

## C-130 / MILAGRO-3 Flight summary

Takeoff 1732

Landing 0016

The flight on Wednesday, 3/8/06 was designed to probe Tuesday's outflow which was predicted to have been transported to the SW and then back to the NW.

We then planned to sample current emissions over and to the NE of the MCMA.

The models had forecasted Tuesday's pollution in the region around, to the W and SW of Acapulco. We found generally elevated background levels of CO and particulates at about 170-200 ppb in the area which appeared to be well mixed. Two smaller regions of elevated mixing ratios of CO, NO<sub>y</sub> and particles close to the center of both E-W legs flown were detected.

We then turned N and flew a spiral from 16000 down to 6000 feet over Cuernavaca. There we encountered fresh emissions from MCMA which had been transported to the South over the mountains.

We flew our Day 1a pattern over MCMA including a pass over the city across the airport and T-0. The strongest pollution was observed in the SW part of the basin with 40 ppb of NO<sub>y</sub> and 125 ppb O<sub>3</sub> (un-calibrated). A flow to the NE as predicted had not yet developed instead the fresh emissions from MCMA were still flowing to the south.

Consequently the legs over T-1 showed winds from the NW and relatively clean conditions so we cut this pattern short and proceeded to fly legs to the E and SE of the city on the E side of the volcanoes. The southernmost end of the legs was planned to extend to Puebla airport only but some pollution was seen at the S end so we extended our second southward leg to 40 nm beyond Puebla. SABL detected aerosols at 4.5 km so we returned at 14.5 kft where we encountered significant pollution which might have been transported through the pass between the two volcanoes. This plume had high soot and elevated HCN indicating potential BB burning influence.

We encountered no problems with Mexico ATC doing our ever-changing flight patterns.

We returned to VER via APAN (my favorite VOR ☺) and we saw elevated background all the way back to VER.

Thanks to Ed, Lowell, Kip, and Dave for a good job keeping us safe and operational.

Cheers,

Frank