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Tropospheric ozone observations from more than two decades of measurements over Houston, Texas

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Houston, Texas has long struggled with poor air quality, though much progress has been made in the last decade. The combination of a large population (∼2.2 million people, the 4th largest in the United States and many of whom commute across the sprawling geographic footprint of the City >1600 sq. km), one of the world's largest petrochemical sectors (mainly located to the East of downtown along the Houston Ship Channel and along the west coast of Trinity and Galveston Bays), and Gulf Coastal meteorology (with abundant sunshine, fair weather, and light winds during the ozone season) create conditions in which high ozone concentrations occur frequently. This poster presents profile data during the period 1993 - the present from several of the numerous field studies and from the ongoing ozonesonde observations in Houston that have provided the data upon which plans for improvement in local air quality have been built and implemented. In particular, we examine changes in the tropospheric profile over time and provide insights into the seasonal variability of and influences of different meteorological regimes on the ozone profile over Houston.