Development of an Hourly Modeling Emissions Inventory from Several Sources of Regulatory Speciated Hourly Data for the Houston-Galveston-Brazoria Ozone Nonattainment Area

Emissions Modeling Databases

- **National Databases**
  - STARS (State of Texas Air Reporting System)
  - CCEDS (Consolidated Compliance and Enforcement Data System (CCEDS))
  - TCEQ Emissions Data System

- **Texas-Specific Databases**
  - TCEQ database of Emission Events
  - Special Inventory (SI)
  - Consolidated Compliance and Enforcement Data System (CCEDS)
  - Hourly Emissions Database

Sources of Hourly Data used by TCEQ Emissions Modelers

- NOAA National Data
- AIP's National Data Inventory (NID)
- Special Inventory (SI)
- Hourly Emissions Database
- Special Inventory (SI)
- Consolidated Compliance and Enforcement Data System (CCEDS)
- TCEQ Emissions Data System

**Acid Rain Database**

- Hourly Acid Rain SO2 in HGB
- Hourly Acid Rain NO2 in HGB
- Hourly Acid Rain SO4 in HGB
- Hourly Acid Rain NO3 in HGB
- Hourly Acid Rain NH3 in HGB

**2006 Special Inventory (SI)**

- Part of the TexAQS II (2005-06) Houston campaigns, August 15 – September 15, 2006
- Reduced from 501 accounts (plants) to 24 accounts
- Explored in detail, covering modeling episodes

**Background & Motivation**

- History
  - Used hourly emissions for SI databases for Texas
  - Initially used NOx data for SI emissions from Texas

**Conclusions**

- When there were overlapping data between databases, some data was doubled or tripled.
- Final model output used the hourly data for all databases, and then summed over time periods (e.g., 60 min).
- The final model output used only the hourly data for all databases, and then summed over time periods.
- The final model output used only the hourly data for all databases, and then summed over time periods.

**References**

- TCEQ Emissions Inventory: http://www.tceq.state.tx.us/implementation/air/airmod/overview/am_ei.html
- TCEQ TexAQS II webpage: http://www.tceq.state.tx.us/implementation/air/texaqs/overview/texaqs.html
- TCEQ Air Modeling Team: http://www.tceq.state.tx.us/implementation/air/airmod/team.html

**Acknowledgments**

- TCEQ Emissions Inventory Database: http://www.tceq.state.tx.us/implementation/air/airmod/overview/am_ei.html
- TCEQ TexAQS II webpage: http://www.tceq.state.tx.us/implementation/air/texaqs/overview/texaqs.html
- TCEQ Air Modeling Team: http://www.tceq.state.tx.us/implementation/air/airmod/team.html