



**The Center for
Atmospheric Chemistry
and the Environment**

Texas A&M University TERC Accomplishments 2004-5

John W. Nielsen-Gammon

Projects

- EnKF research (afternoon)
- Airborne PTRMS (afternoon)
- Ozone 8-h conceptual model (now)
- Meteorological forecasting (now)

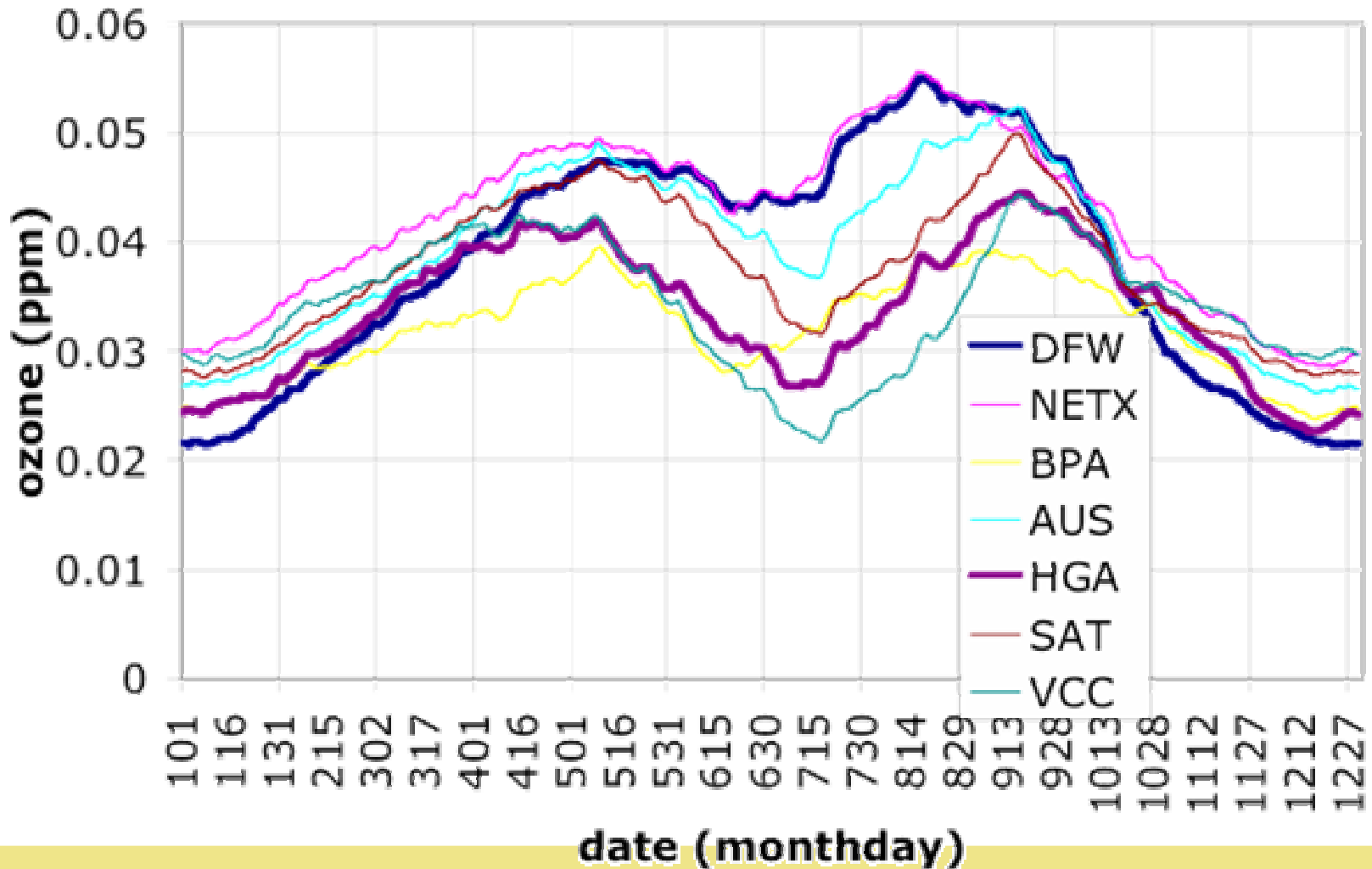


8-h Key: Background vs. Local

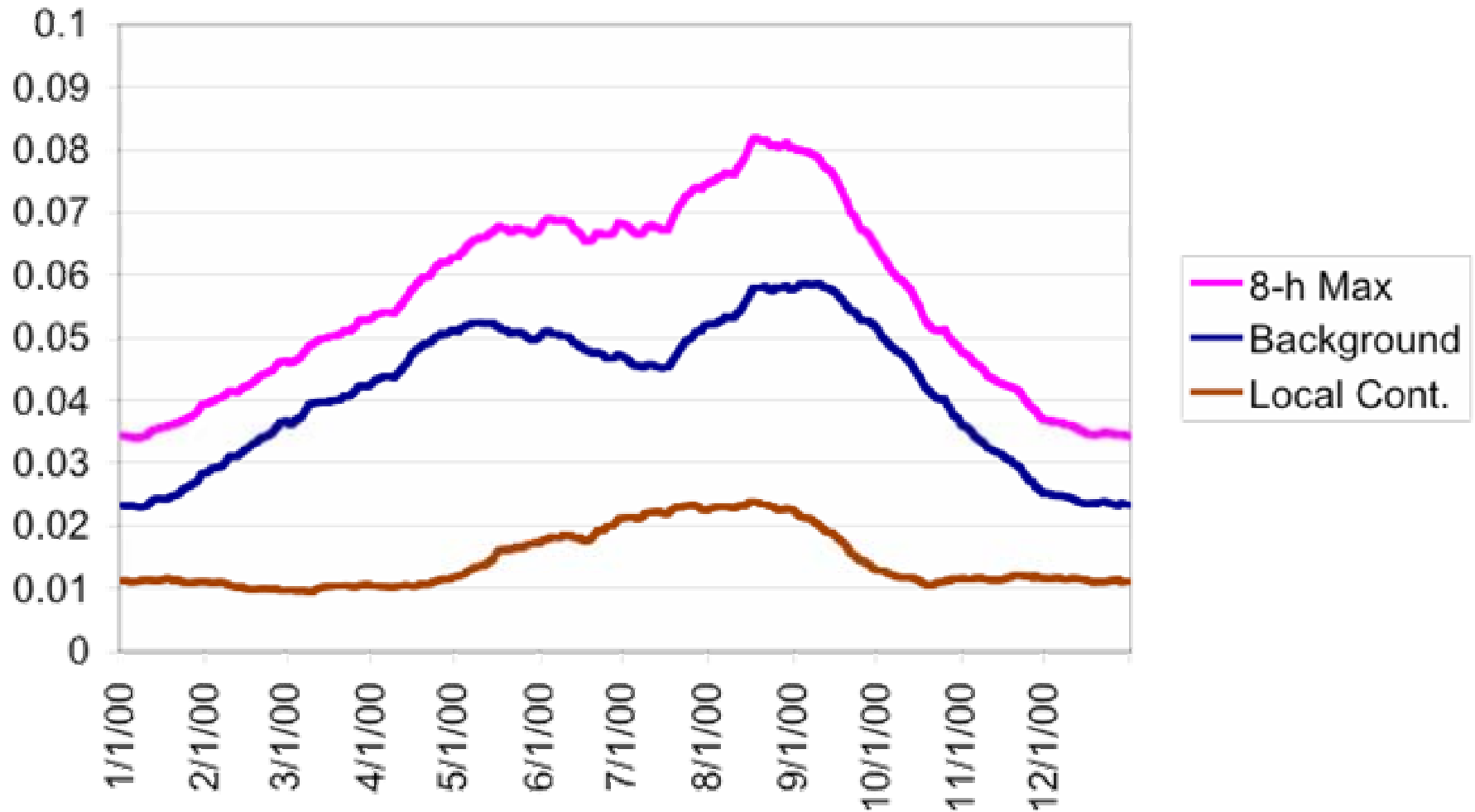
- Background: lowest 8-h maximum among selected sites along perimeter of Houston and Dallas-Fort Worth
- Local Contribution: Difference between background and overall 8-h maximum within metropolitan area



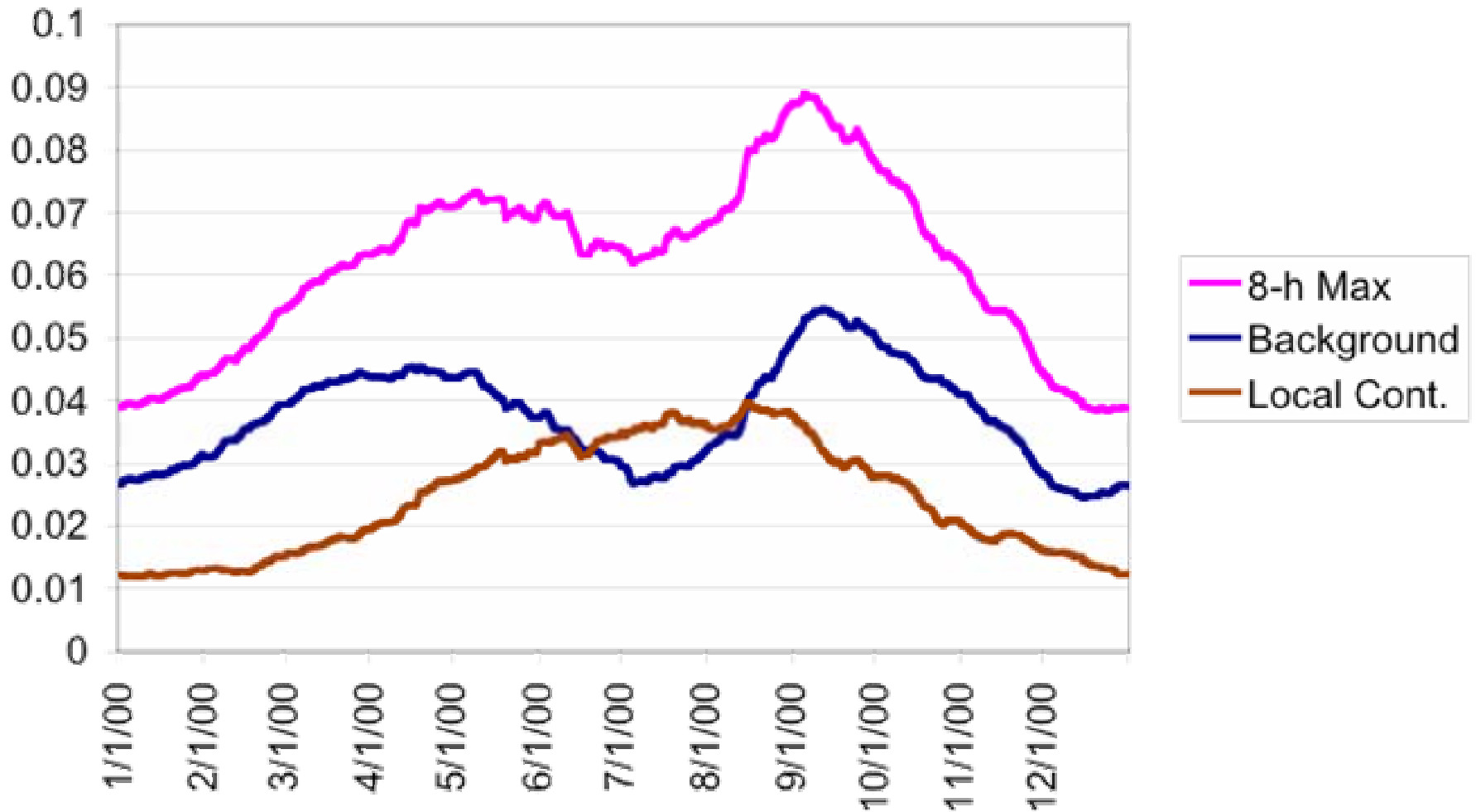
Background Ozone, 1998-2003

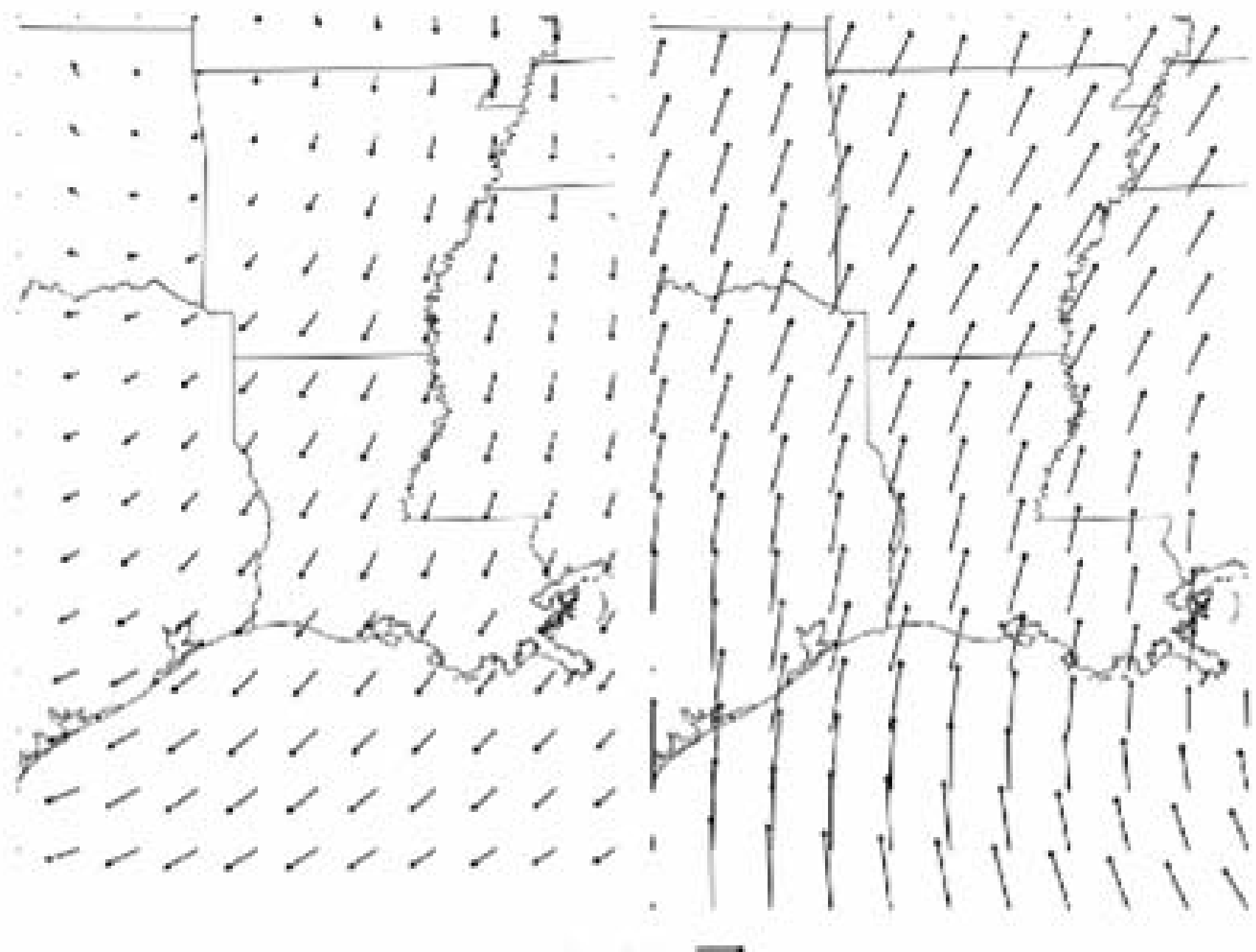


DFW 8-h Ozone on Days Without Precipitation



HGA 8-h Ozone on Days Without Precipitation

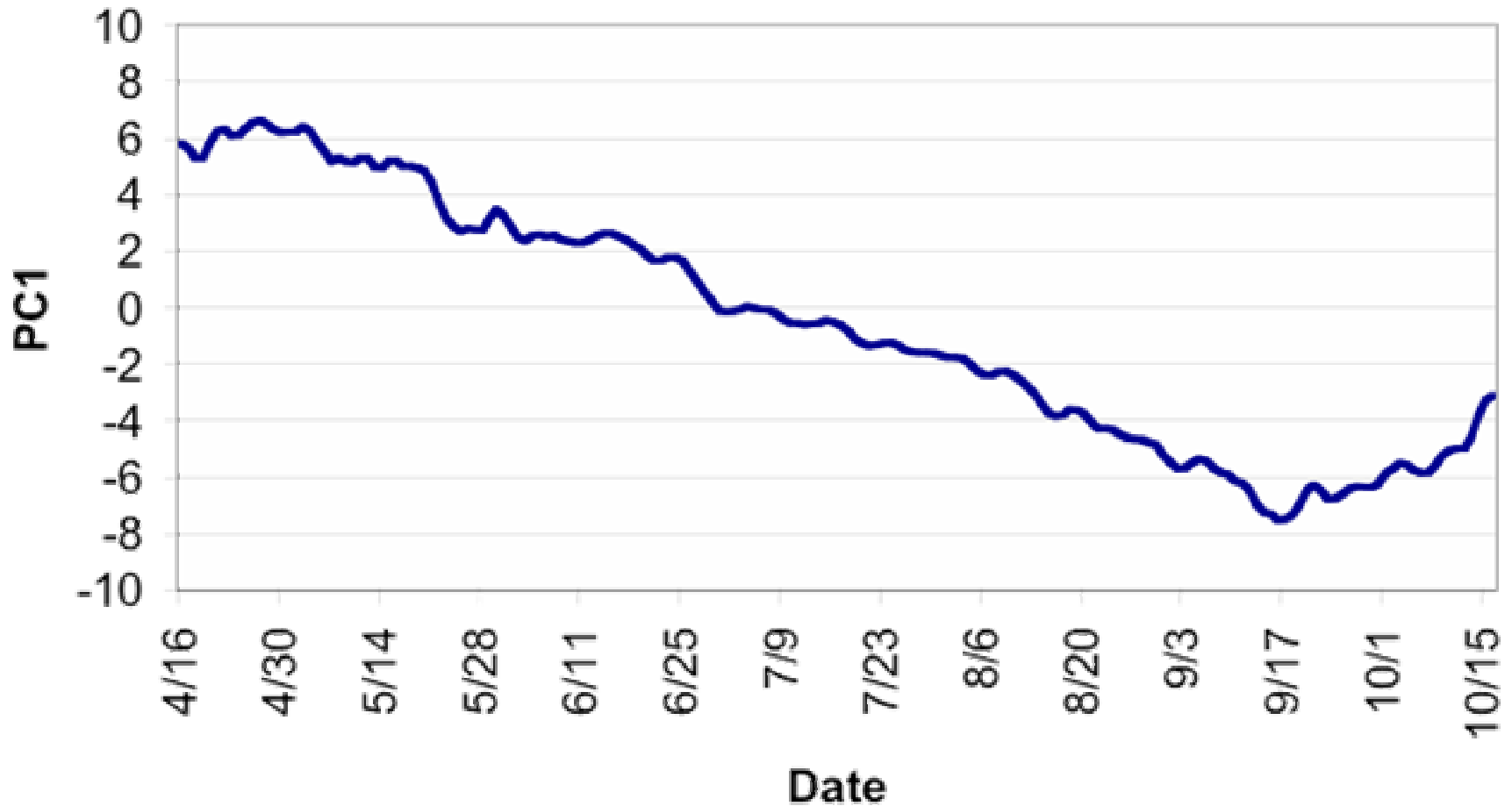




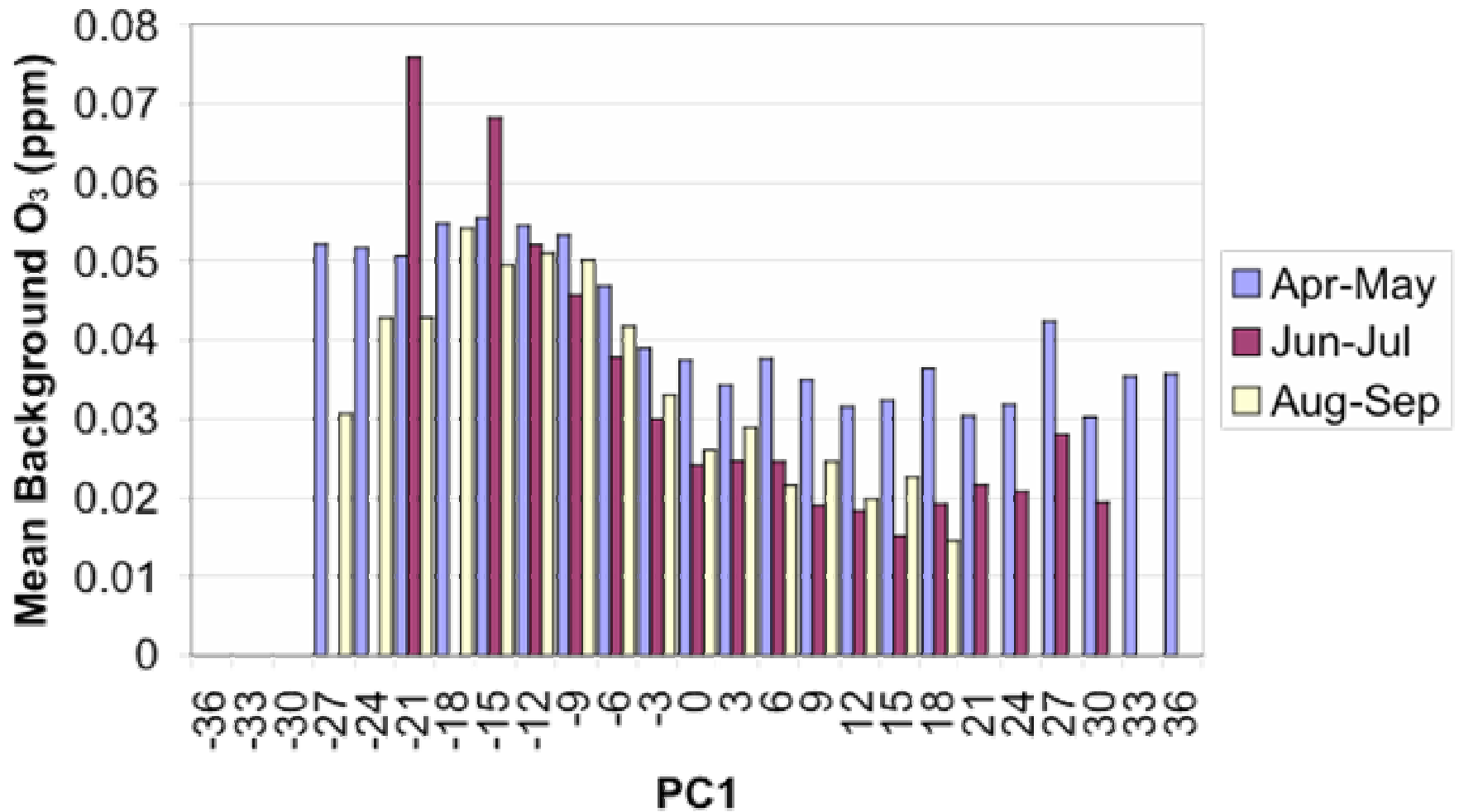
Mean + (PC1 = -1 sd)

Mean + (PC1 = +1 sd)

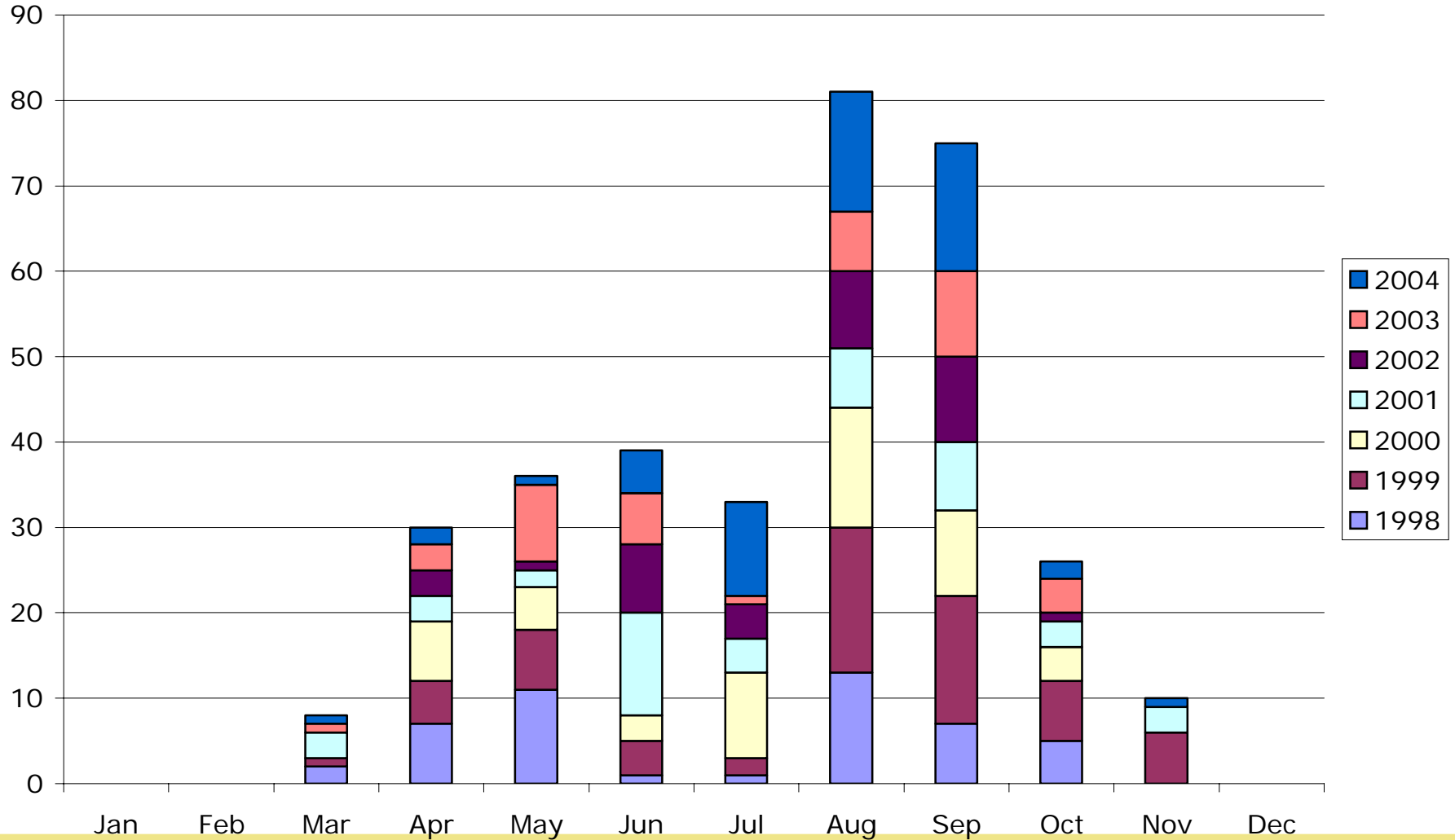
31 Day Running Average of PC1 During Ozone Season



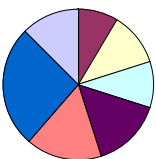
Mean HGA Background O₃ vs PC1, by Months



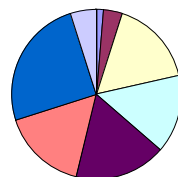
8-h Ozone Exceedances, 1998-2004



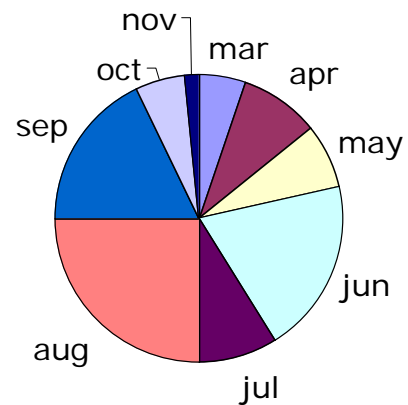
C26



C08



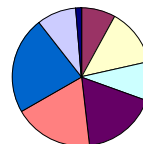
Legend



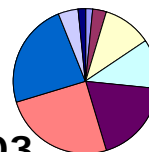
C408



C405



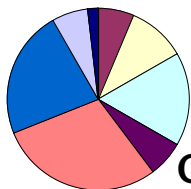
C01



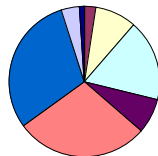
C411



C53



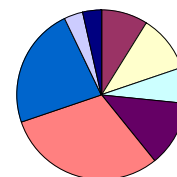
C409



C403



C35



C410



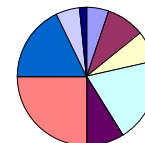
C406



c10



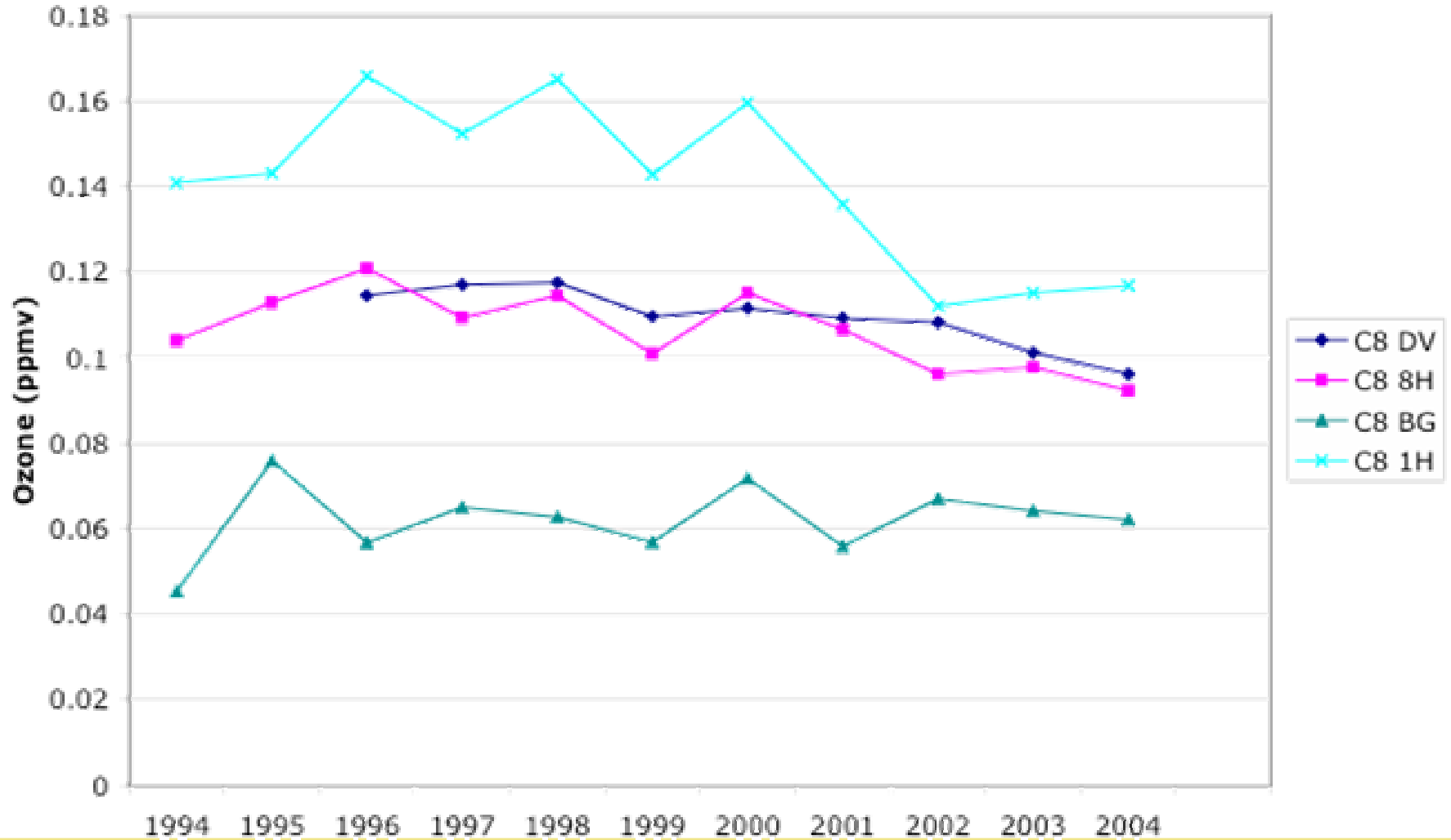
C34



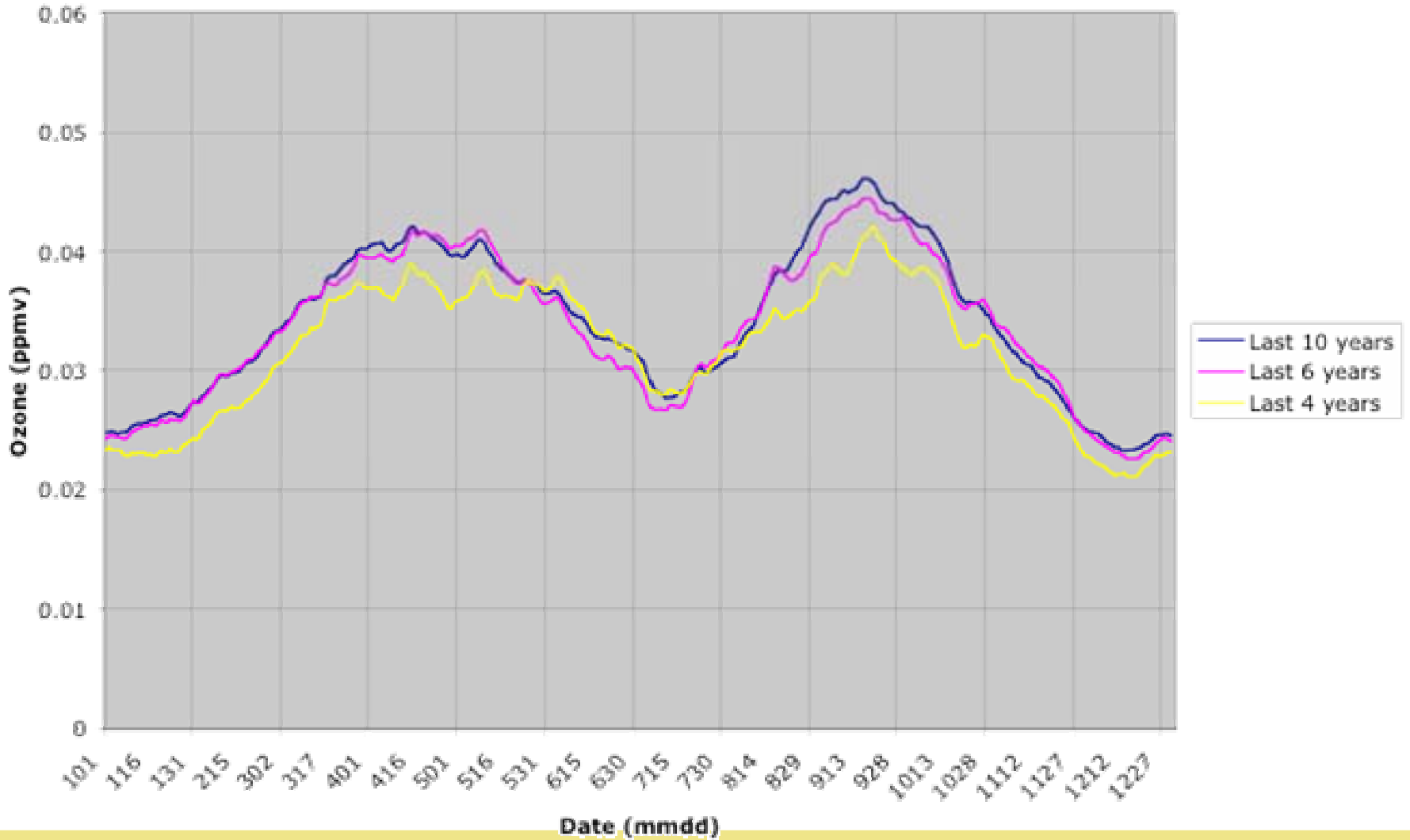
C11



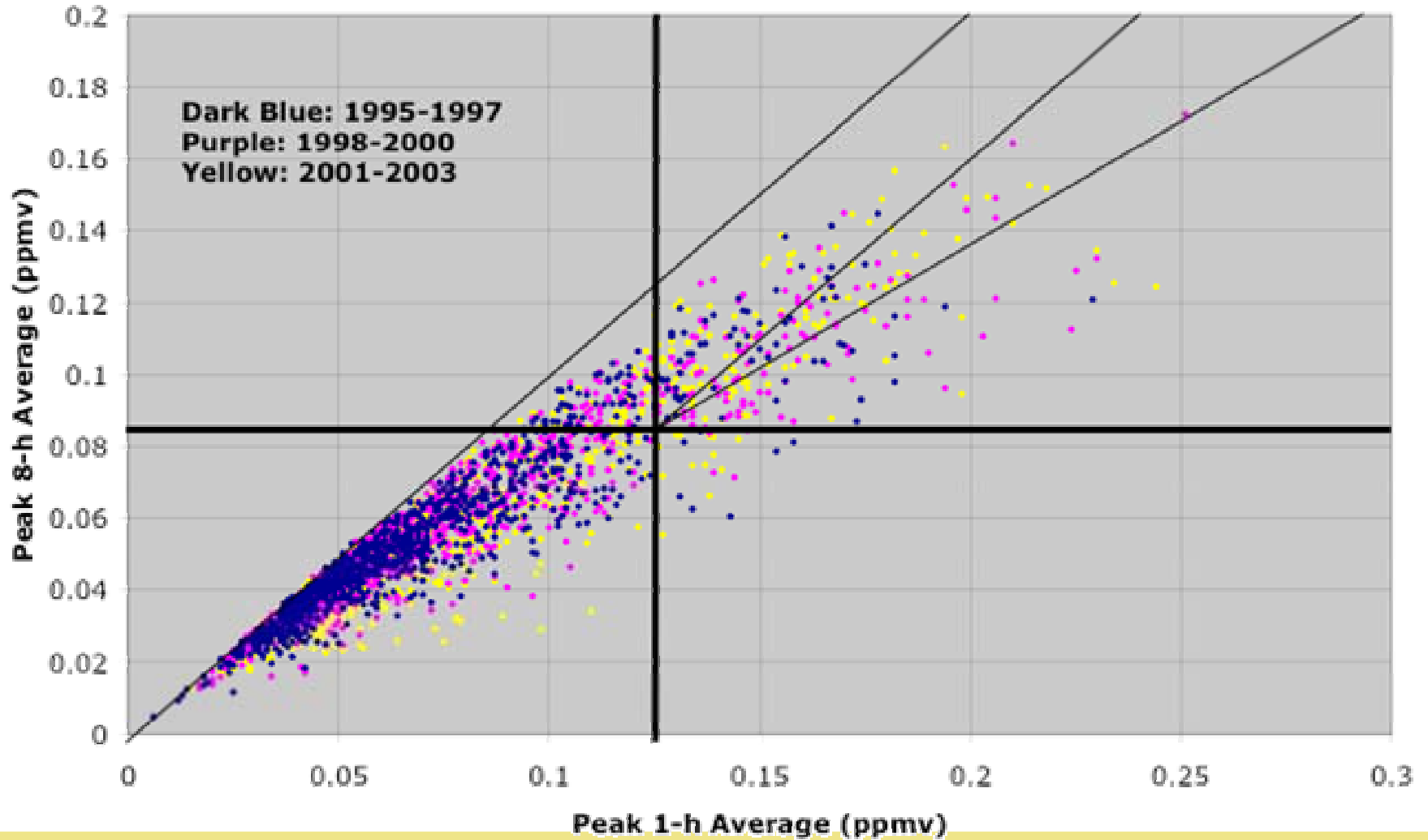
C8 Top 3-6 8h Ozone Trends



Houston Background Ozone



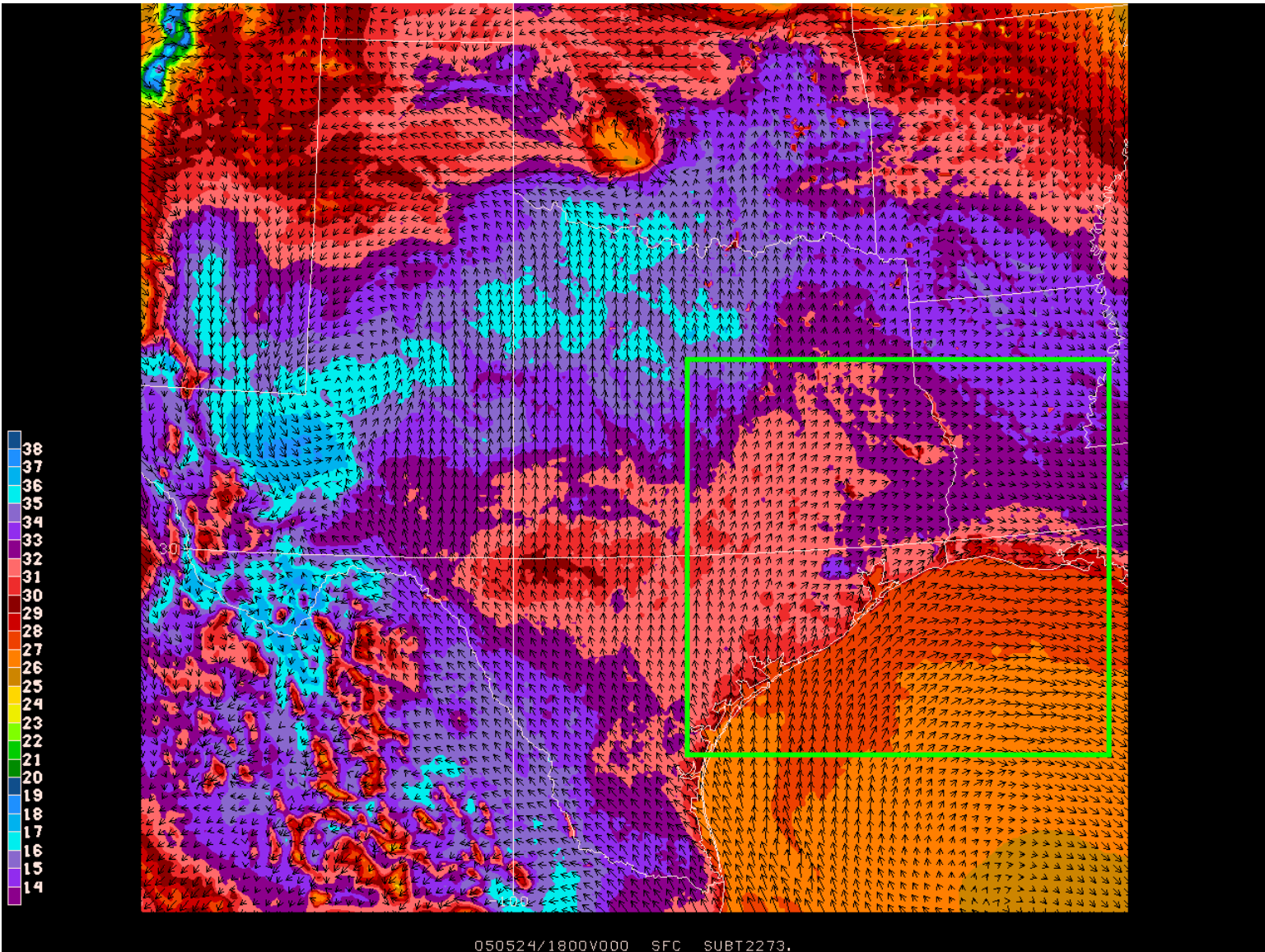
Daily Ozone Maxima in Houston



Meteorological Forecasting

- Project in place in January
- Pioneering work with MM5 on 64-bit Opteron cluster
- Model stable mid-May
- Transmission of model output to UH/UAH late May
- Product generation, web site, daily forecasting: beginning of June





Q50524/1800V000 SFC SUBT2273.