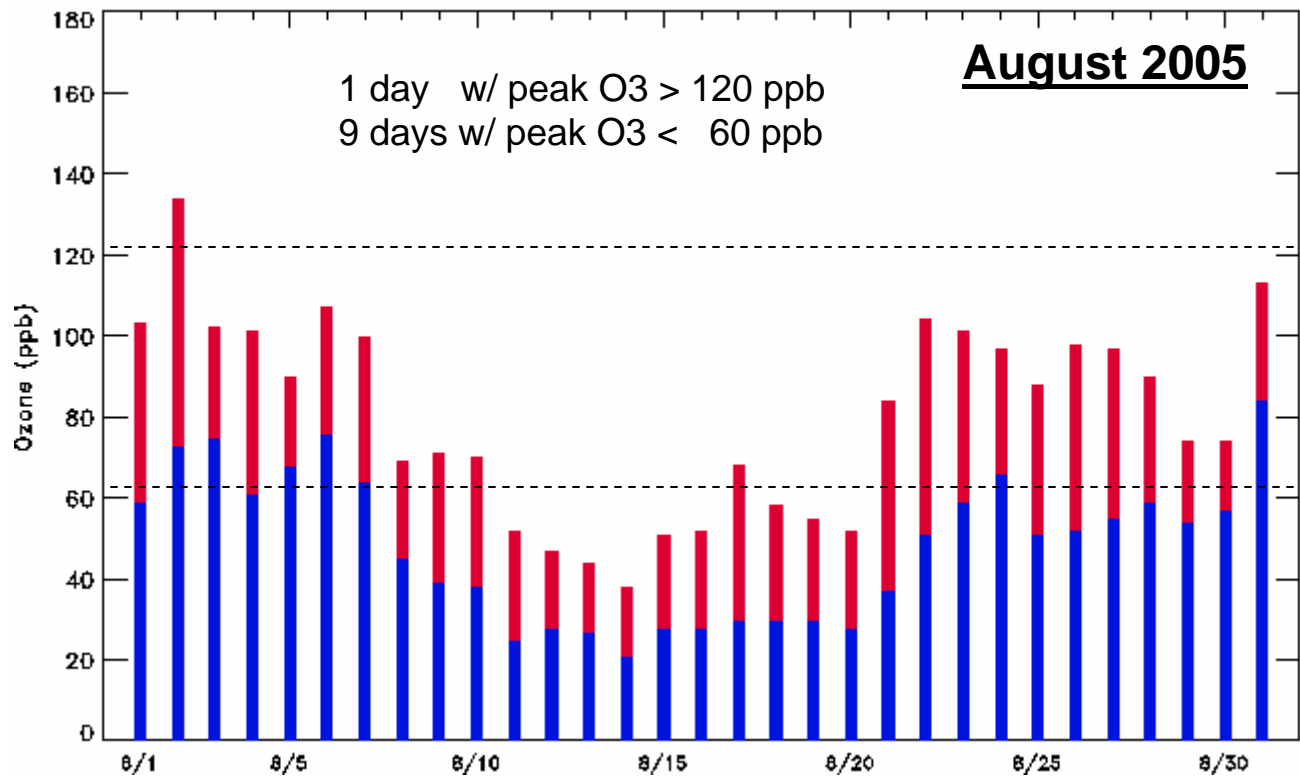
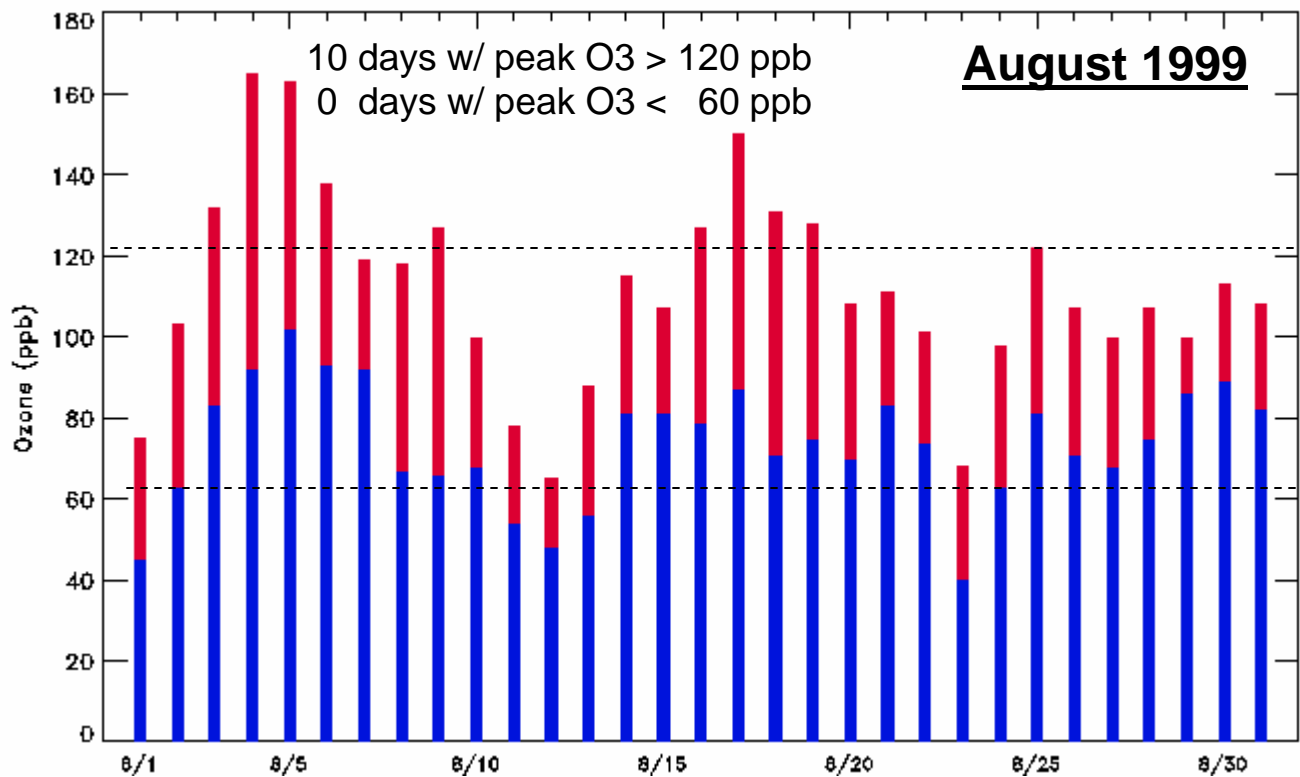


Actual measurement conditions
(much short of ideal)

and

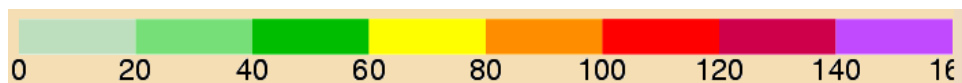
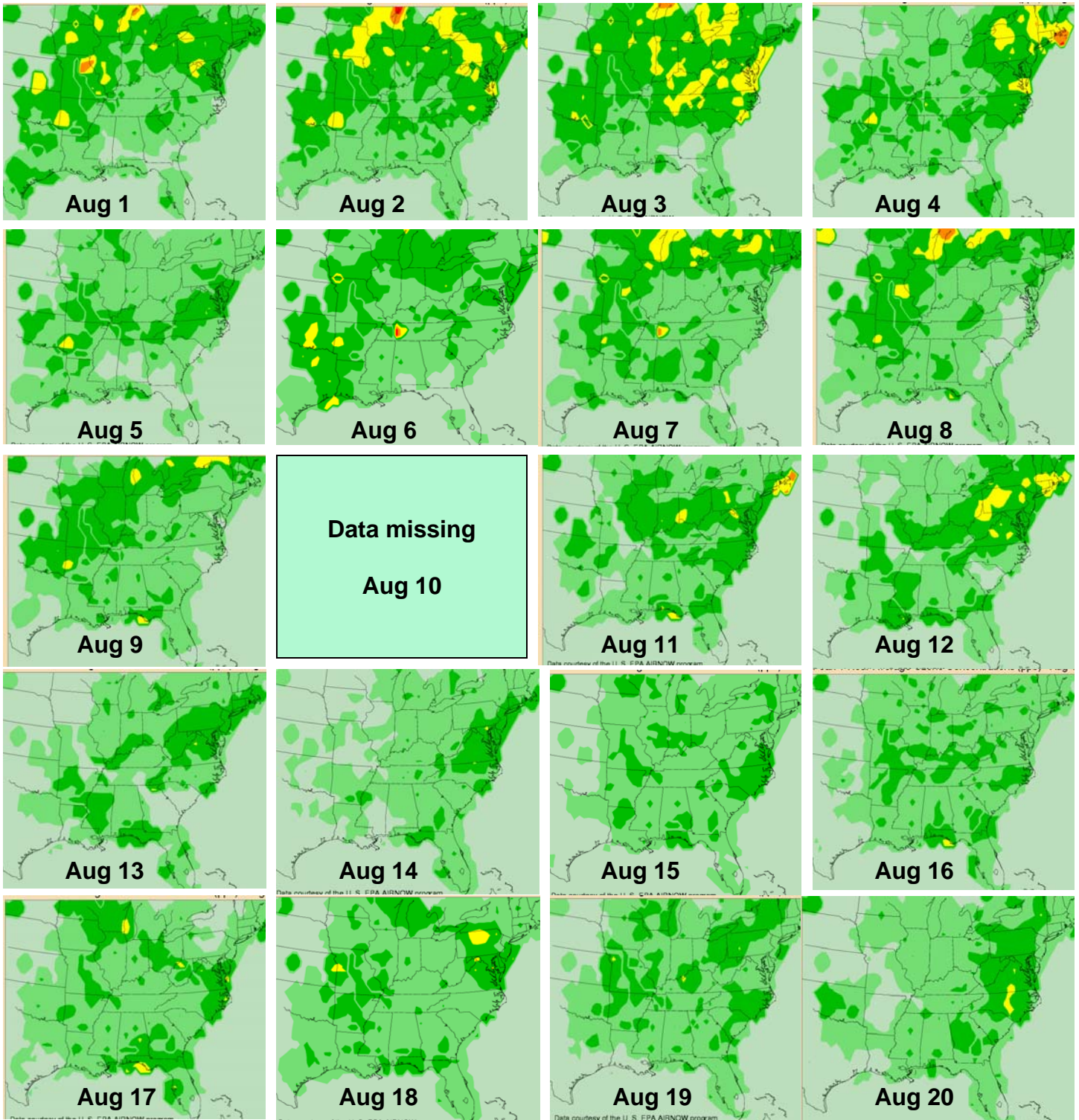
Overview of missions
performed

Peak Hourly Ozone in DFW Area Upwind and Downwind



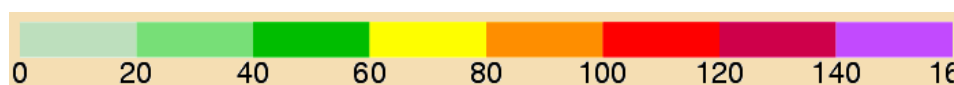
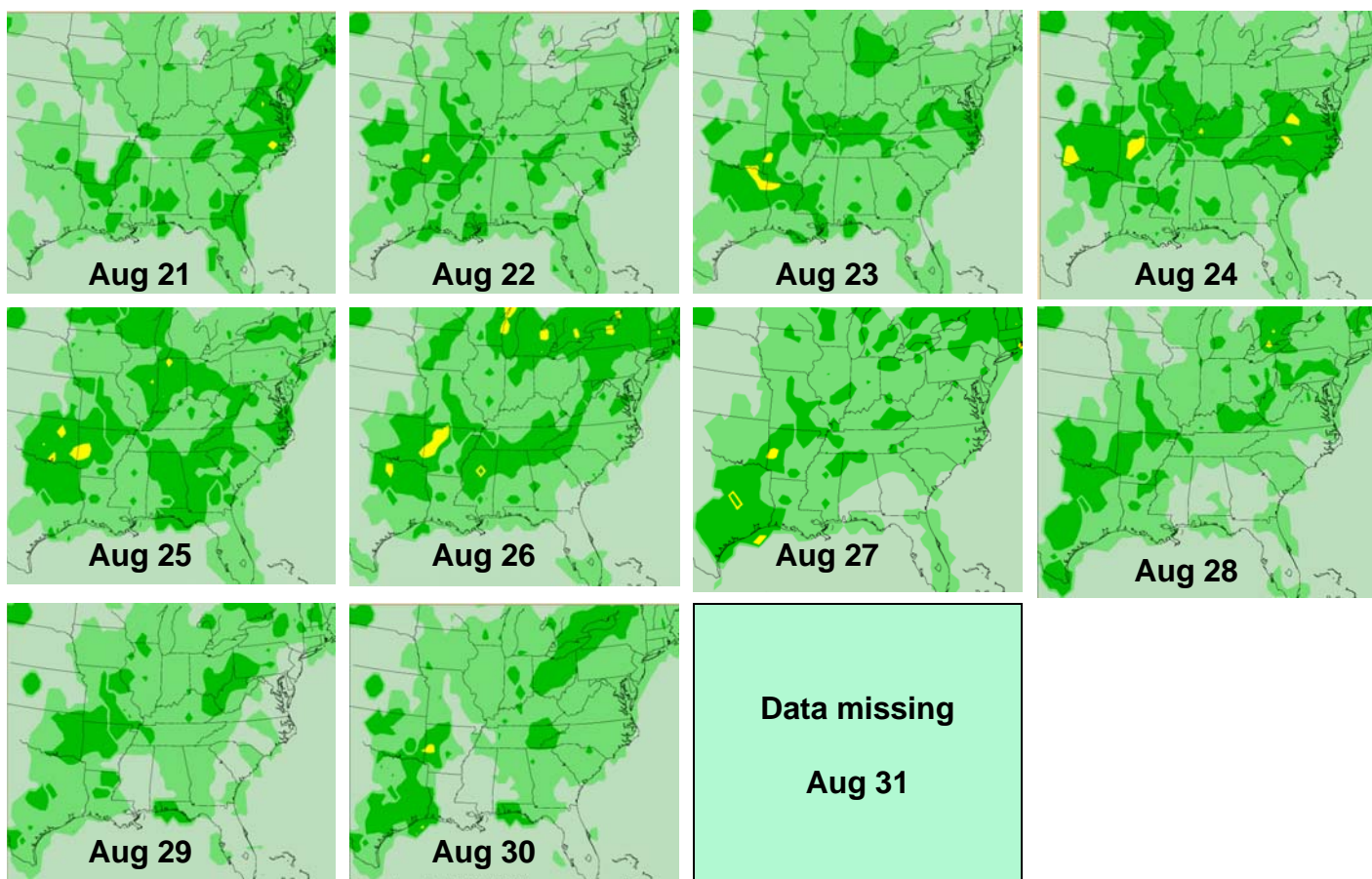
Why such low ozone in Aug 2005? → ...

E. USA Regional Distribution of Peak Hourly Ozone --- August 2005



Data courtesy of the EPA AIRNOW program

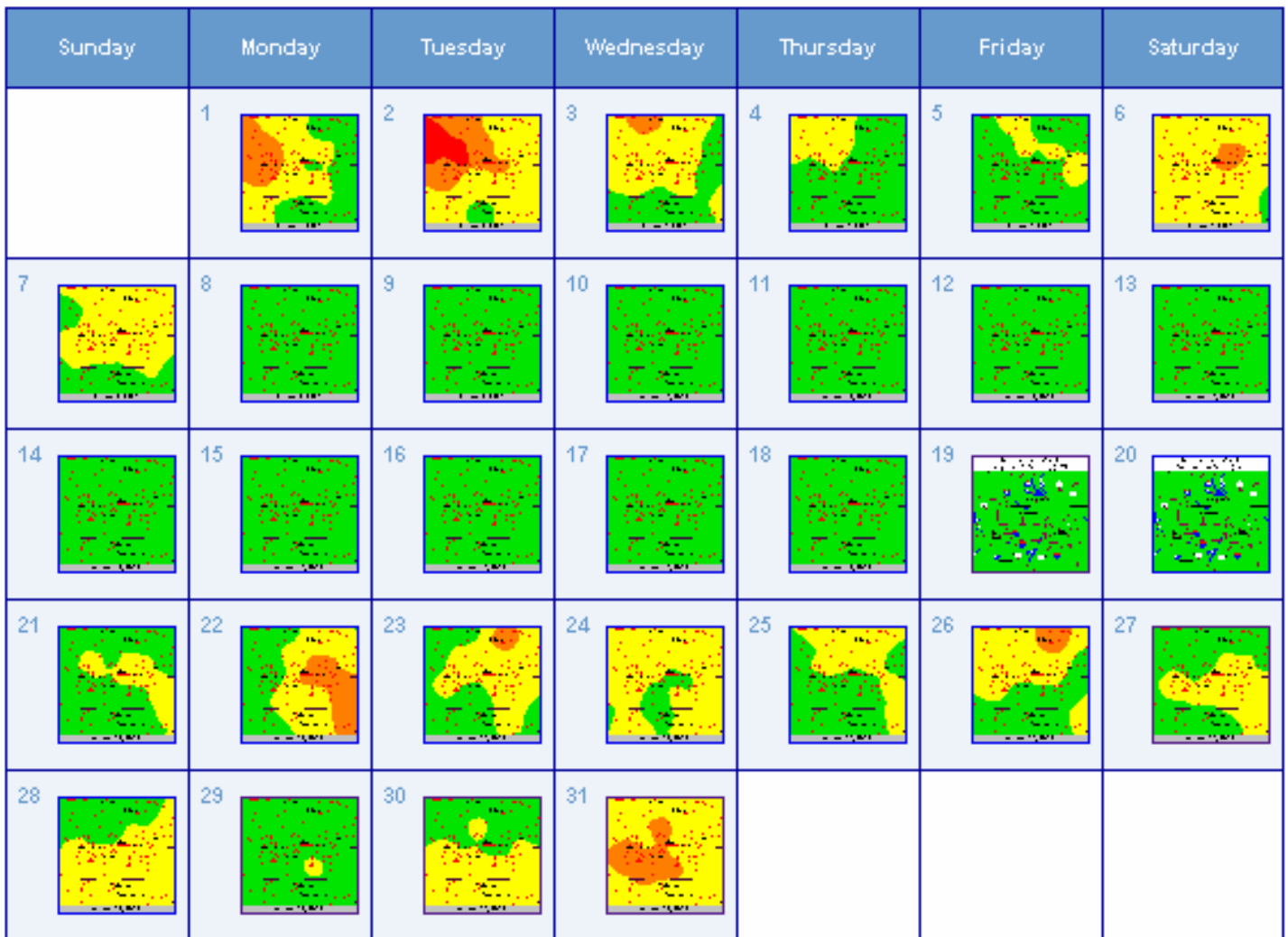
E. USA Regional Distribution of Peak Hourly Ozone --- August 2005



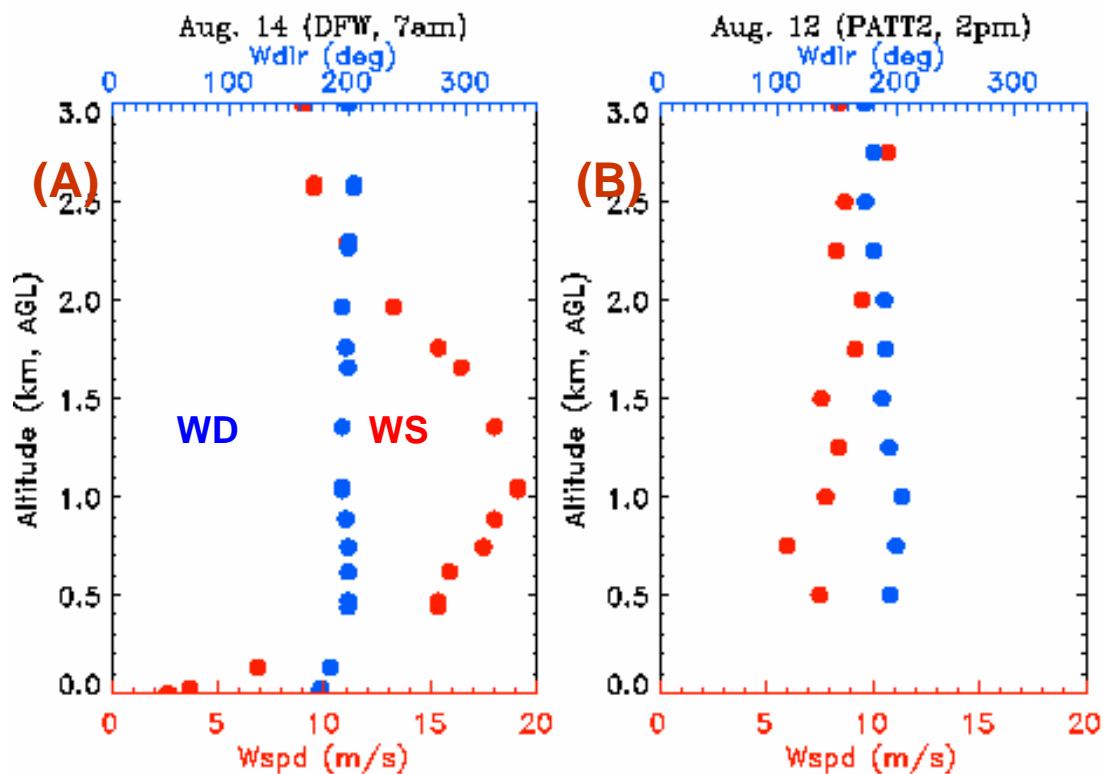
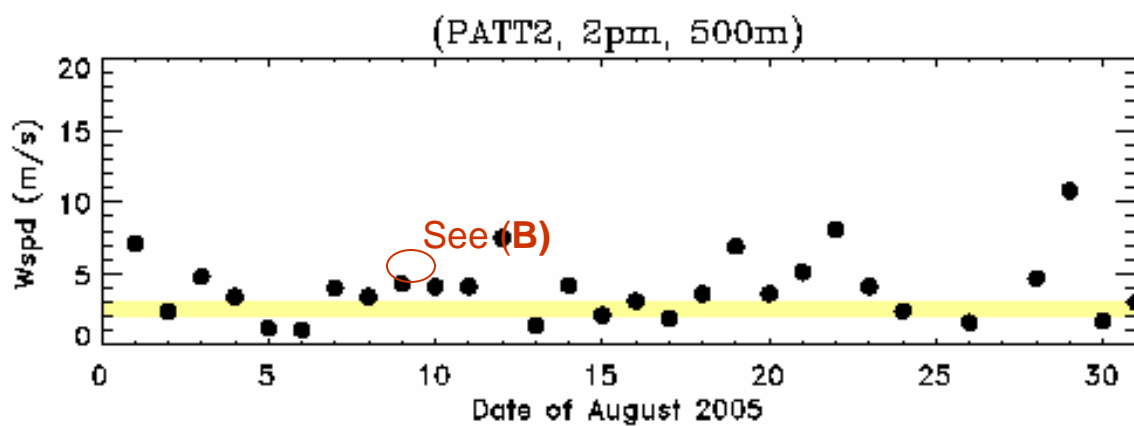
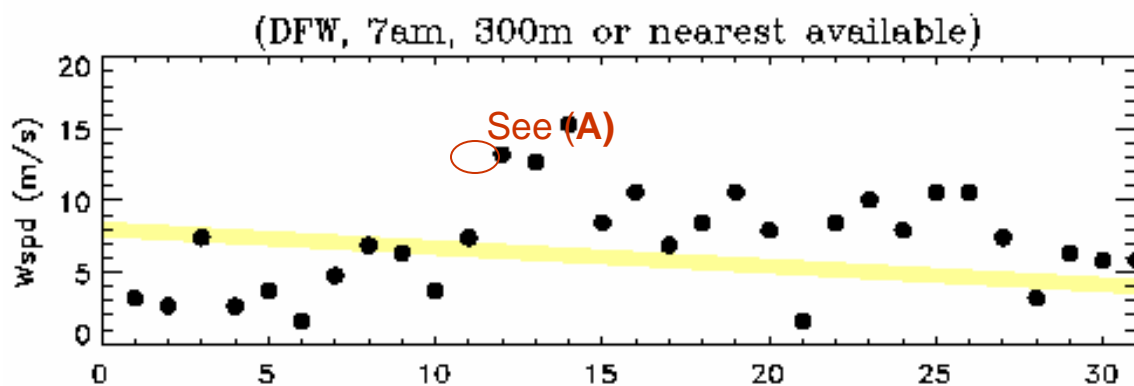
Data courtesy of the EPA AIRNOW program

Dallas/Fort Worth Ozone Maps for August, 2005

Ozone - Peak AQI



NETPS: Wind Speed Story



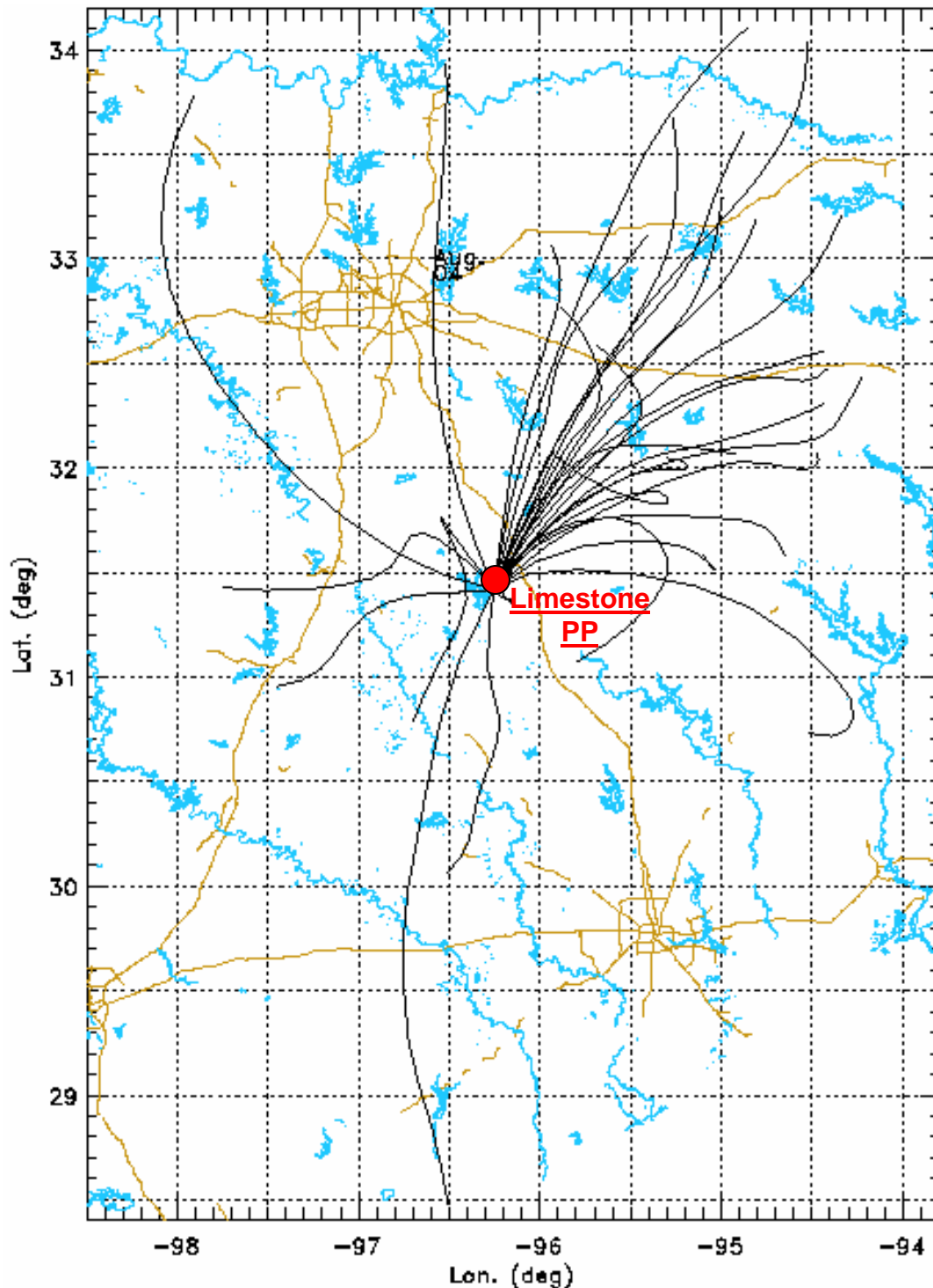
Climatology:

WS ~ 4 – 6 m/s

WS ~ 2 – 3 m/s

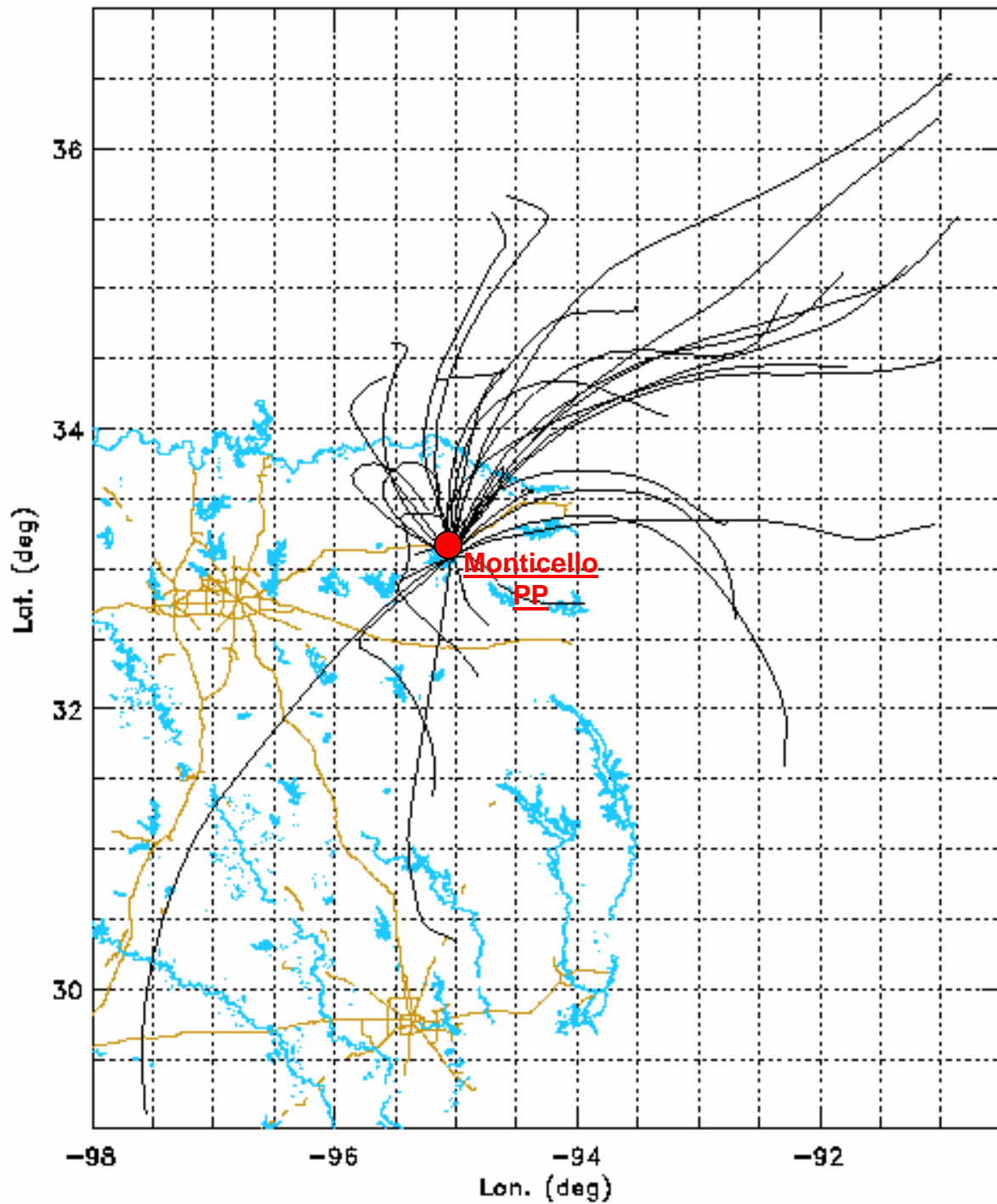
NETPS: Wind Direction Story --- 1

Daily 12-hour Forward Trajectories (0400 – 1600) 300m release over Limestone Powerplant (Zone B)



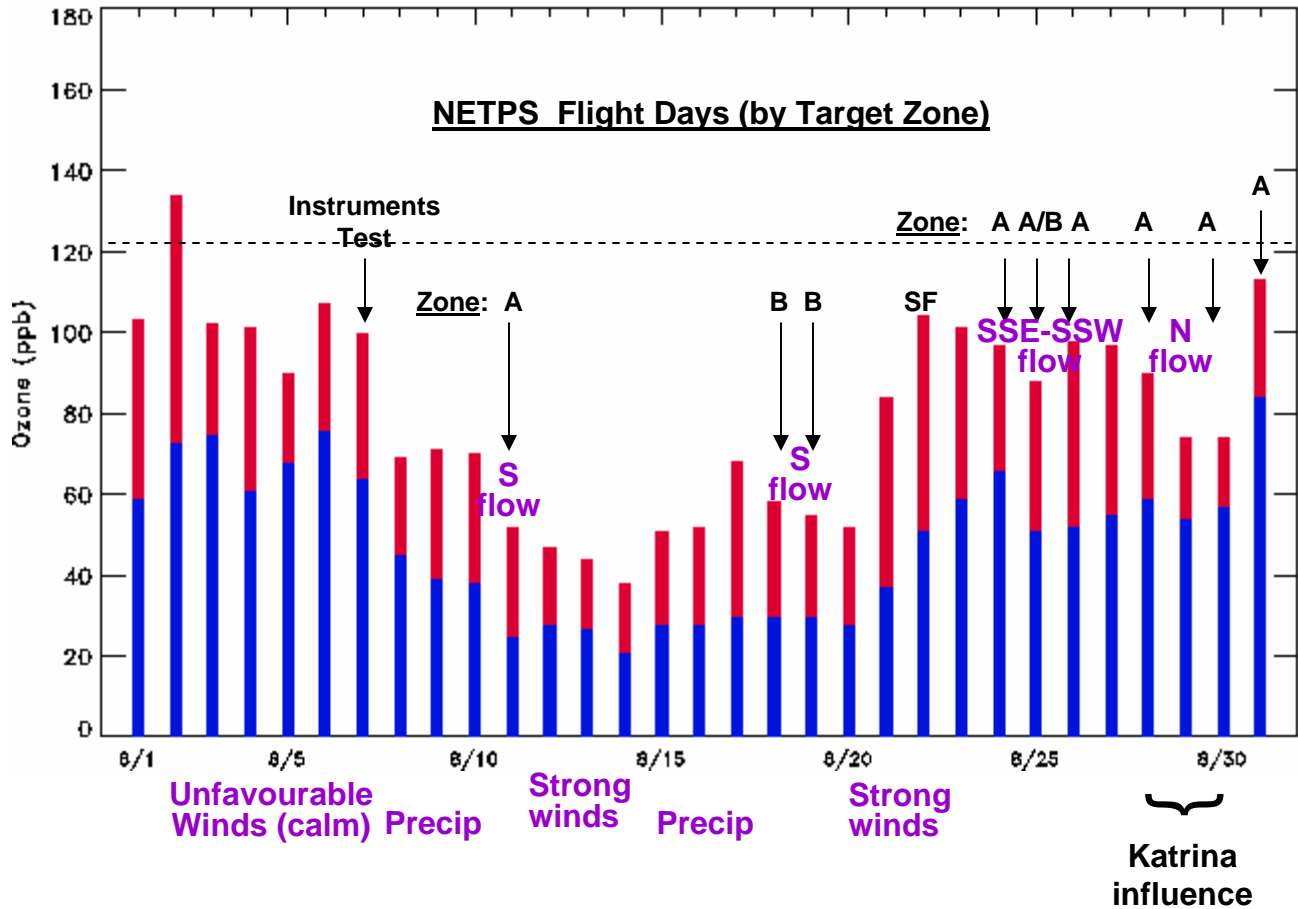
NETPS: Wind Direction Story --- 2

Daily 15-hour Forward Trajectories (0000 – 1500) 300m release over Monticello Powerplant (Zone C)



Overview of NETPS Aircraft Mission Days

August 2005



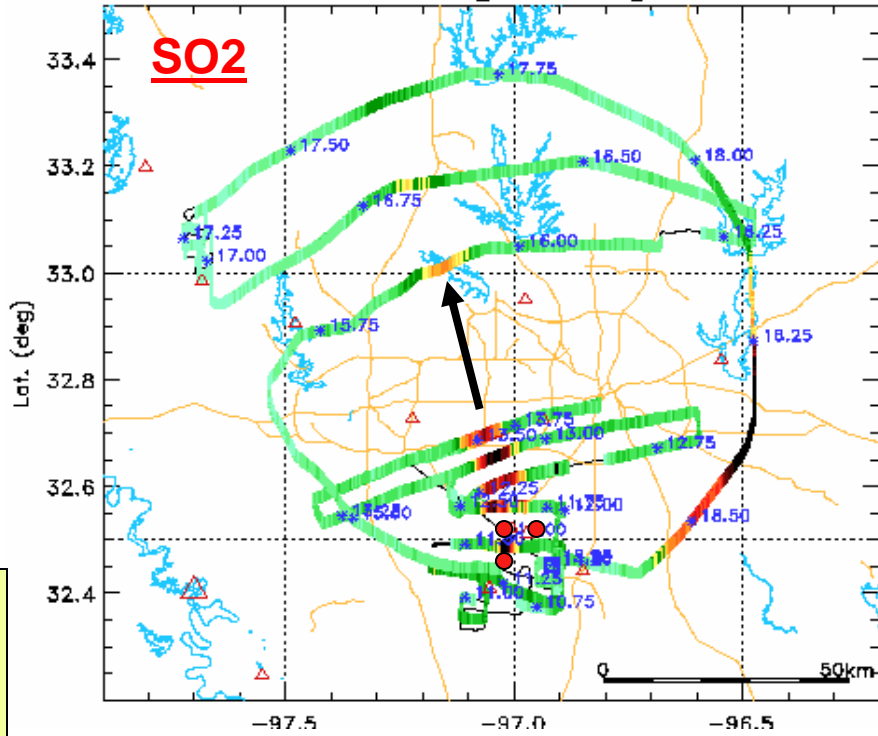
Distribution of Missions by Primary Target Zone

	<u>Planned</u>
Zone A : 6 ½	} 6
Zone B: 2 ½	
Zone C: 0	1

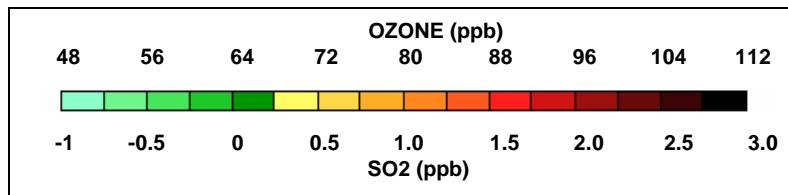
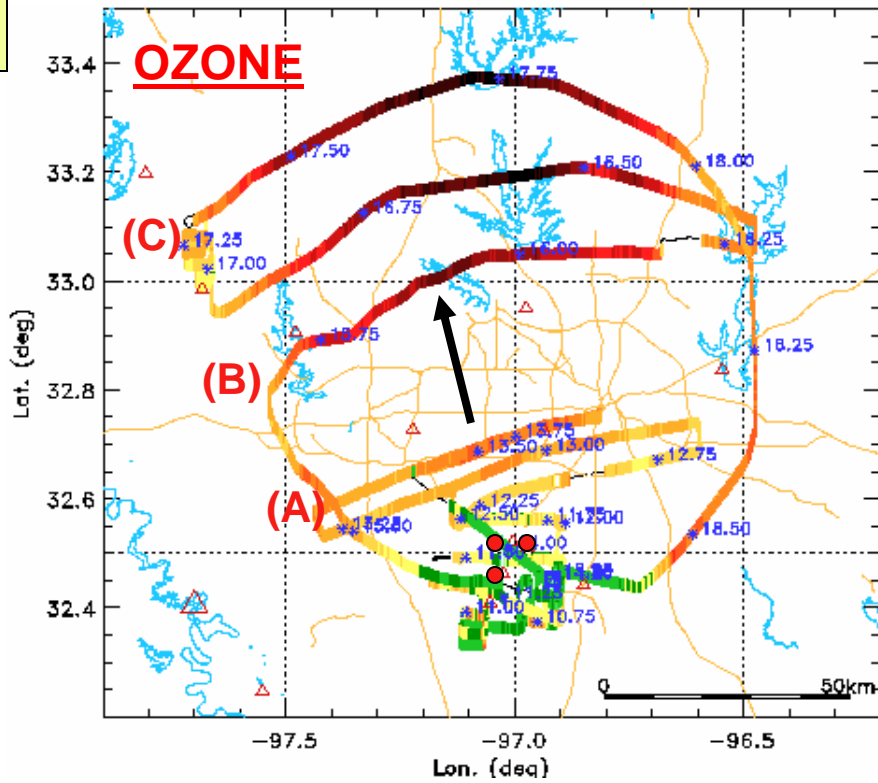
Some key observations
based on aircraft measurements*
and overall assessment of
what we got

24 August 2005 --- Zone A Mission

TVA Twin Otter Flight: 24 August 2005



**IMPACT OF
ELLIS CO
SOURCES ON
DFW OZONE**



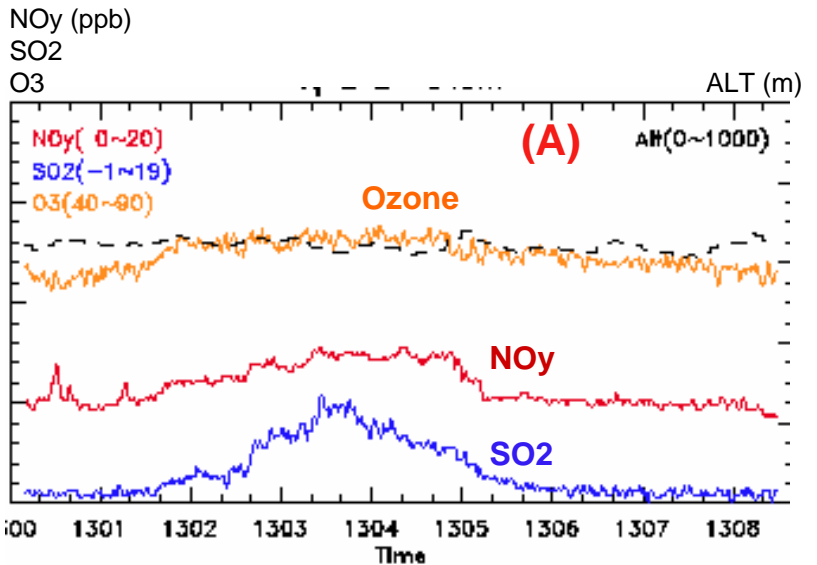
IMPACT OF ELLIS CO SOURCES ON DFW OZONE

24 Aug 2005

(A)

Ellis CO plumes arriving into DFW

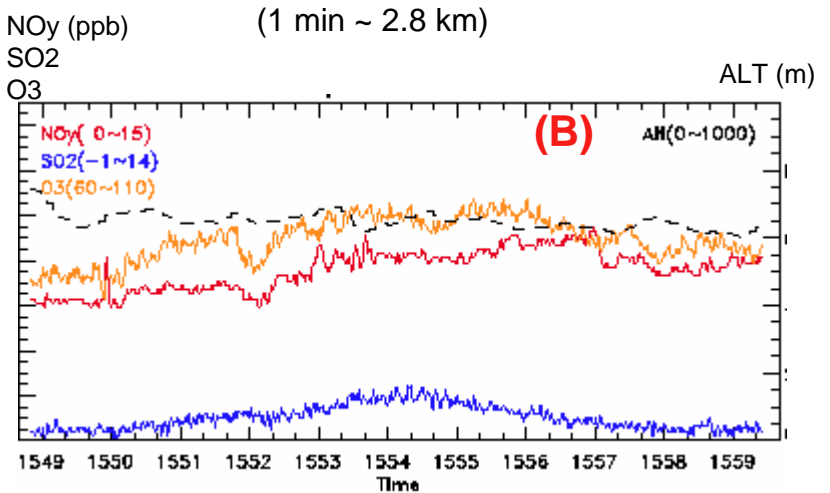
delivering peak excess ozone of about 7 ppb (10-15 km width) over ~67 ppb local background



(B)

Broad Ellis CO plume (see SO2) still delineated in first traverse downwind of DFW

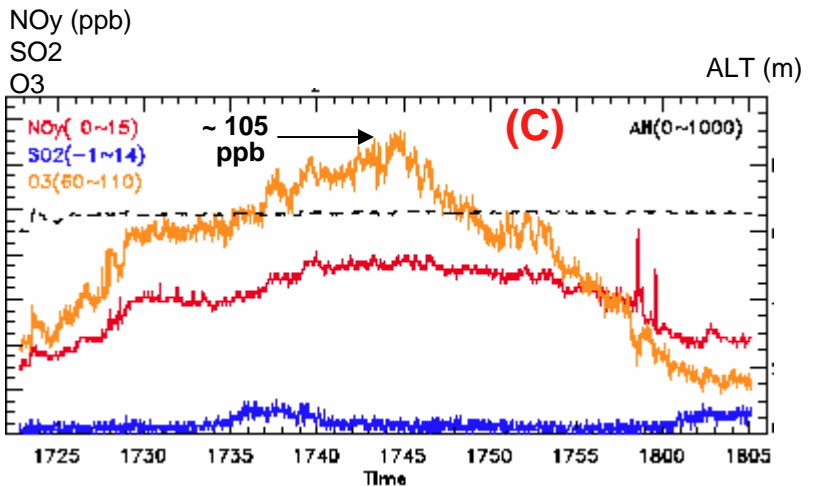
Not possible to distinguish relative Ellis CO v. urban contributions of ozone from just these data (need modeling), showing peak ozone ~ 95 ppb over 80 ppb urban background



(C)

Last traverse downwind of DFW

Peak downwind ozone in urban plume ~75 km downwind of DFW line ~ 105 ppb over a reg'l b/g of ~ 68 ppb (~37 ppb excess)

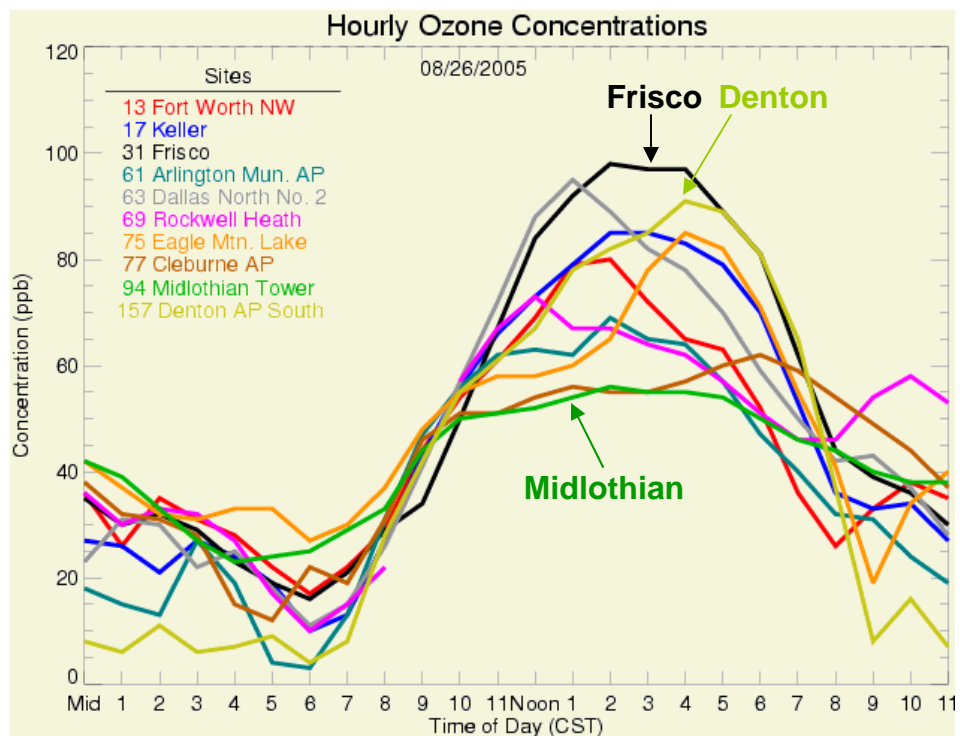
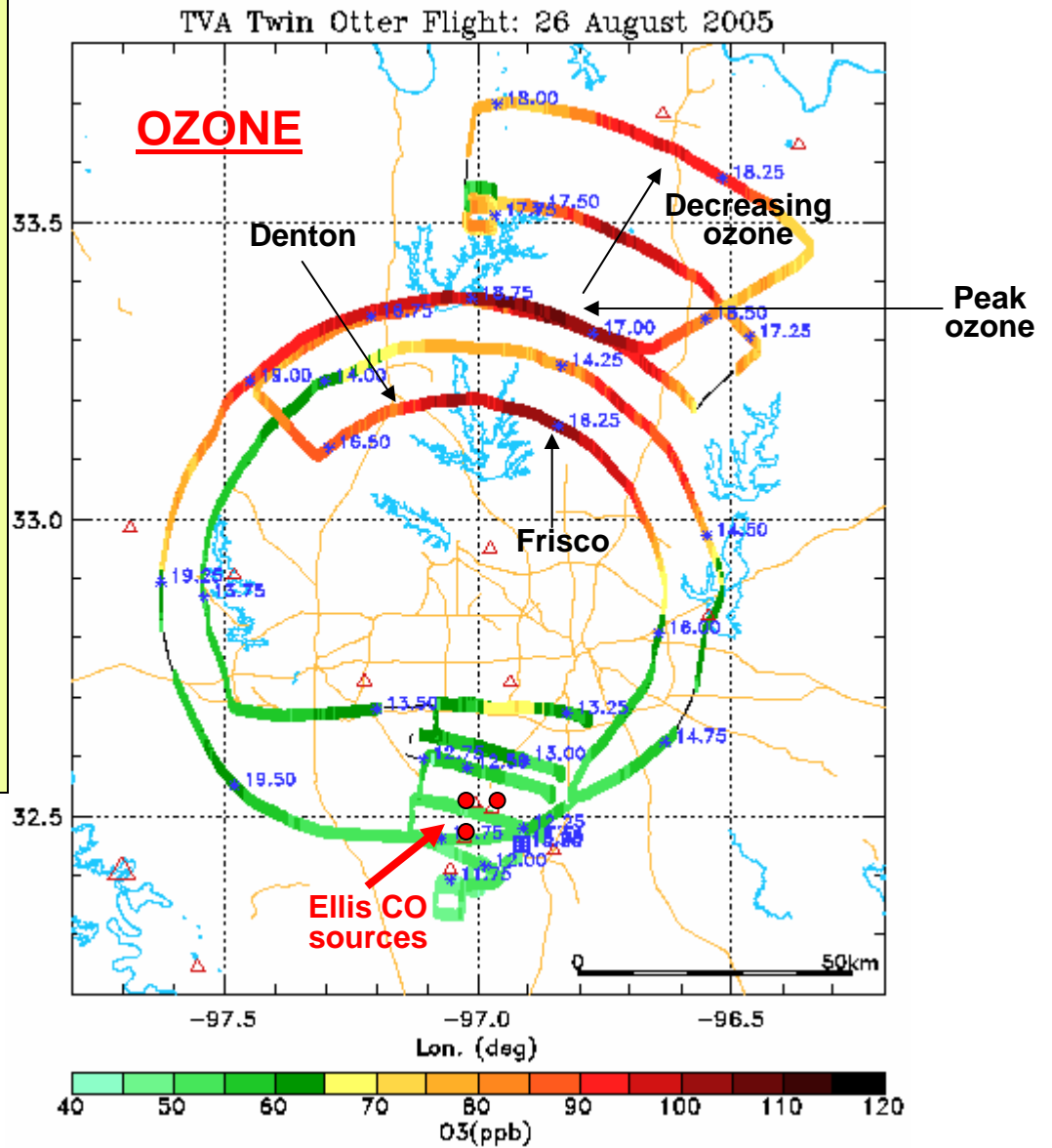


Impact of Ellis CO sources on DFW and

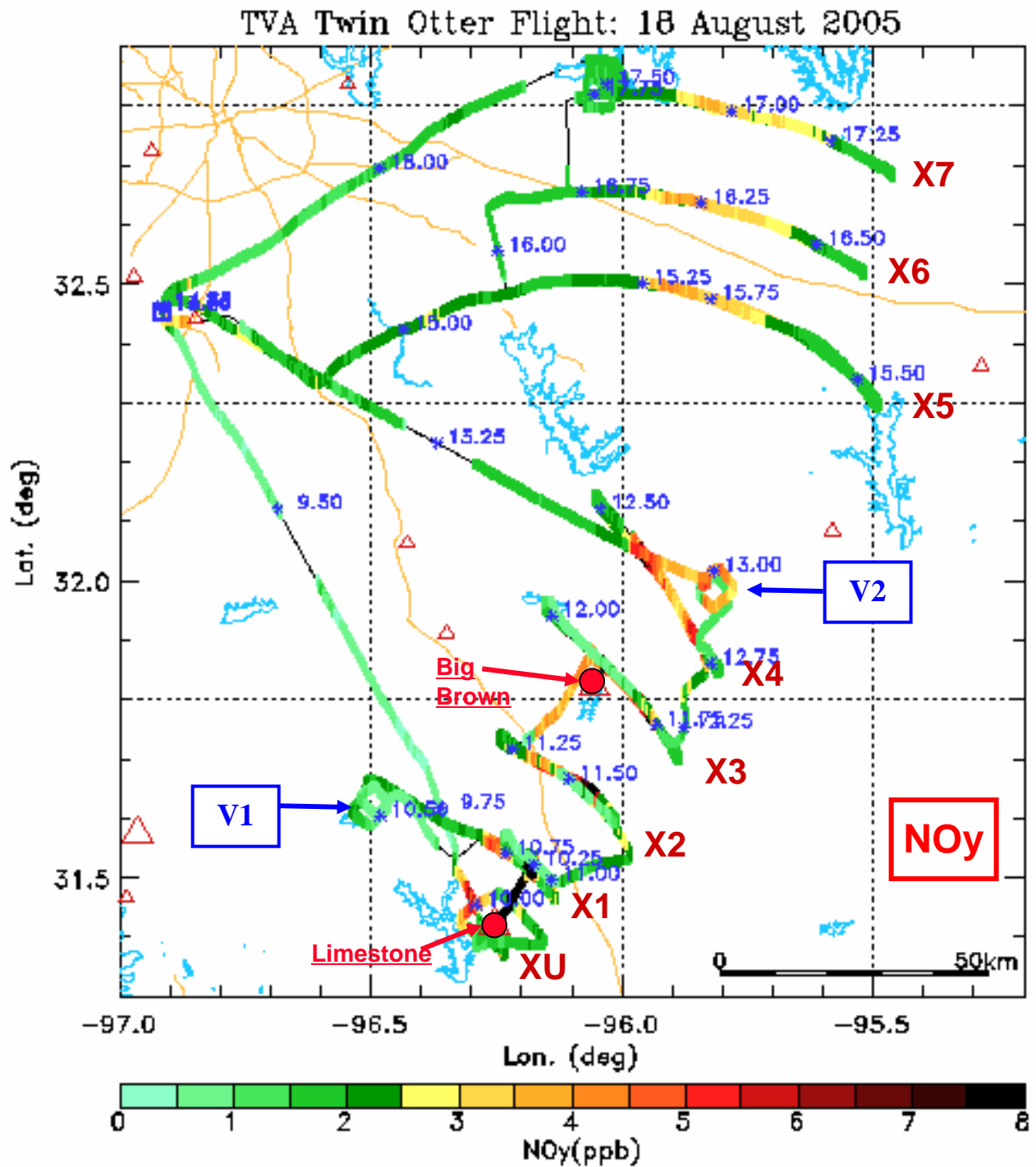
Evolution of the DFW plume upto ~125km from the DFW line

Ozone peaked ~50km downwind of Frisco, and then decreased

26 Aug 2005

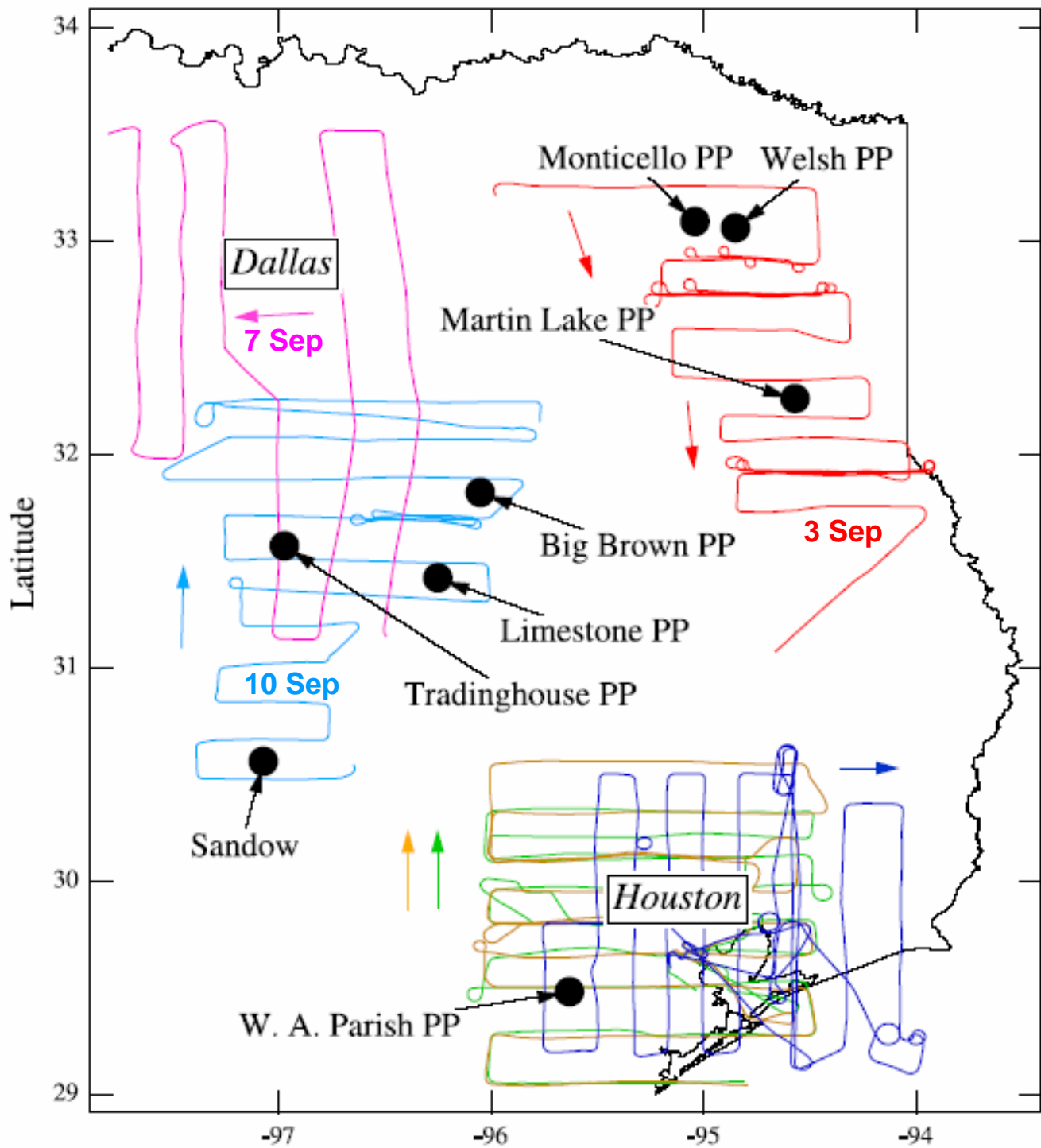


18 August 2005 --- Zone B

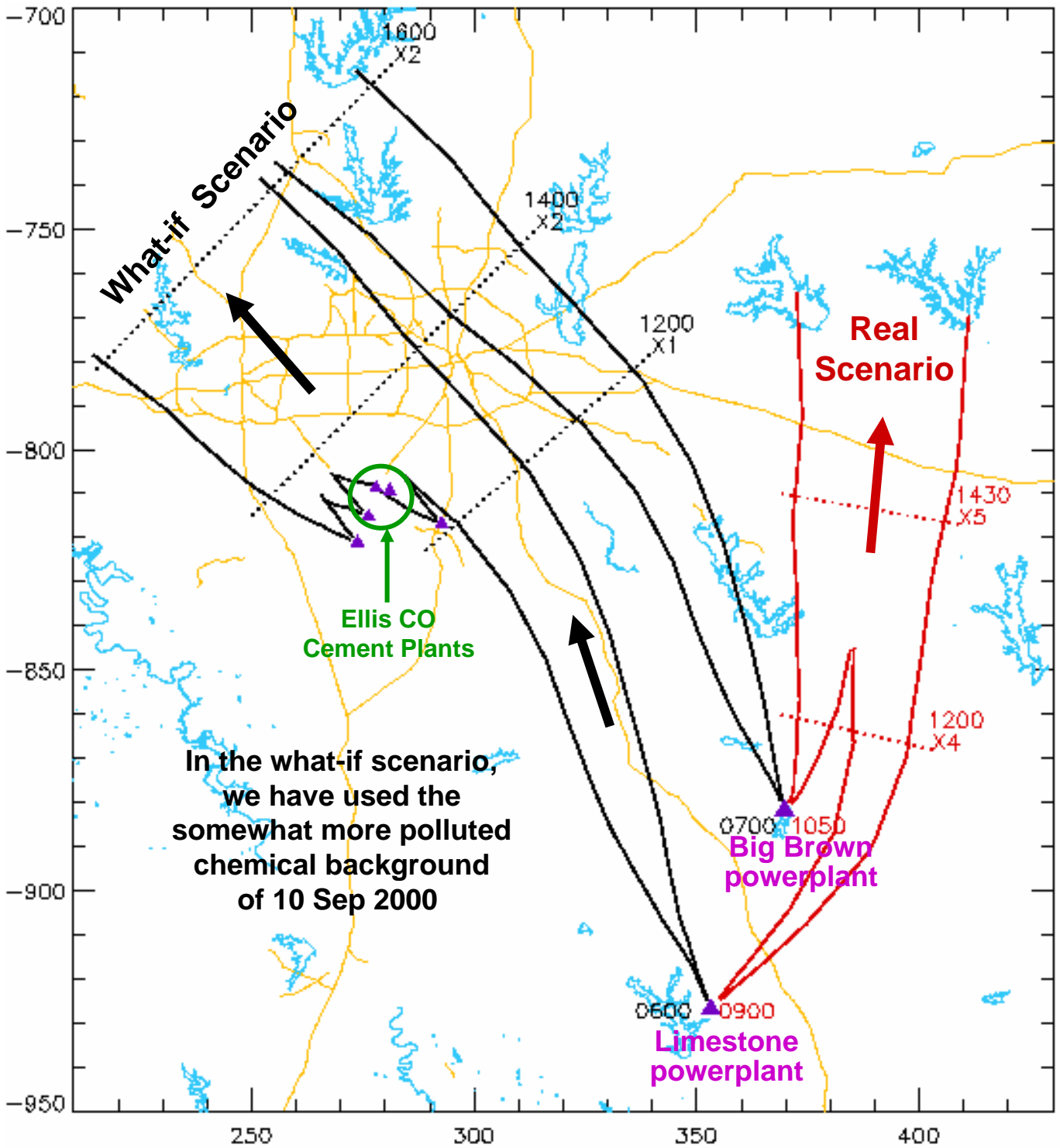


TexAQS-2000 NCAR-Electra Plume-sampling Flights

NEUMAN ET AL.: NITRIC ACID LOSS RATES



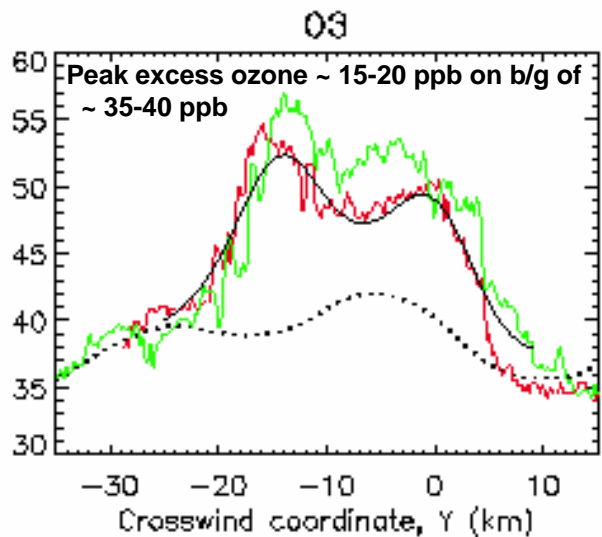
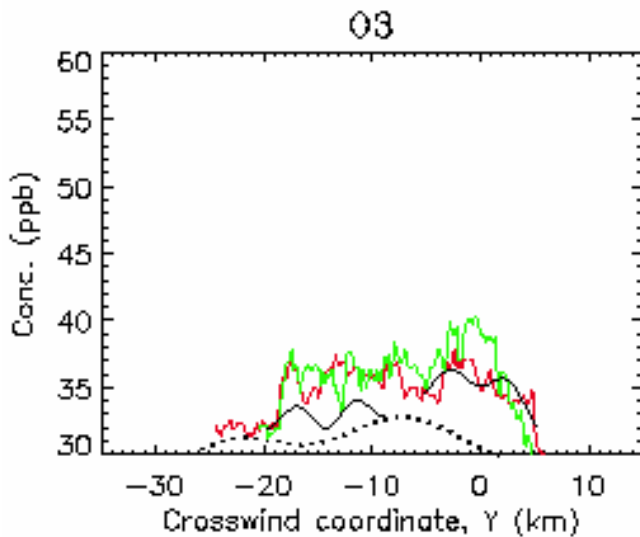
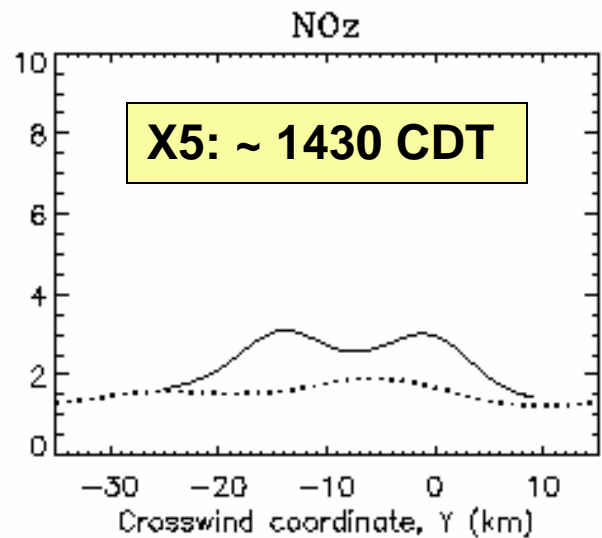
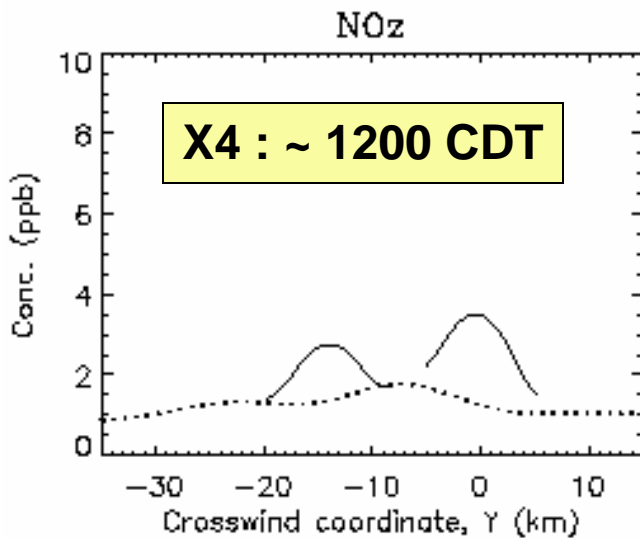
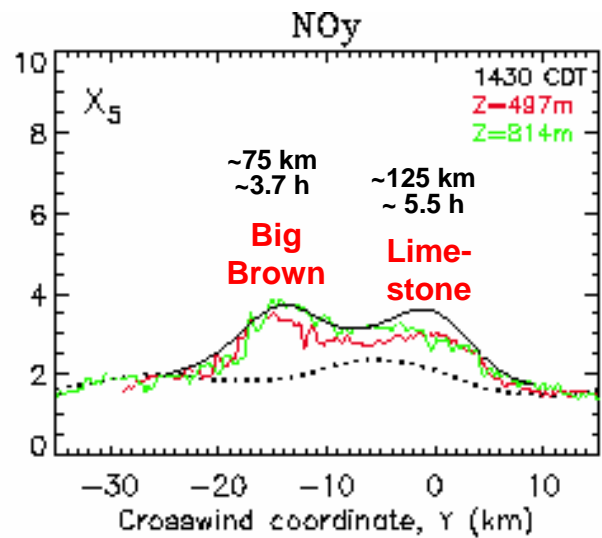
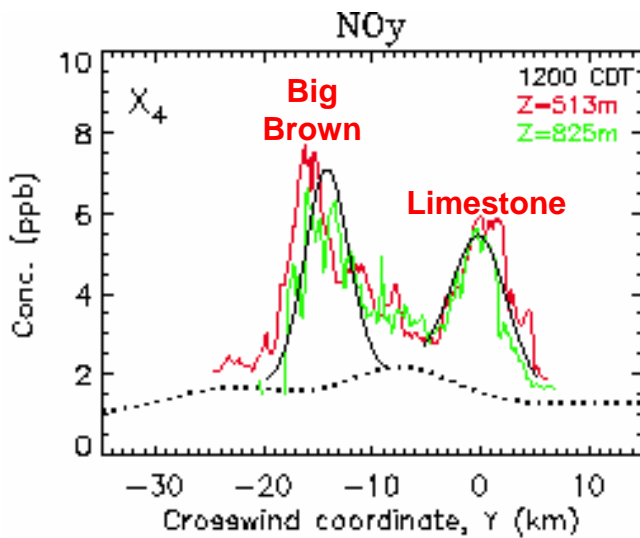
Simulated Plume Scenarios --- 18 August 2005



REAL SCENARIO, 18 Aug 2005

Diagnostic Application of LRPM

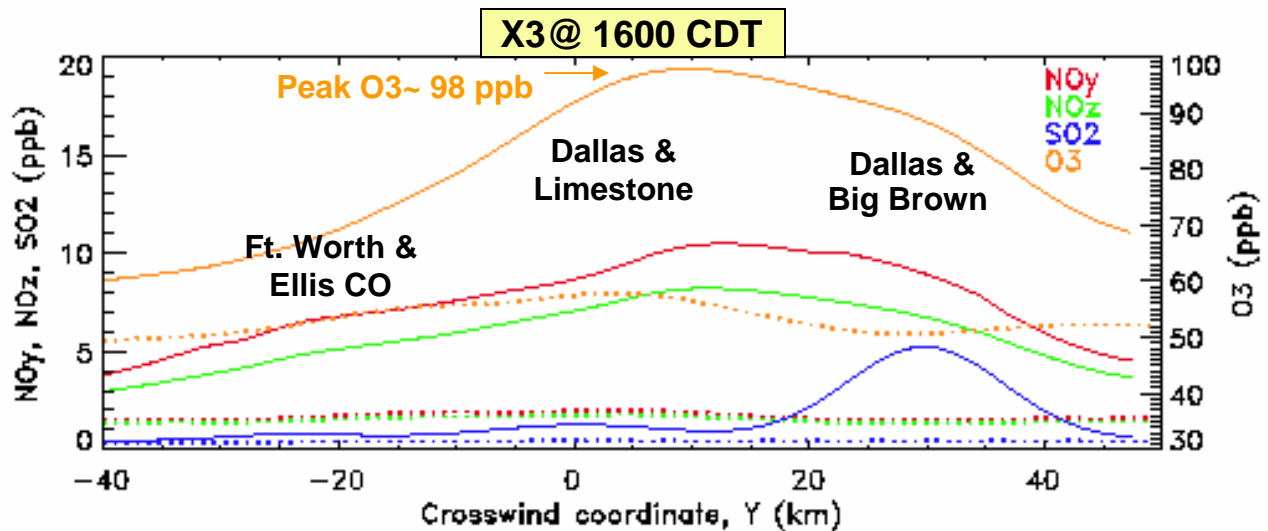
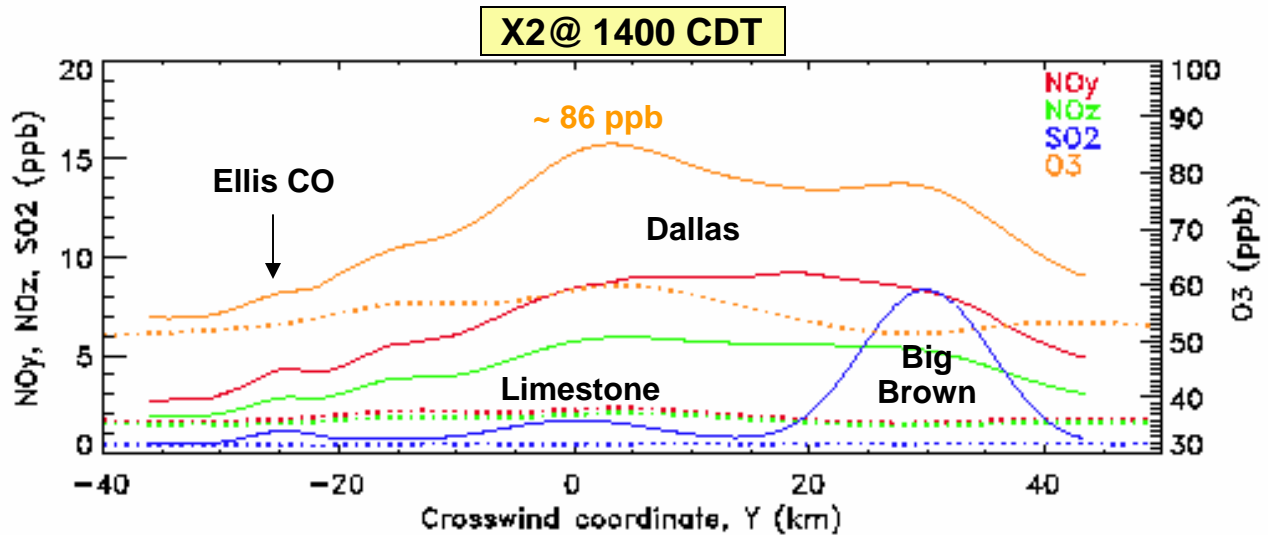
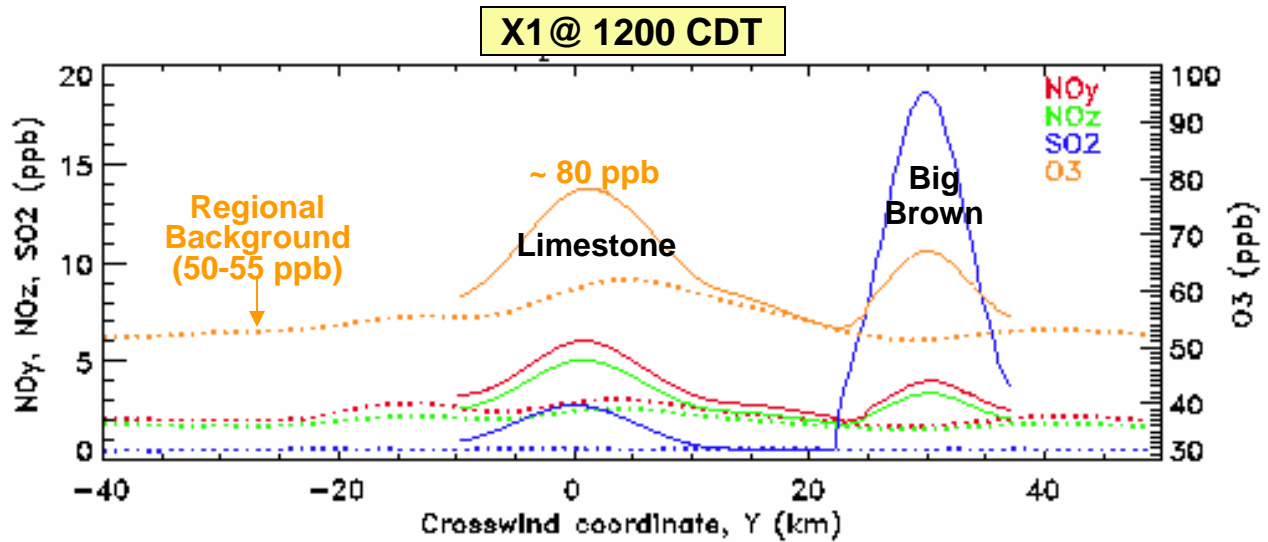
Zone B: Limestone (0900 release) and Big Brown (1050 release)



WHAT-IF SCENARIO, 18 Aug 2005 (10 Sep 2000 B/G)

LRPM Simulation: Traverses at 1200, 1400, 1600 CDT

Zone B: Limestone (0600 release) and Big Brown (0700 release)

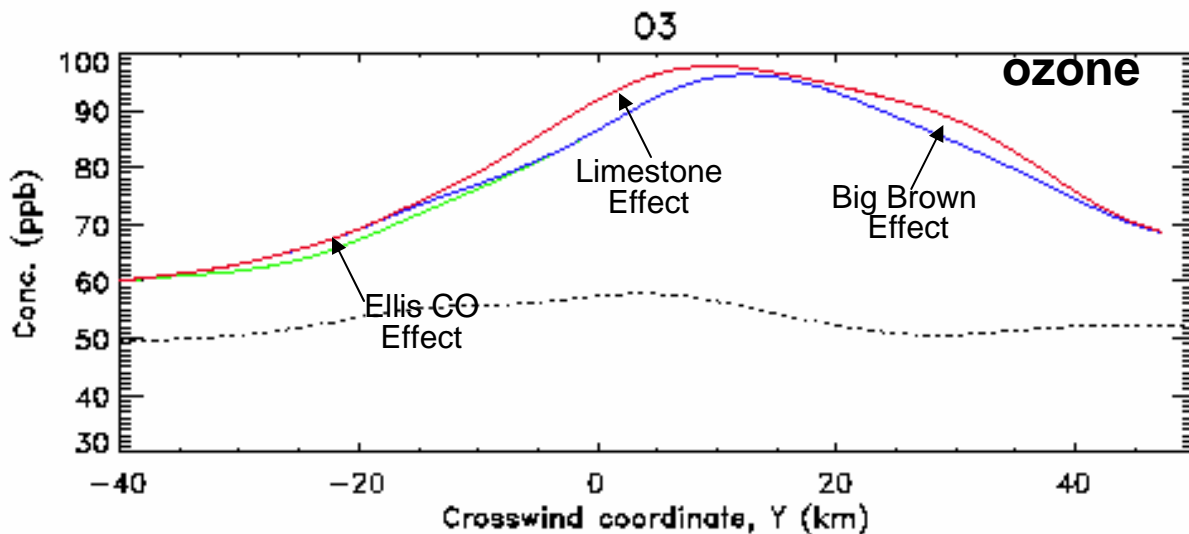
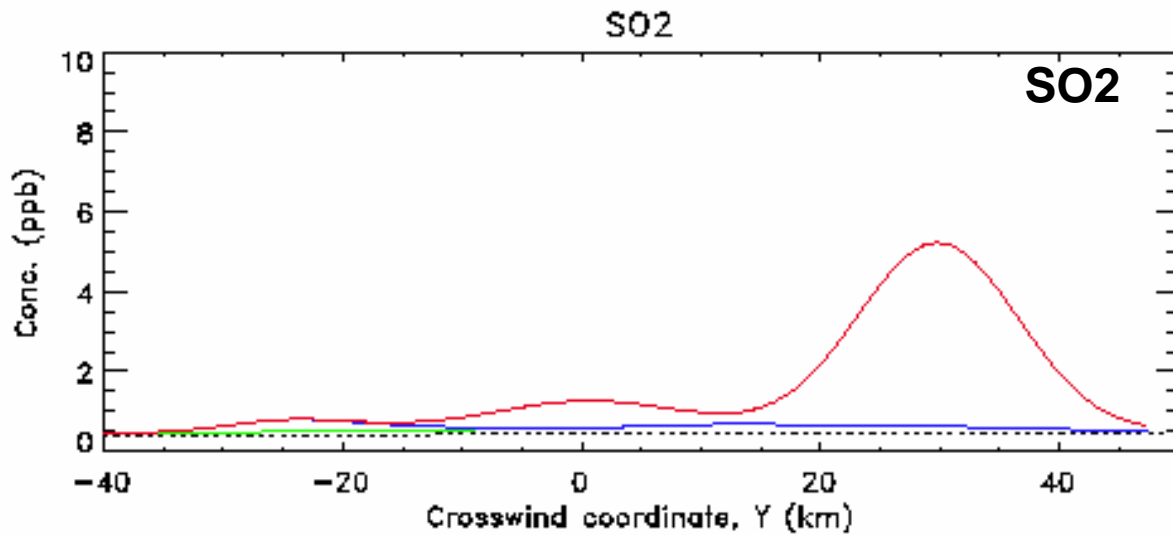
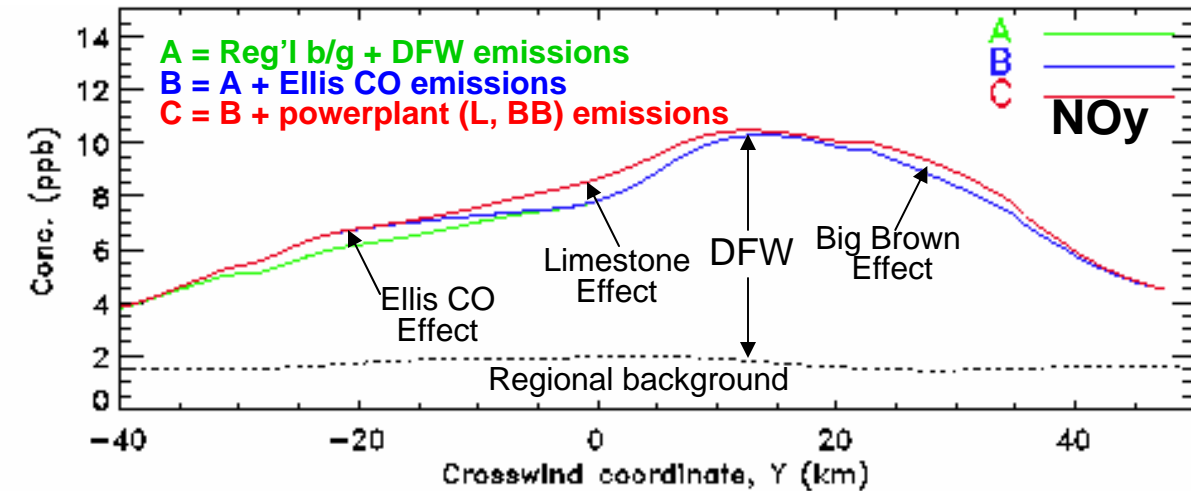


WHAT-IF SCENARIO, 18 Aug 2005 (10 Sep 2000 B/G)

LRPM Simulation: Impact of Different Sources on Traverse at 1600 CDT

Zone B: Limestone (0600 release) and Big Brown (0700 release)

At location of 1600 traverse



Conclusion Re- Relative Impacts on Peak DFW Ozone

On a day with SE flow and about 100 ppb peak ozone in DFW

The dominant contributor to DFW peak ozone appears to be the inflow regional background (~ 50-55 ppb)

DFW emissions themselves appear to be the next biggest contributor, ~ 40-50 ppb at the downwind peak, but less at other locations

Limestone may contribute upto about 20 ppb at the upwind side of DFW, but less than 10 ppb to the DFW peak ozone (downwind)

The contribution of Big Brown to DFW ozone peak may be about half that of Limestone, but its contribution to sulfate aerosol may be the most significant

The Ellis CO sources appear to contribute upto about 10 ppb of ozone near the upwind end of DFW, but less than 5 ppb to the downwind peak

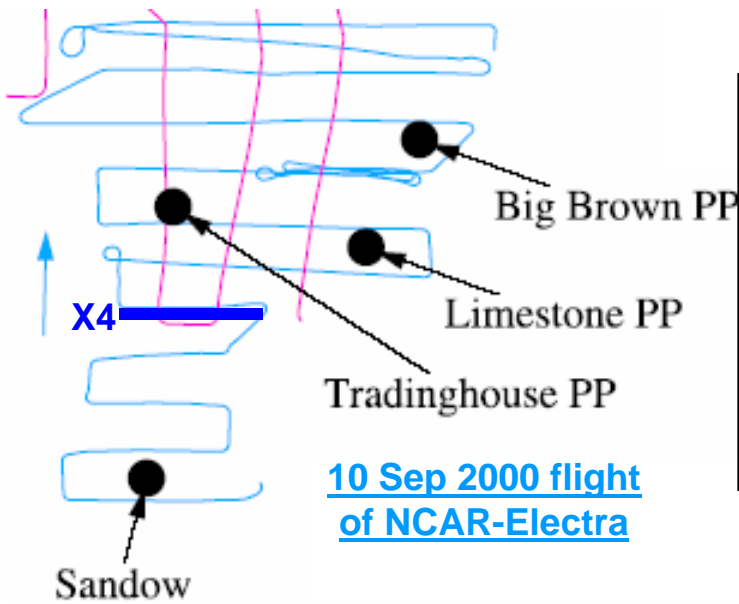
PENDING

Diagnostic analyses for

24 Aug 2005 (Zone A)

and

10 Sep 2000 Zone B (Sandow, Trading House)



**LRPM simulation
of the Sandow plumes
of 10 Sep 2000
(~ 1115 traverse @ X4 ~ 73 km)**

**0600 release
with CEM emissions**

