The objectives of this flight were to fly intercomparison with the DC-8 and then sample one day old outflow from the MCMA to the NE off the coast from Tampico. All models predicted relatively fast outflow to the NE at around 13 kft altitude.

On our way to the rendezvous point with the DC-8 (23.216N, 98.571W) we spiraled down from 17 kft to 1 kft over the Tamihua Aeronet site.

We then continued NNW to meet with the DC-8 at 10500 feet (we had seen some signal there during the spiral) and encountered some pollution over the coastal area between 22 and 23 deg N.

We met up with the DC-8 and started the intercomparison at 19:18 UTC. The coordination of the two aircraft and pilot communication went very well, thanks to Lowell and Ed for another excellent job. We started with a leg at 5500 feet for about 20 min. Here the pollution was light under well-mixed conditions so not much variation here.

The DC-8 had also seen a layer at 10500 feet so we decided to fly the second leg (starting at 19:34, reached target altitude at 19:41) at that altitude rather than 13500 feet as originally planned. This leg had some more gradients but the levels were still relatively low.

The last leg (starting 19:59) we flew at 17500 feet. During the climb we saw a strong pollution signal in a shallow layer at 16000 feet. The intercomparison ended at 20:29. We decided to turn around and go back to explore the layer we had seen during the climb to the last intercomparison leg. We skimmed this layer at about 16500 feet. See a photo of the DC-8 just above this layer below.

After this we proceeded to point W21 to sample the outflow from the previous day. After 3 passes between W21 and W22 at 10500, 7500 and 3500 feet we had not found any significant pollution and also SABL did not show any layers below or above us. After consulting the modelers on the ground via chat and satcom phone we decided to try our luck to the N of the city along the 21 deg N axis. No significant pollution was found there. We then returned to the W of the MCMA to try and find the outflow again which we had observed during the run with the DC-8. We skimmed another strong but shallow feature at 16500 feet northbound which we had scouted with SABL on the southbound leg.

We then returned to the Veracruz area and flew a spiral off the coast to probe some pollution which had been observed in the afternoon and early evening visually from the hotel. We did not find anything significant pollution layer.

While most of the instruments worked during the intercomparison, the CO instrument was inoperational for the entire flight and various other instruments experienced
problems during parts of the flight. We are looking forward to at least one maintenance day on the ground. Thanks to Lowell, Ed, John and Larry. Special thanks to Lowell who will be going back to Boulder tomorrow to fly the GV.

Cheers,
Frank