew the entire leg at this alt. We lost this plume around -98W from here it was clean all the way to pt. E2. We descended to 7500 feet here and encountered pollution to NAUTLA. At NAUTLA we ascended again to 10500 and saw pollution here but it tapered off quickly as we were going further N. We cut this leg short and went ~ 30 miles past NAUTLA at 9500 feet. Here we ascended to 16 kft en route to APAN and W2 to cool off the cabin a bit where people and instruments were suffering from extremely high temperatures.

We then flew our Day 1A city pattern. The S part of the city were relatively clean since transport was to the NE. background values of NOy in the S were around 1 ppb. Ozone was around 125 ppb. There were many small fires in the hills to the W and S and one large fire just NE of pt. USL3 which we were not able to sample.

Finally we flew one set of 3 passes each over T1 and T2 NE of MEX. The eastern parts of these legs were characterized by strong outflow from MCMA quite well mixed at all altitudes flown (9000 to 15500 feet). NOy was between 15 and 40 and ozone exceeded 100 ppb (un-calibrated) there.

The NE outflow (and possibly some smoke from the fires in the S of the city) is visible very nicely on the attached AQUA satellite picture (Thanks, Michael).

Finally I would like to mention that – thanks to the presence of Cpt. Jorge Huicochea (Cpt. Huicochea and Lt. Jorge Juarez are our on-site liaisons from the Mexican Air Force) and his translation services during the flight – we did not only gain permission to
over-fly Lucia Air Base at low altitude but also found out that the MEX Air Traffic Control actually cleared all airspace around our operations over T-1. This is extremely cooperative and more than we can expect from ATC. They really go out of their way to help us make this experiment a success. Thanks to ATC and to Capt. Huicochea for his help.

As always, thanks to Lowell, Ed, Kip, and Bill for another excellent job on the controls.

Cheers,
Frank