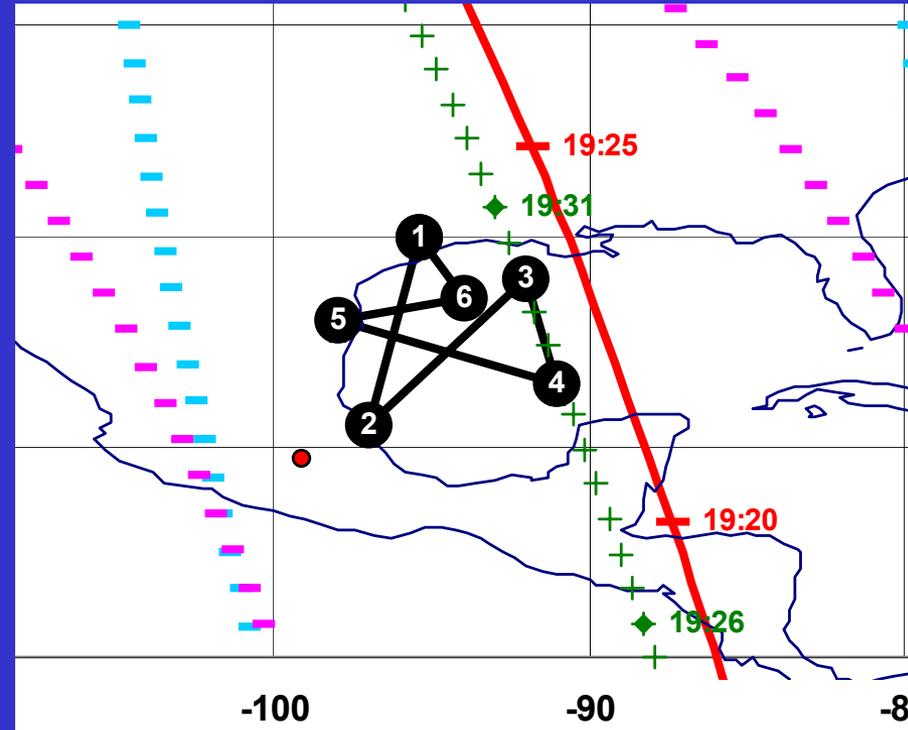


Plan for INTEX-B flight#4 – Houston local 2 on Thursday 3/9 updated 3/7 @18Z

Objectives:

1. Characterization of the Mexico City plume (forecast along the axis between points 2 and 3 at 5-20K)
2. TES validation (points 3-4)
3. OMI validation (throughout)

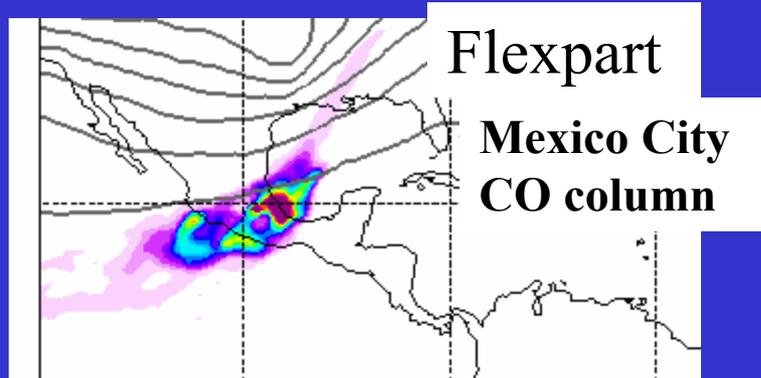
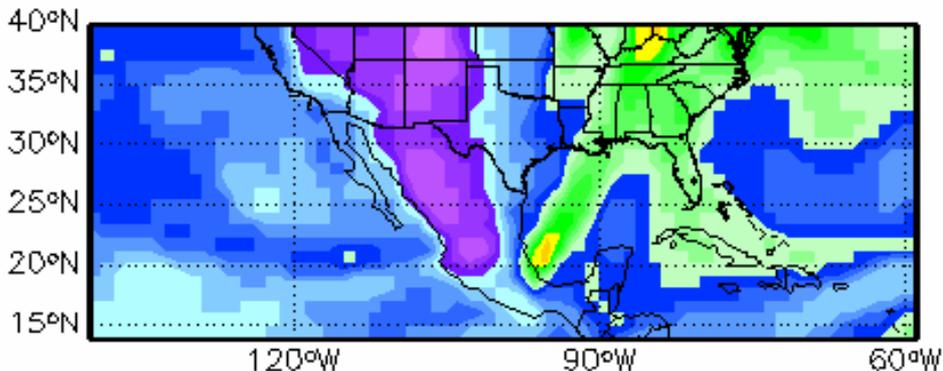


- Take-off at 9 a.m.
- Points 1-3: vertical profiling in 0.5-25K column
- Points 3-4: in progress ascent to 39K, spiral down at point 4
- Points 4-6: vertical profiling in 0.5-25K column
- Points 6-1 boundary layer leg

MC PLUME FORECASTS FOR THURSDAY NOON

GMAO

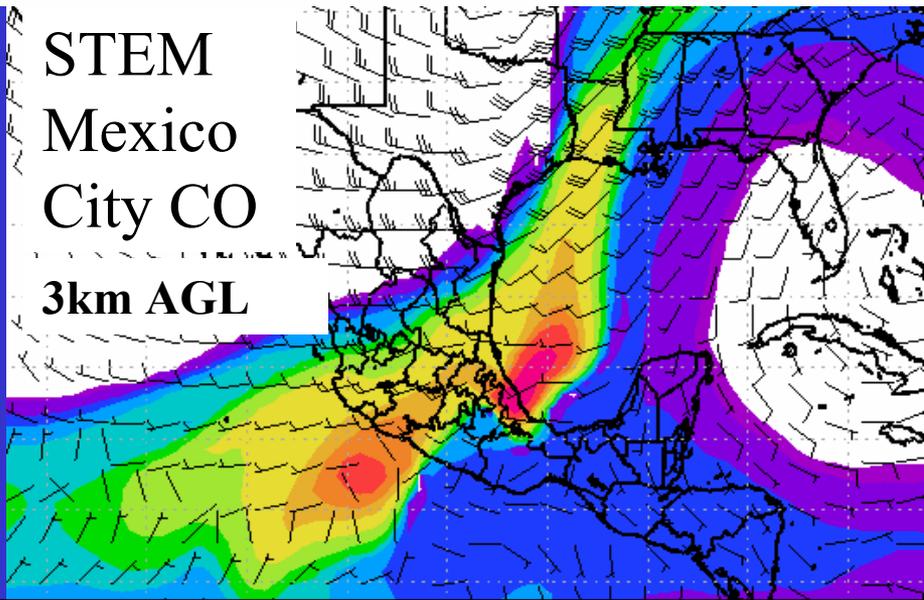
CO columns 20060309 18 GMT



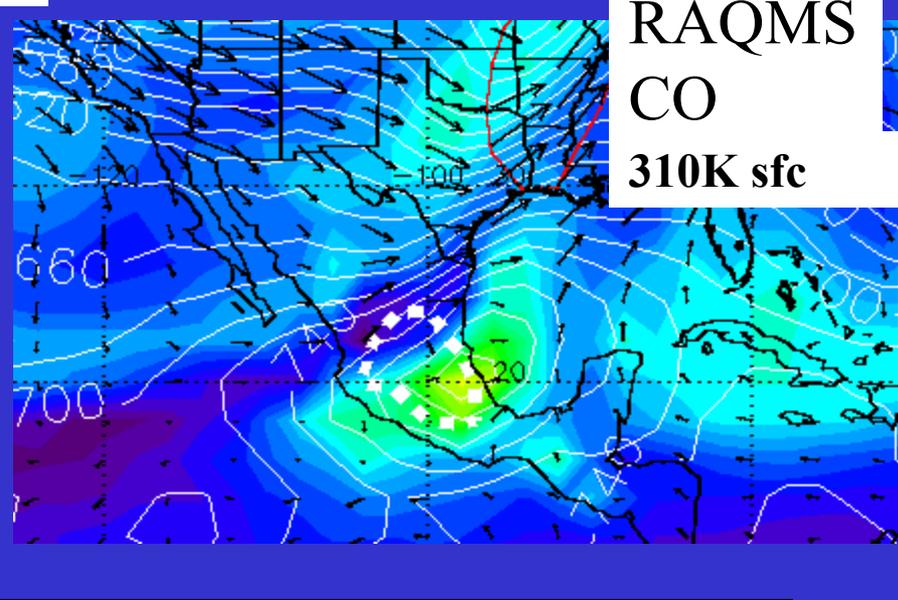
Flexpart

**Mexico City
CO column**

0.60 1.07 1.53 2.00 [$1e^{18}$ molec/cm²]



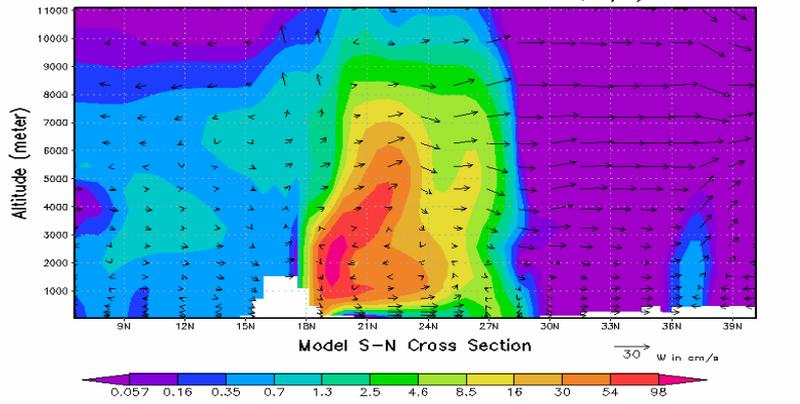
**STEM
Mexico
City CO
3km AGL**



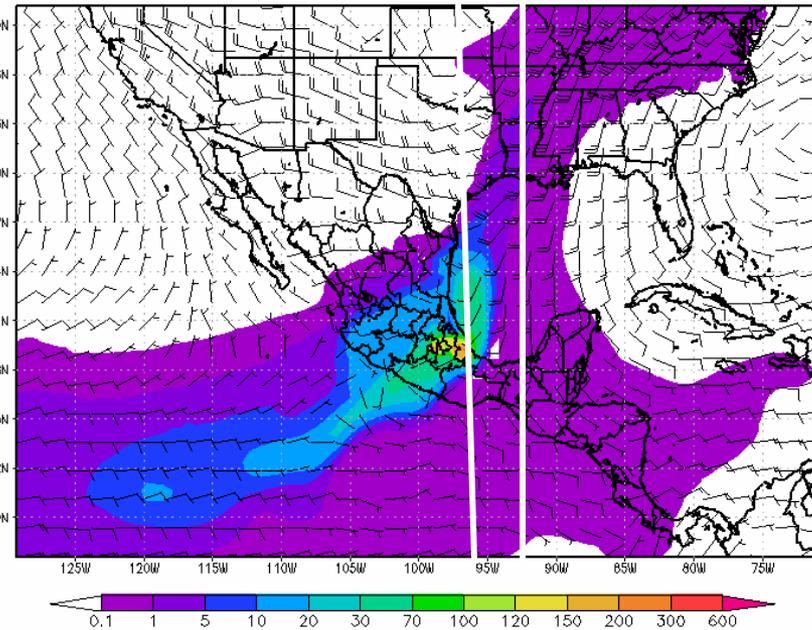
**RAQMS
CO
310K sfc**

29.97	30	24	20	18	29.97
-95.35	-92.5	-90	-100	-95	-95.35

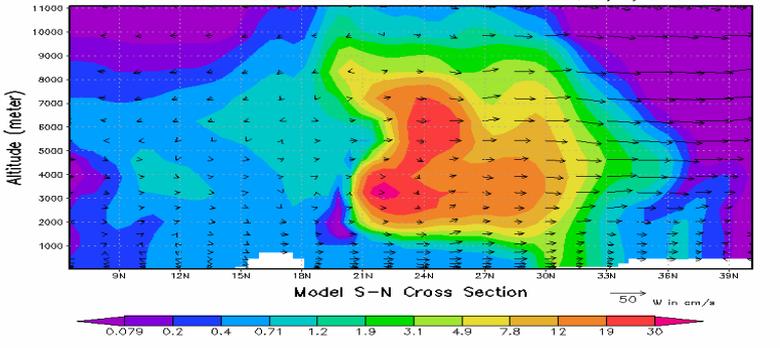
Simulated S-N Cross Section MexicoCity CO (ppbv) over the Model Grid Lon=-96.25W at 18GMT, 3/9/2006



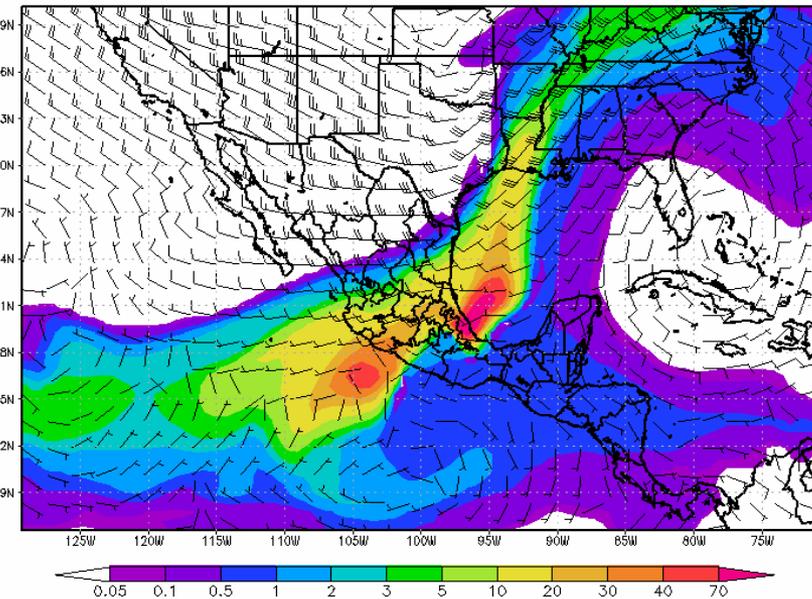
Simulated MexicoCity CO (ppbv) in the 1km layer at 18GMT, 03/9/2006



Simulated S-N Cross Section MexicoCity CO (ppbv) over the Model Grid Lon=-93.65W at 18GMT, 3/9/2006

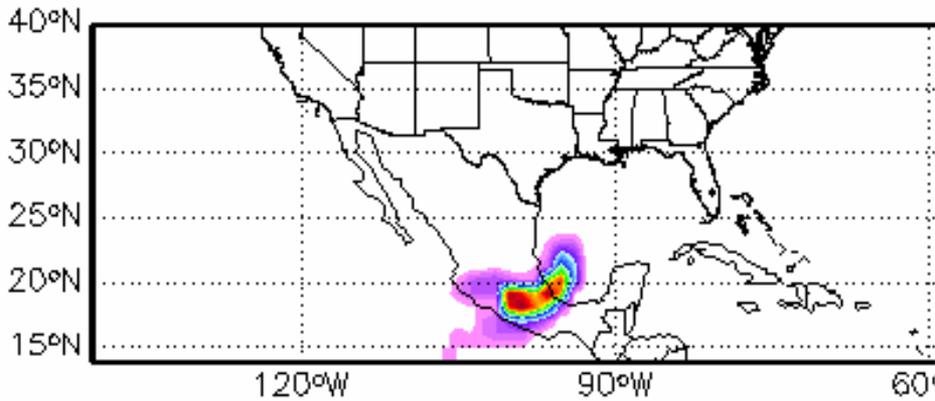


Simulated MexicoCity CO (ppbv) in the 3km layer at 18GMT, 03/9/2006

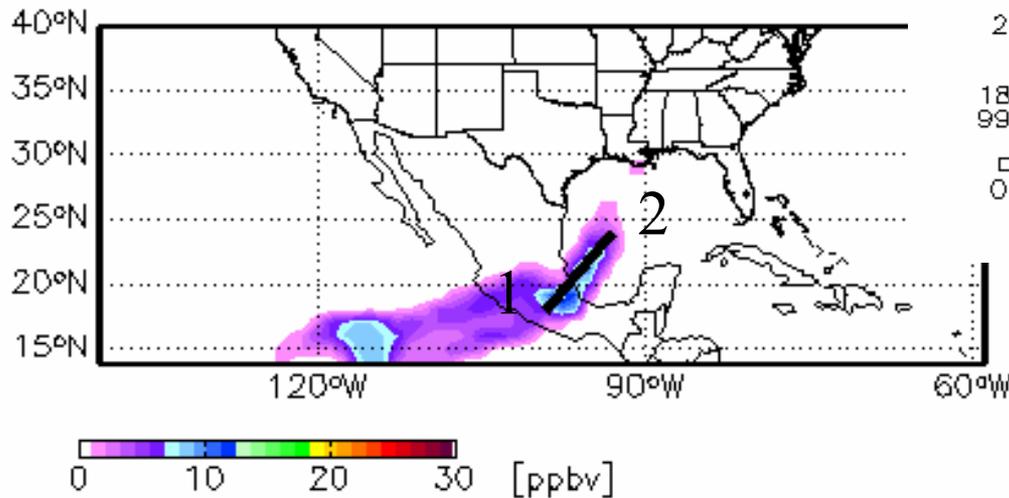


GMAO MEXICO CITY TRACER (THURSDAY 3/9 noon)

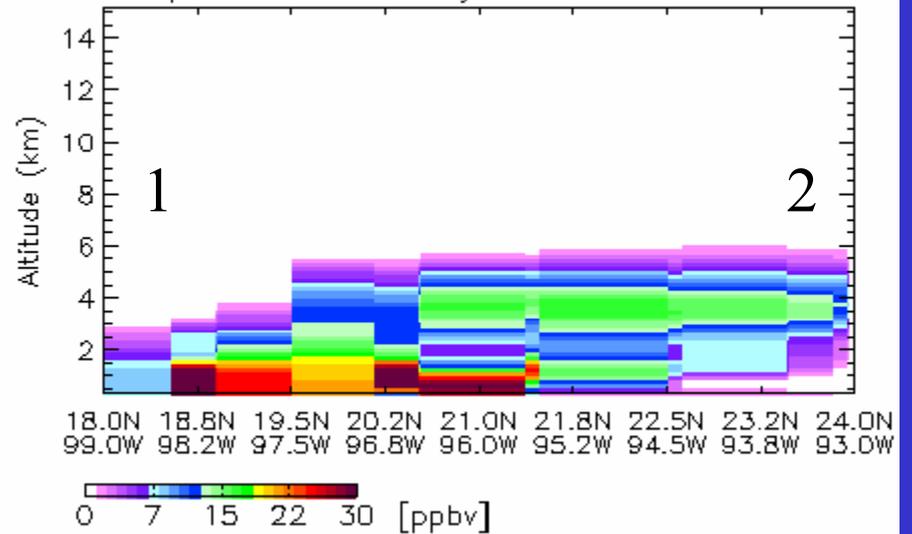
Mexico City FF CO 20060309 18 GMT at 930 hPa (0.7 km)



Mexico City FF CO 20060309 18 GMT at 790 hPa (0.8 km)



Curtain plot – Mexico City FF CO 20060309 18 GMT

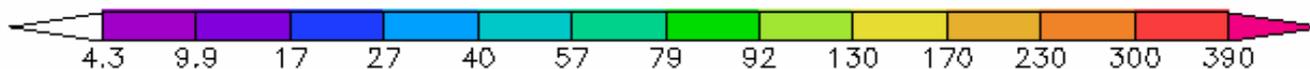
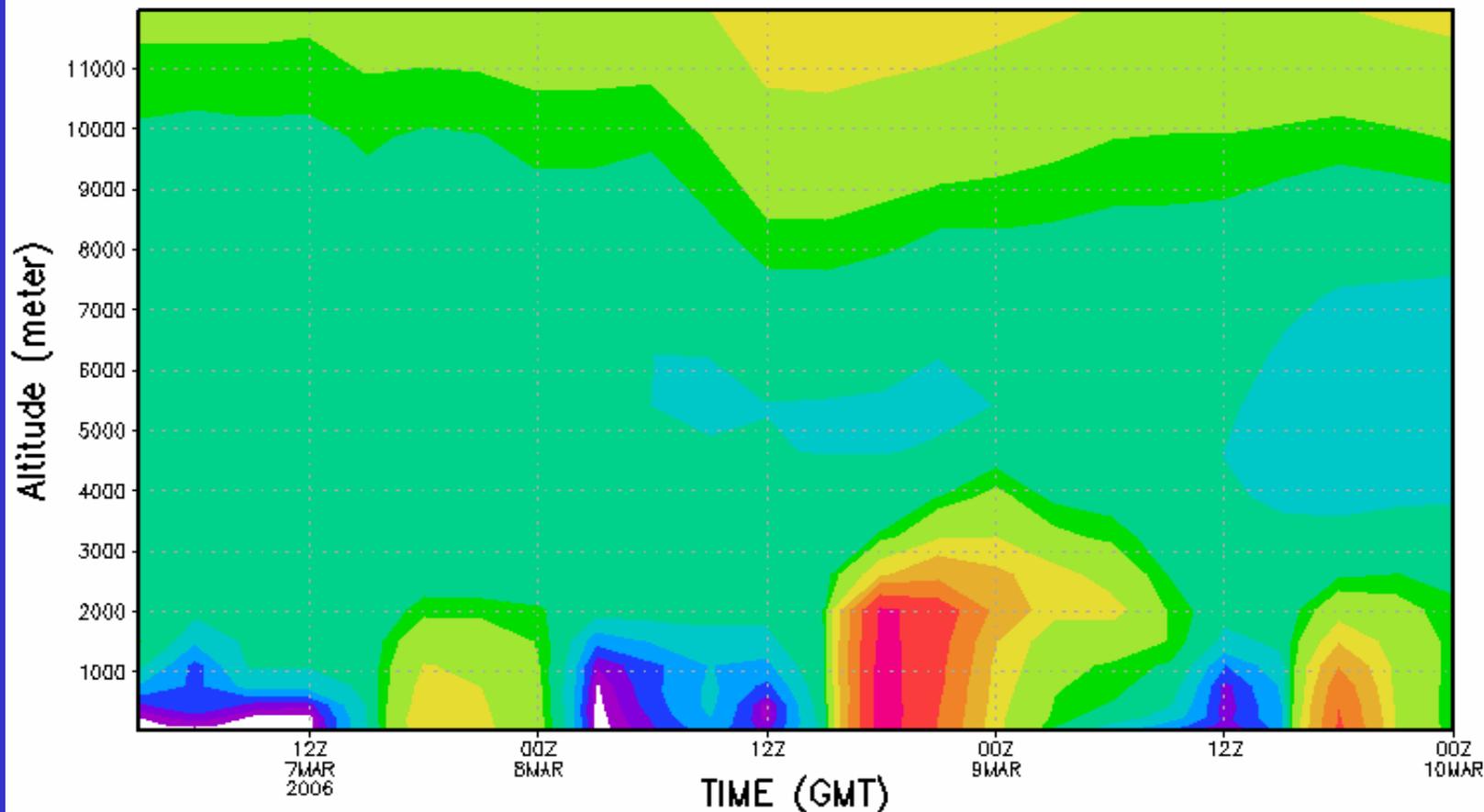


On Thursday flow
below 6km over the
Gulf

Mexico City pollution event forecast for Wednesday

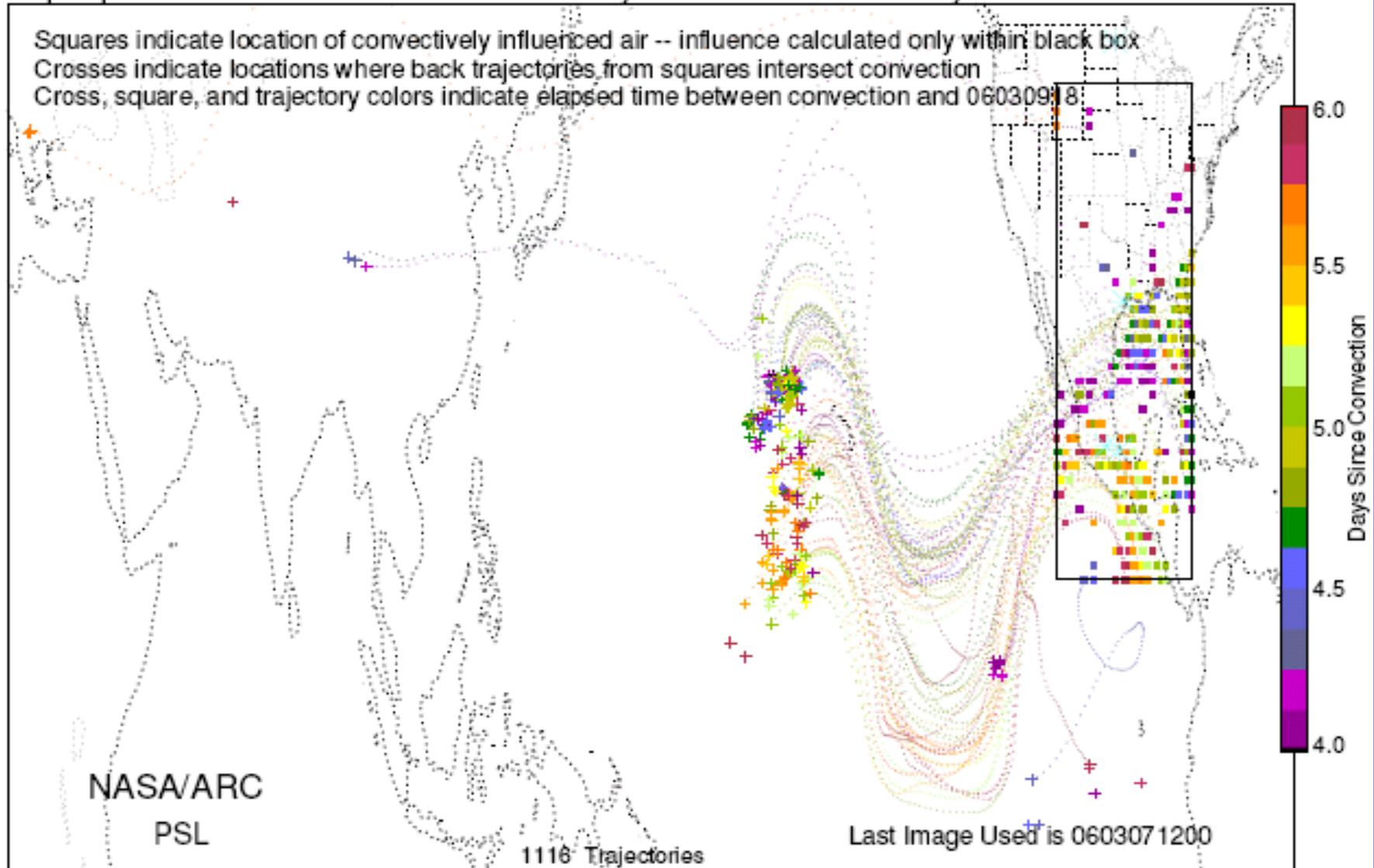
COFRER, University of Iowa

Simulated Time Series O_3 (ppbv)
over X=62 Y=34 (-99.07W, 19.38N)

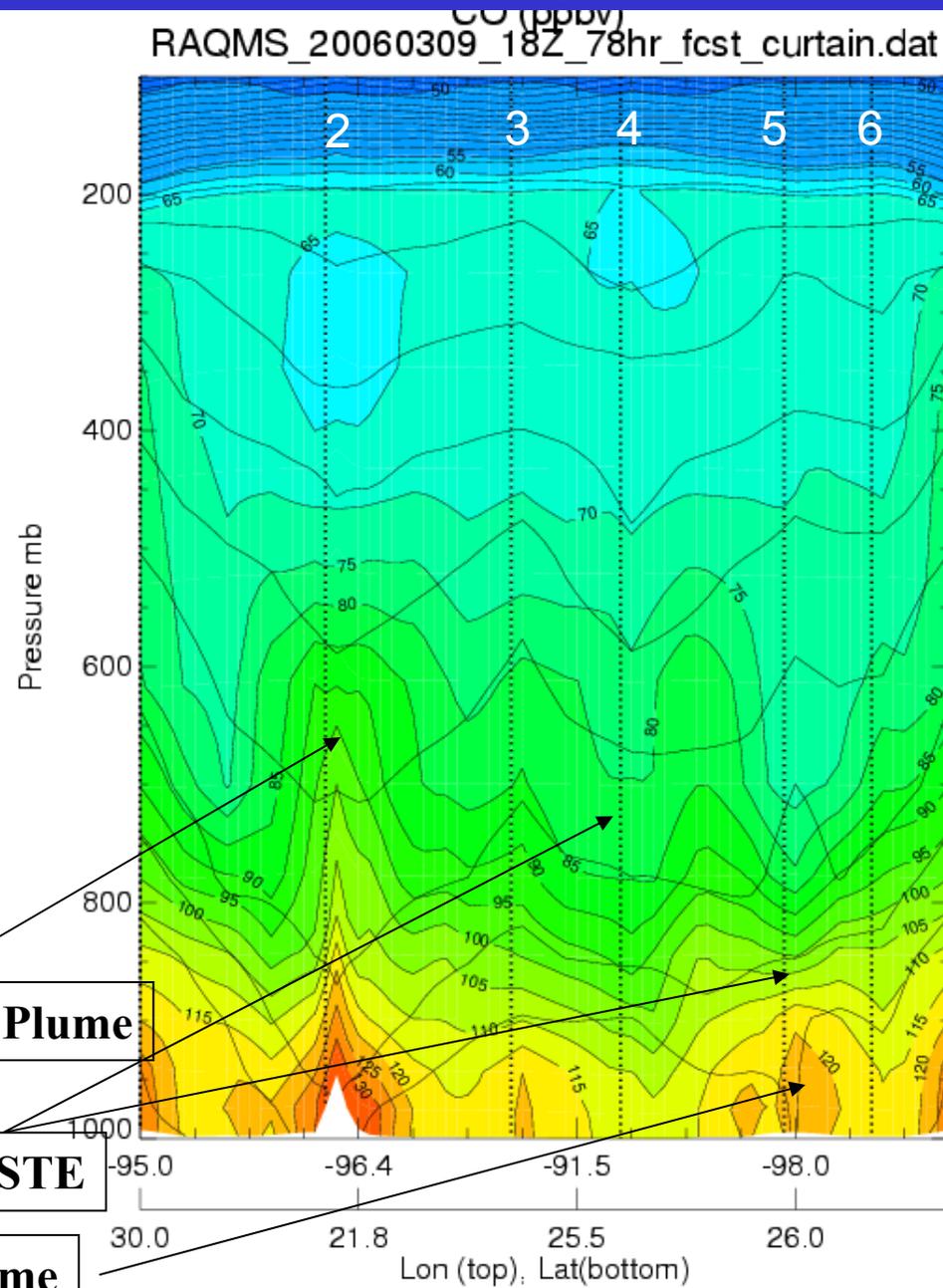
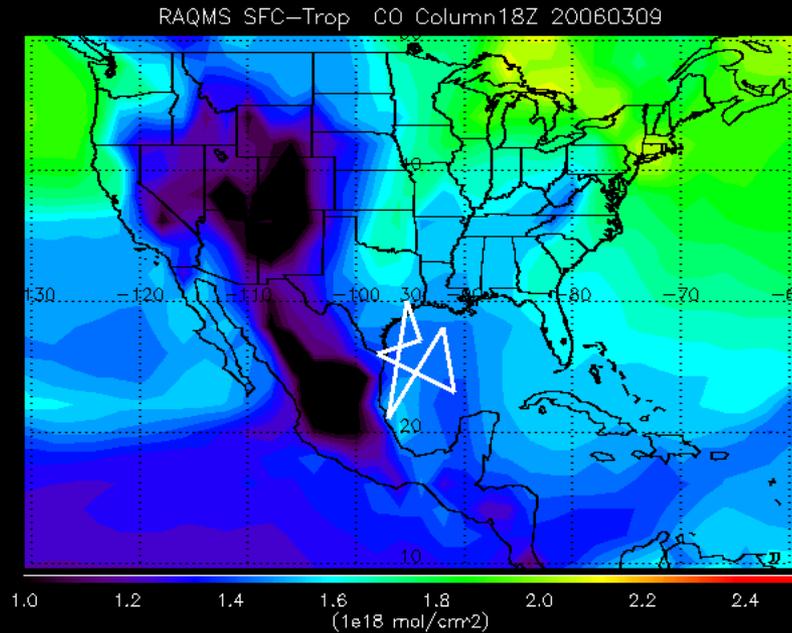


HIGH-ALTITUDE TROPICAL MARITIME OUTFLOW

Map of parcels at 29 kft on 06030918 influenced by convection 4.0 to 6.0 days earlier



RAQM 18Z 03/09 Trop CO Column Fx with Flight Curtain

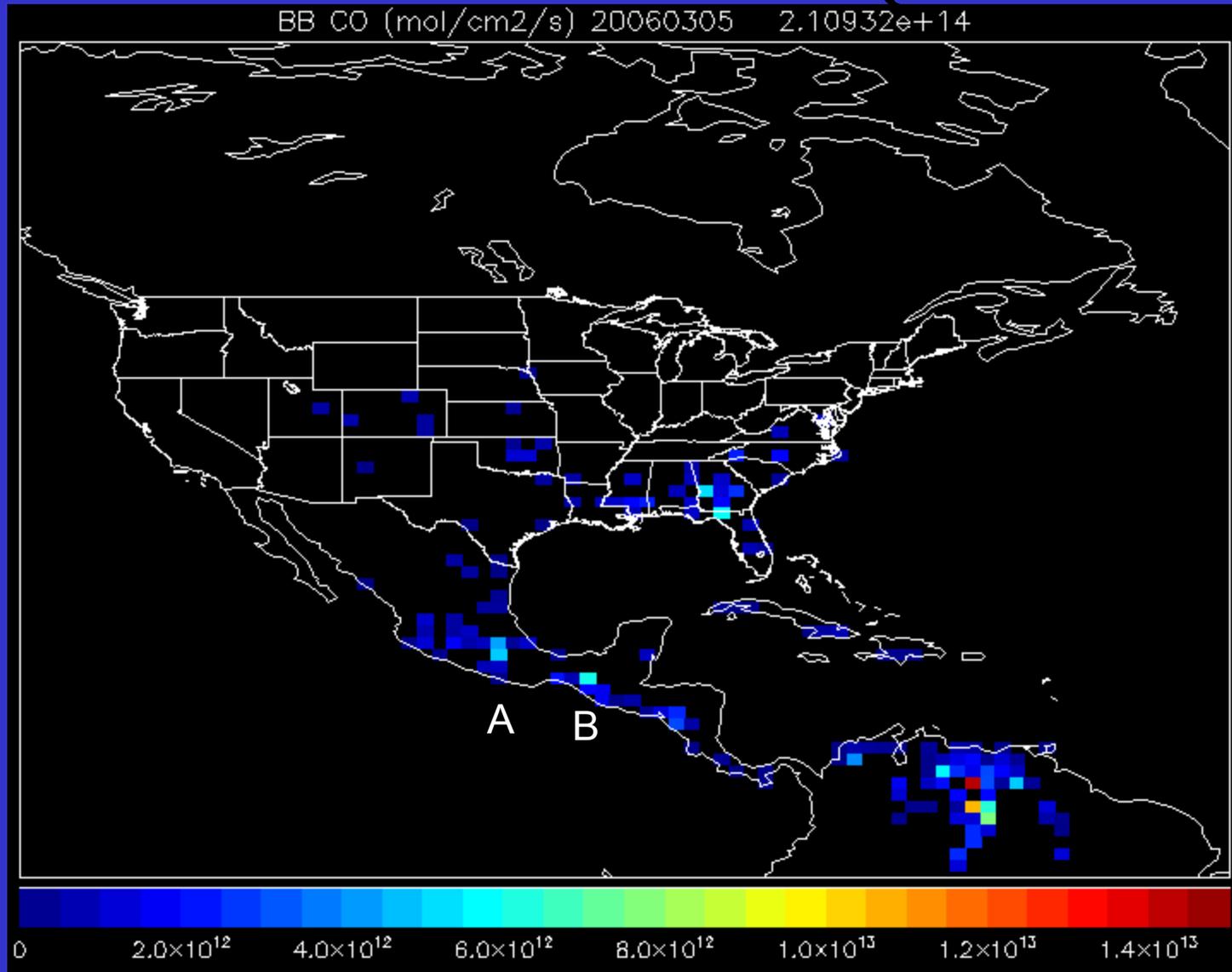


Upper level Mexico City Plume

Aged Long-range Transport/STE

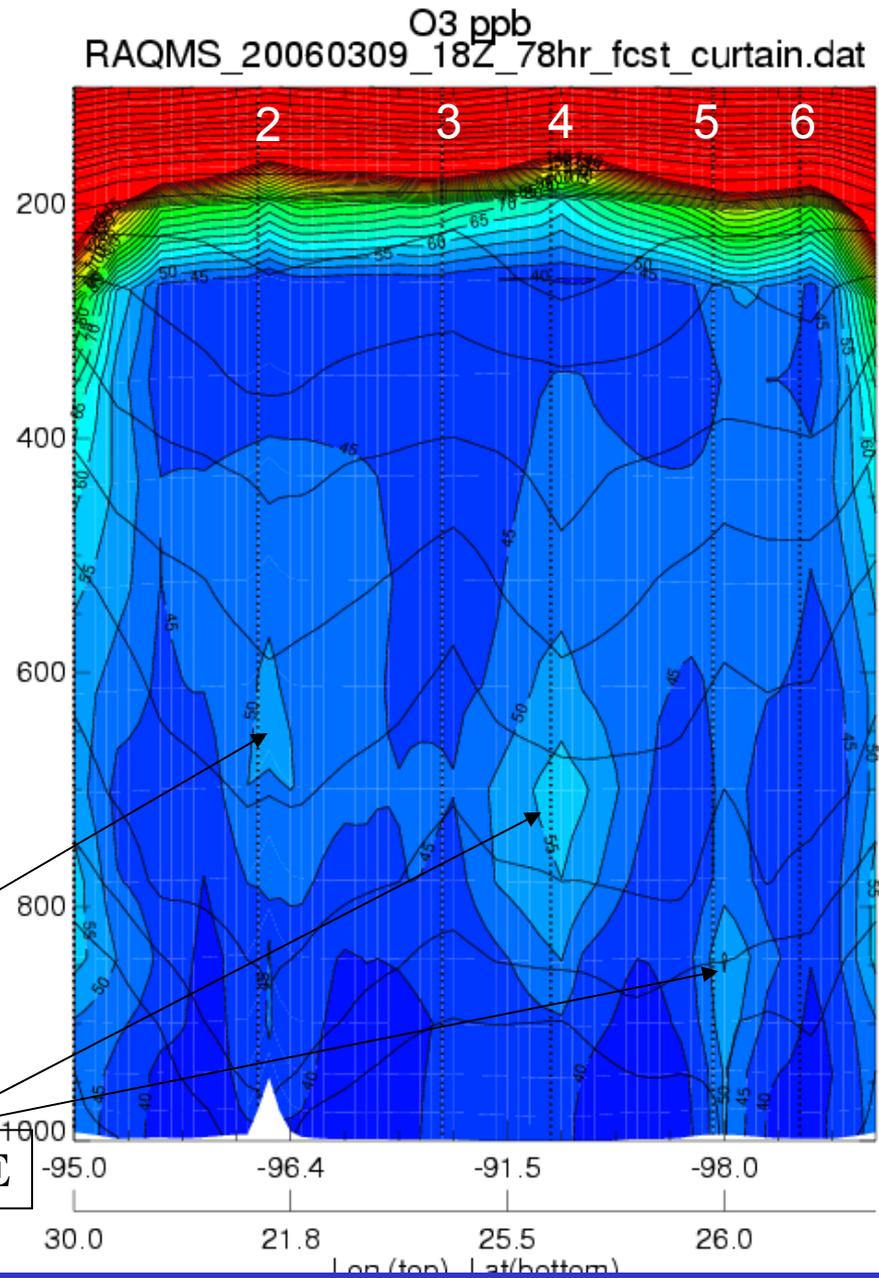
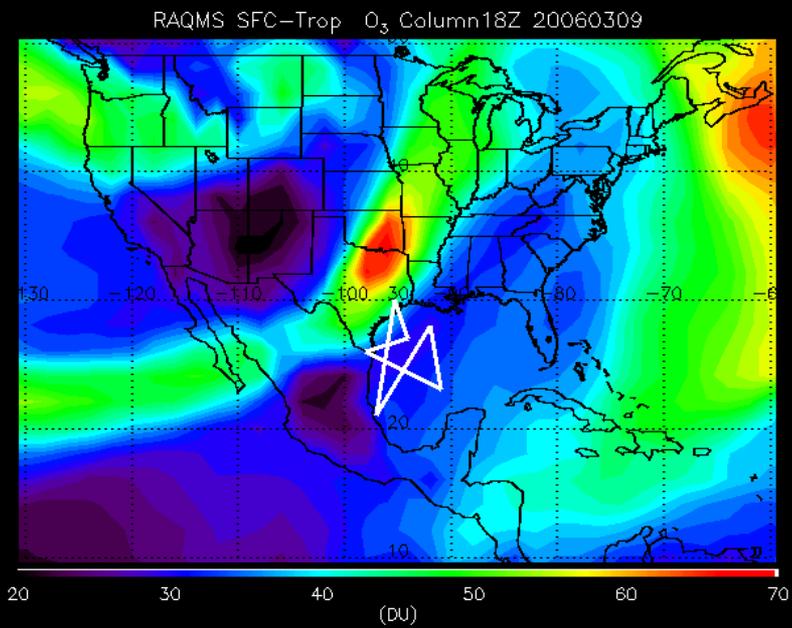
Low-level (Biomass?) Plume

BB CO emissions for Current RAQMS Forecast



Weaker emissions over SE US, new hot spots near Mexico City (A) and Chiapas State (B)

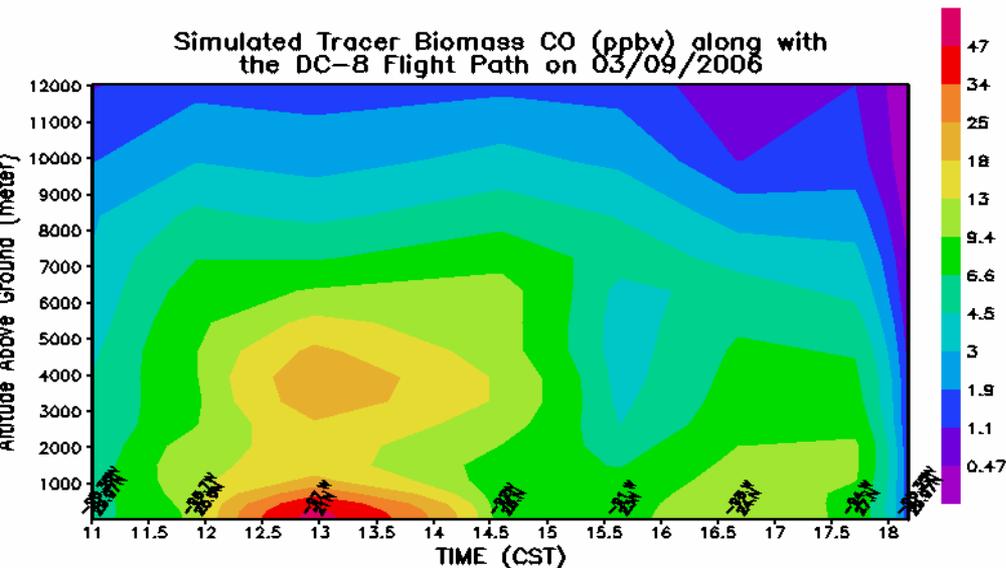
RAQM 18Z 03/09 Trop O3 Column Fx with Flight Curtain



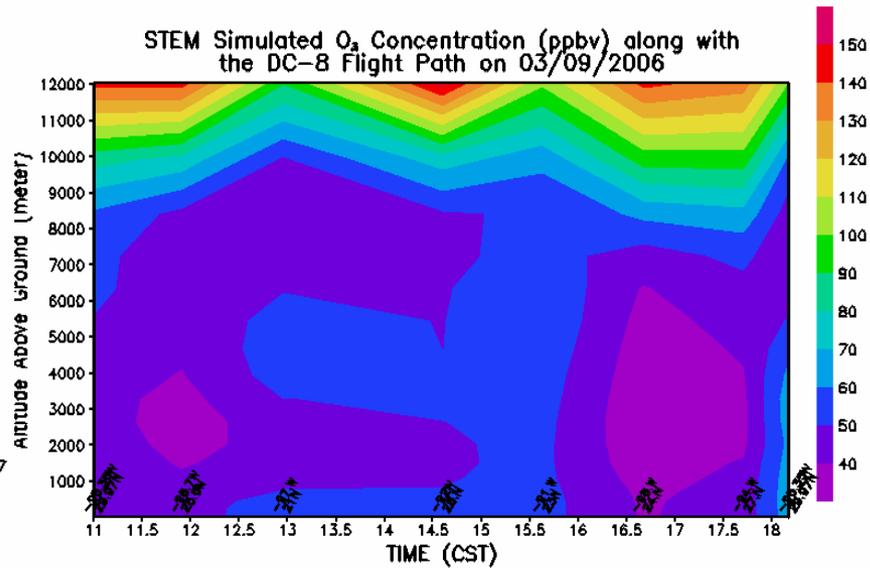
Mexico City Plume

Aged Long-range Transport/STE

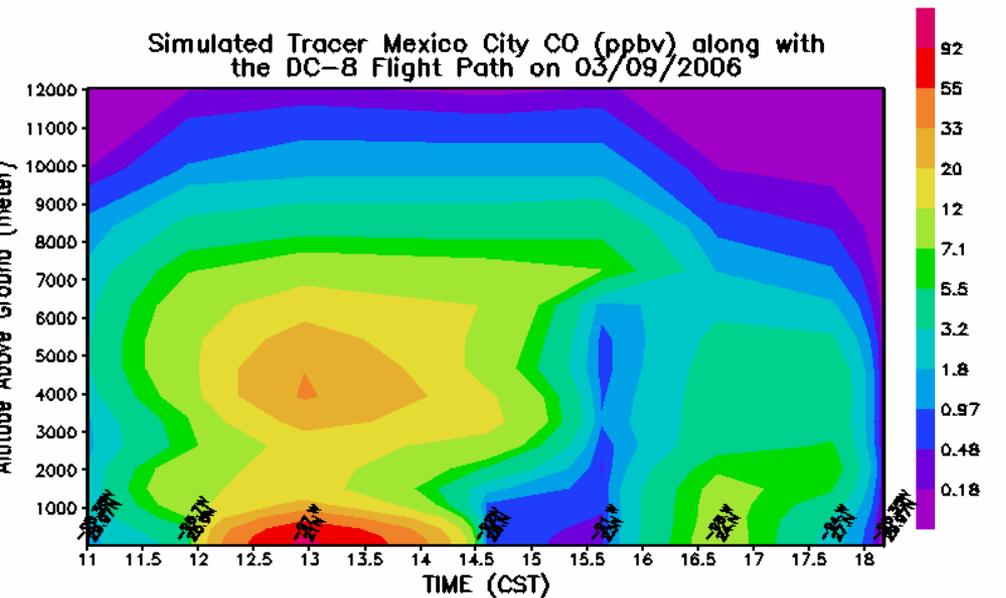
Simulated Tracer Biomass CO (ppbv) along with the DC-8 Flight Path on 03/09/2006



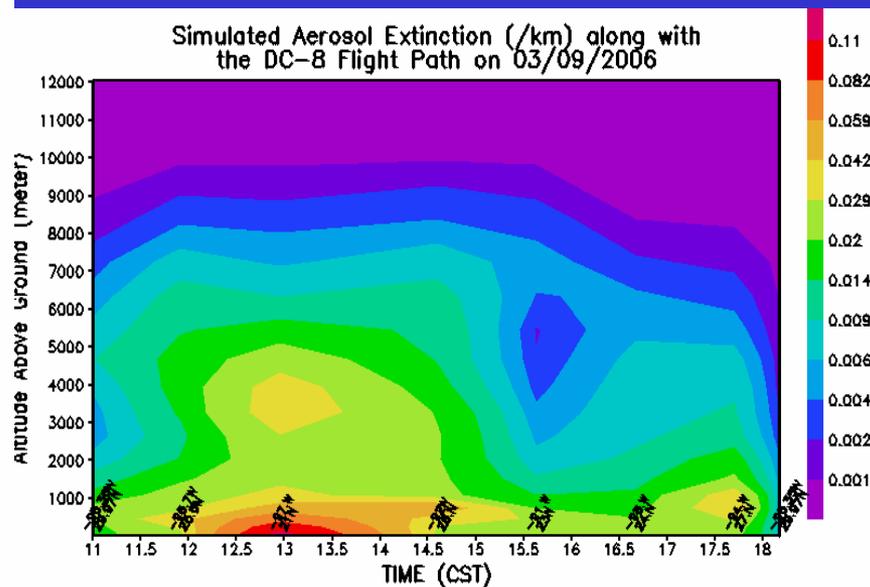
STEM Simulated O₃ Concentration (ppbv) along with the DC-8 Flight Path on 03/09/2006



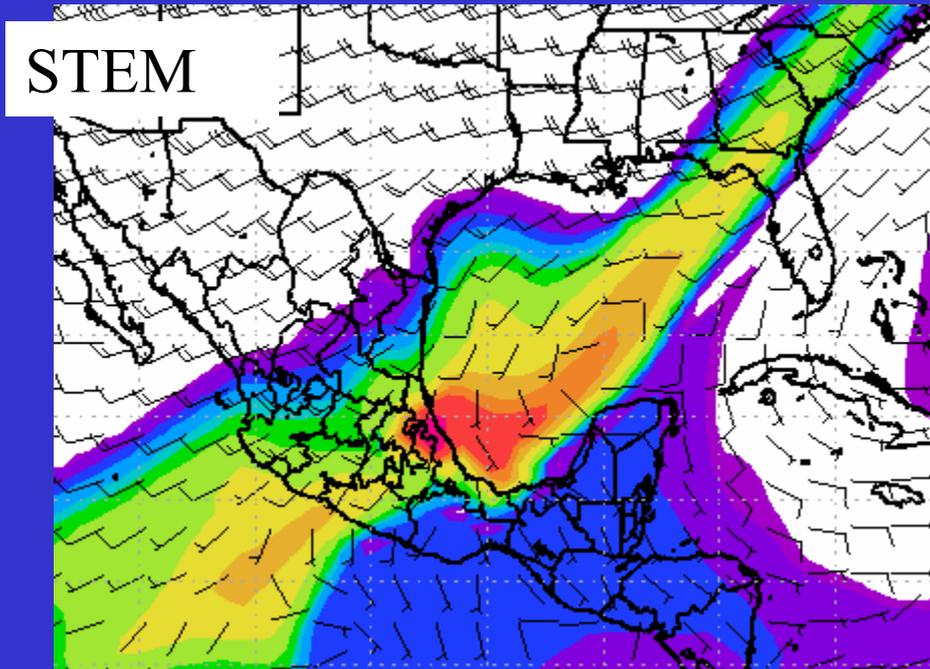
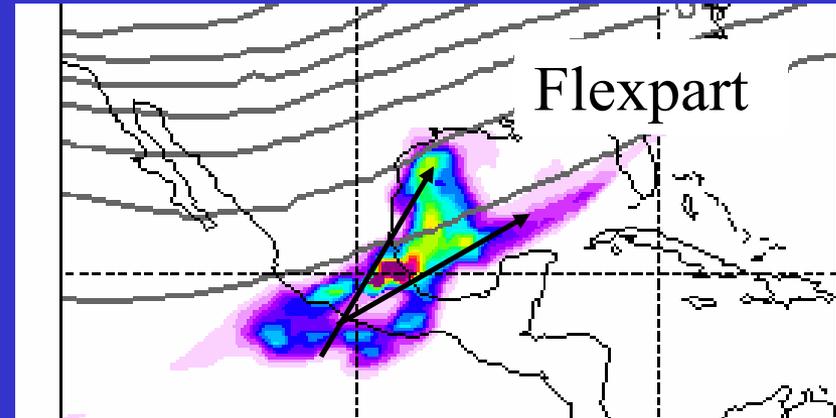
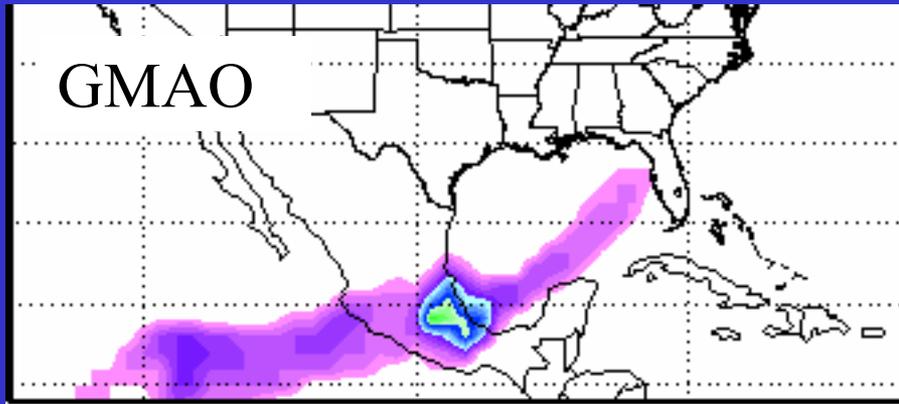
Simulated Tracer Mexico City CO (ppbv) along with the DC-8 Flight Path on 03/09/2006



Simulated Aerosol Extinction (/km) along with the DC-8 Flight Path on 03/09/2006



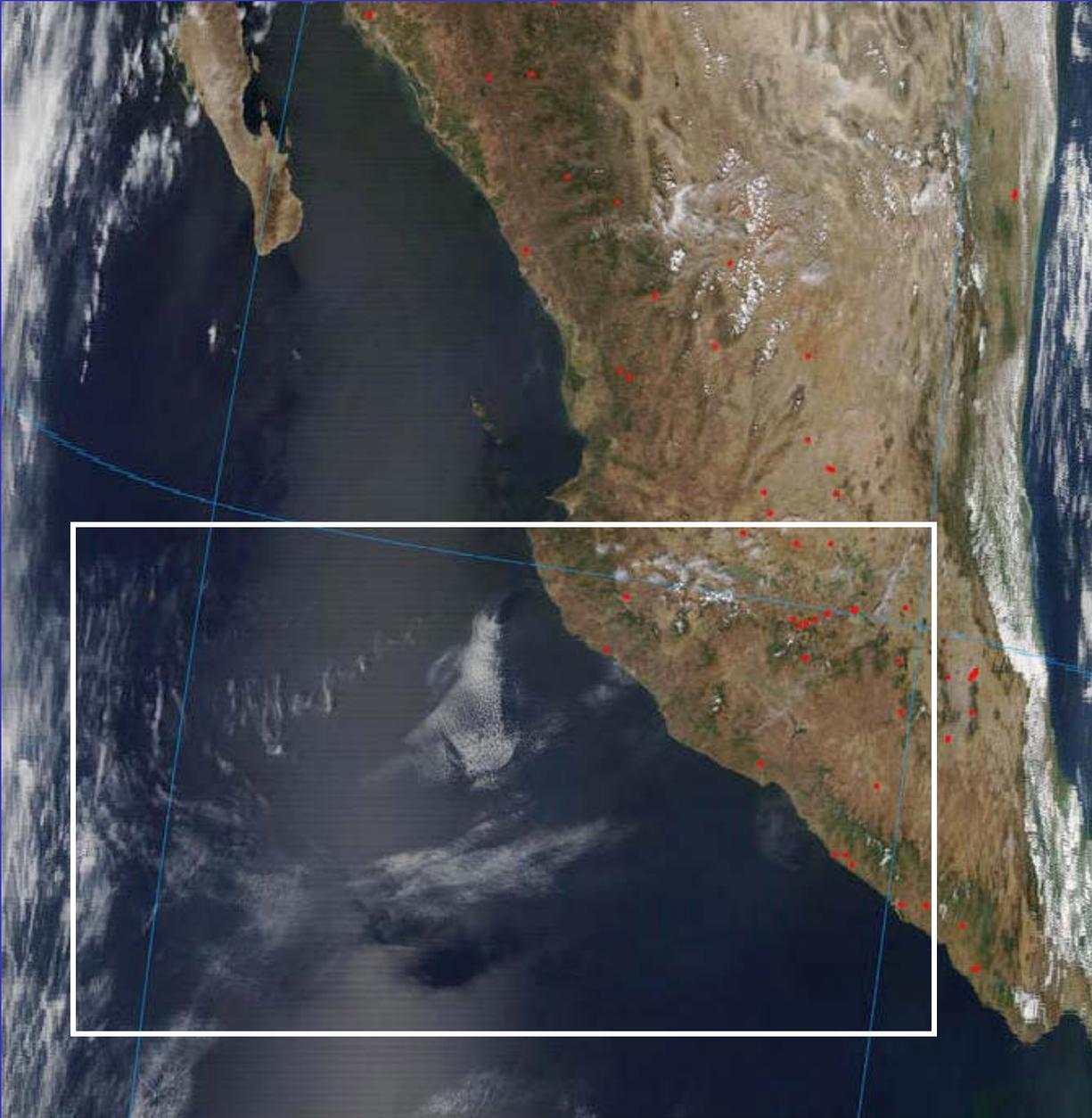
Friday...models see this plume continuing south and east... some show split into two branches.



Satellites aren't around...

Aqua MODIS

March 6, 2006



TES Step & Stare – March 1, 2006

